Writer’s Block as Brain State

You don't know what it is to stay a whole day with your head in your hands trying to squeeze your unfortunate brain so as to find a word.

— Gustave Flaubert (1866)

They have cut off my head, and picked out all the letters of the alphabet — all the vowels and consonants — and brought them out through my ears; and they want me to write poetry! I can’t do it.

— John Clare (1860)

From literary theory to neuroscientific explanations of writer’s block is a dangerous leap. What would it mean to talk about writer’s block as a neural response to stress, or a psychopharmacologic imbalance, or even as a disease? In practice, if perhaps not in theory, psychiatrists and internists already do — when they give out the antidepressants, antianxiety drugs, and other psychoactive pills currently prescribed to people who say they are blocked or without motivation. Some types of writer’s block fit such a biological model better than others. By considering them here, I do not mean to give the impression that there are types of block that are “biochemical” and types that are somehow less real or, as some of my patients paradoxically put it, merely all in your head. Everything in your mind, including
your present happiness and your memory of yesterday’s phone call to your mother, is all in your head in as concrete a way as your heartbeat is in your heart. It is a way that includes your head’s anatomy, biochemistry, and genetics, but is also exquisitely shaped by experience.

I assert this with confidence — yet, of course, most people who are not scientists or doctors believe there is a dividing line between biological and mental phenomena that lies somewhere south of personality changes caused by stroke and north of taste in music. Over the last fifty years, schizophrenia, manic-depression, autism, and many other diseases have migrated into this metaphoric northern hemisphere. Notably, nothing has migrated south. Aggression, intelligence, creativity have for most nonscientists remained on the “mental” side of the line; indeed, the idea that they might be biologically determined is threatening to many people. One reason is their false confusion between “biological” and “genetic,” the belief that if our thoughts are shaped by brain states, they must be subject to strict genetic constraints; aggression, intelligence, and creativity then are relatively uninfluenced by experience. However, the fact that a mental state can be influenced by drugs does not preclude its being influenced by experience as well: education, the sight of a sunrise, or noticing a dress sale at Agnès B.

A second reason why people fear thinking of problems with creativity as neurobiological problems is that they disapprove of what they see as medical attempts to enhance or pathologize normal traits. This argument, which groups medical treatment of writer’s block with Ritalin for rowdy boys and nose jobs for girls depends crucially on the definition of “normal.” In this context, normal certainly has nothing to do with actual population averages. For instance, many upper-middle-class parents panic if their child performs at the school’s average level; they demand every educational resource available to them. That they are eager to enhance their child’s normal performance through education, even though they might fear doing so with a pill, shows that fear of enhancement is to a large extent not a fear of manipulating normal traits, but primarily a fear of medical
technology. People who have no objection to using education, meditation, exercise, megavitamins, even “herbal” drugs to enhance normal characteristics are often horrified to take a pill approved by the Food and Drug Administration.

People fear drugs, rightly, because they fear the very real side effects. But behavioral techniques have significant side effects, too, and not effects we can necessarily predict. A student who goes to college to get a liberal arts education may inadvertently pick up values that turn her into a stockbroker. In Muriel Spark’s *The Prime of Miss Jean Brodie*, Mary MacGregor has an educational experience that, by changing her political beliefs, causes her futile death in the Spanish Civil War. Although we worry more about the side effects of medication than of behavioral interventions because they are easier to see, that is actually an advantage. For instance, the 1960s saw both the introduction of lithium for manic-depression and the beginning of the phonics method of teaching reading. Since then, it has become clear both that lithium allows previously disabled people to return to productive lives and that lithium has many well-defined side effects. The debate between the phonics and whole-language methods, on the other hand, remains contentious and politicized — not because of lack of money, effort, or intelligence, but because of the difficulties of social science research.

Sometimes what people fear about drugs is that drugs are the easy way out, that the pills will do for them what they should do for themselves. Yet if a person has enough willpower to overcome a problem such as creative block, depression, or obesity, then he or she doesn’t truly have a problem. There is scientific evidence that willpower and the process of making a decision are brain states. Many of us have been inspired by a famous story about William James. After being tortured by indecision for six months, he one day had the sudden revelation, “My first act of free will shall be to believe in free will,” and immediately resumed his forceful and productive intellectual life. Even that stirring event, though, is also an example of an abrupt change in neurochemical state in a man who had many such changes, not always so invigorating:
I went one evening into a dressing-room in the twilight . . . when sud-
denly there fell upon me without any warning, just as if it came out of
the darkness, a horrible fear of my own existence. Simultaneously there
arose in my mind the image of an epileptic patient whom I had seen in
the asylum, a black-haired youth with greenish skin, entirely idiotic,
who used to sit all day on one of the benches . . . with his knees drawn
up against his chin, and the coarse gray undershirt, which was his only
garment, drawn over them inclosing his entire figure. He sat there like
a sort of sculptured Egyptian cat or Peruvian mummy, moving noth-
ing but his black eyes and looking absolutely non-human. This image
and my fear entered into a species of combination with one another.
That shape am I, I felt potentially. Nothing that I possess can defend
me against that fate, if the hour for it should strike for me as it struck
for him.

In this mood James’s belief in his free will vanished. Perhaps
rather than hoping that we can invoke free will to solve our procrasti-
nation or bad temper, we should realize that when we are healthy
enough to have a vigorous sense of free will, our problem has to a
large extent already been solved. There are many ways of sidestepping
a feeble or recalcitrant will that do not involve medical treatment.
Nonetheless, James himself was not hesitant to compare his mental
condition to the biological problem of epilepsy. He combined excep-
tional literary and introspective ability with an openness to the
neuroscientific advancements of his day in a way paralleled by few
other writers.

If pills could replace free will — and it is not at all clear that they
could, at least for long — then some worry that the pills could be
forces for mind control by others. Teenagers taking medicine for at-
tention deficit hyperactivity disorder (ADHD) sometimes describe
feeling as if their new ability to focus on their schoolwork feels alien
to their true nature and feels forced on them (crucially, by their par-
ents). Of course, diabetic teens often resist taking their insulin with
similar indignation.

It is hard to imagine either the U.S. government or civilian em-
ployers acquiring the power to require that workers take creativity or
productivity treatments. It is easy to imagine unofficial pressure from
employers to do so — the same sort of pressure that athletes feel to use blood doping or steroids, or that employees currently feel to comply with equally unhealthful behavioral demands for hundred-hour workweeks. Monitoring such pressures from employers will be necessary. In fact, there will need to be careful monitoring of voluntary overuse by employees as well. If treatments actually make the work more bearable, employers will probably find employees eager to use them. Even now, many teenagers would prefer to take ADHD medication (whether or not they have ADHD) than be subjected to a behavioral substitute such as expensive, time-consuming, dull tutoring courses.

Whenever possible, the person receiving the treatment should be the one who decides whether to take it. Treatment for writer’s block may seem frivolous to some, but the blocked writer may see the affliction as a work disability. Conversely, except for the incompetent (which would include the severely mentally ill), no one should be pressured into taking any medicine, even though families and doctors know it is “best” for them. Most of us feel we have a basic civil right to do self-injurious things, whether overeating, bungee jumping, repeatedly marrying badly, or writing inflammatory editorials. If a pill exists that will remove someone’s taste for extreme skiing and cause her to finish her papers on time, does she have an obligation to take it? Doctors, whose goal is often to minimize suffering, might argue that she should. If her goal is to maximize joy, perhaps she should not.

**Brain-State Analogies of Block**

All this concern about mind control is, although important, slightly premature. We don’t yet have enough understanding of higher cognitive or motivational brain function to develop, say, a writer’s block pill, or an electrical treatment for logorrhea, or a way to change a lyric poet into a writer of scientific journal articles (note that education can rarely do that either). But there are states that often accompany block, or have useful similarities to it, whose brain basis is better understood.
W R I T E R ’ S  C R A M P

The analogy between writer’s block and writer’s cramp may help show how the brain malfunctions in block as well as in cramp. Writers cramp, as neurologists use the phrase, is a brain disorder of the movements that form words. (It is not the pain the average person experiences when she writes too fast for too long.) Writer’s cramp is neither a basic muscle problem nor the high-level disorder of the composition process seen in writer’s block, but somewhere in between. Henry James had writer’s cramp, which required him to dictate his later works — and the switch may have contributed to the more natural although more rambling diction of his later writing. (Some friends claimed they could tell the exact chapter in What Maisie Knew when he switched from writing to dictating.)

Often patients with writer’s cramp can still perform other skilled hand movements, such as playing the violin, even though they cannot write — recall the genre specificity of writer’s block. Stress and repeated attempts potentiate writer’s cramp, just as they can worsen writer’s block. The harder the sufferer tries, the worse the performance. Writer’s cramp involves, among other regions, the primary and supplementary motor cortex in the frontal lobe. Could writer’s block affect, in an analogous way, the regions farther forward in the frontal lobe that are thought to be involved in composition and planning? No one yet knows, but the thought is intriguing.

The parallel between cramp and block has significant practical implications. In cramp, there is growing evidence that repetitive stereotyped practice causes the injury. An epidemic of writer’s cramp occurred among nineteenth-century clerks, who worked essentially as human photocopiers. Periods of enforced arm rest, or learning an unrelated skill such as braille, may help the brain unlearn the abnormal movements of writer’s cramp. Block, too, may be more common in situations in which writers are under stress and force themselves to sit down day after day, hammering at the same problem. Rests or distractions from the task may give relief.

Repeatedly getting stuck may from a neurologist’s point of view
be related to perseveration. In patients with severe frontal lobe damage, perseveration can be remarkable. Like perseverating patients, writers with block can sometimes snap themselves out of an aberrant mindset with a sudden change: a shower, a walk, a vacation. Attending to personal hygiene has always been especially popular. Laurence Sterne wrote that when

> the thoughts rise heavily and pass gummous through my pen...I never stand conferring with pen and ink one moment; for if a pinch of snuff or a stride or two across the room will not do the business for me —...I take a razor at once; and have tried the edge of it upon the palm of my hand, without further ceremony, except that of first lathering my beard, I shave it off, taking care that if I do leave hair, that it not be a grey one: this done, I change my shirt — put on a better coat — send for my last wig — put my topaz ring upon my finger; and in a word, dress myself from one end to the other of me, after my best fashion.

Sterne’s cleaning-up strategy recalls the incubation and eureka stages of creativity discussed in Chapter 2. Perhaps it was no coincidence that Archimedes’ original cry of “eureka” was made in the bath. One practical implication of these anecdotes: Put a wax pencil in the shower stall for wall writing, so that you don’t forget your insights.

**PROCRASTINATION**

Another phenomenon that has many similarities to writer’s block and that fits a biological model surprisingly well is procrastination — a topic that fills most of us with sick fascination. In theory, procrastination and block are separate problems. A blocked writer has the discipline to stay at the desk but cannot write. A procrastinator, on the other hand, cannot bring himself to sit down at the desk; yet if something forces him to sit down he may write quite fluently. Samuel Johnson’s essay on procrastination for *The Rambler* in 1751 dissects such a pattern — an essay made more amusing, or more poignant, by the fact that it was written at the last minute as a boy from *The Rambler* waited to carry it to the press.

In practice, though, writer’s block can cause behavior that looks
very like procrastination. Few people have the fortitude of Gene Fowler, who said: “Writing is easy. All you do is stare at a blank sheet of paper until drops of blood form on your forehead.” Most of us, instead of a painful confrontation with the empty sheet, put it off by doing something else that suddenly seems terribly, terribly urgent. Charles Dickens described this dynamic when he found himself, during the composition of Little Dorrit “prowling about the room, sitting down, getting up, stirring the fire, looking out of the window, tearing my hair, sitting down to write, writing nothing, writing something and tearing it up, going out, coming in, a Monster to my family, a dread Phaenomenon to myself.”

Procrastination is a very complicated phenomenon, but behaviorism, surprisingly, gives one a handle on it. Behaviorism as an academic discipline is, of course, so fifteen minutes ago. Nonetheless, behaviorist models still underlie much study of animal behavior, as well as the successful school of cognitive-behavioral therapy. Behaviorism describes simple rules guiding the way that reward increases or decreases the likelihood of a behavior. Many of these rules were first observed with the famous Skinner box, in which an animal presses a lever to get food pellets. Positive rewards such as food or money increase the frequency of the behavior; negative rewards such as physical pain or bad book reviews decrease the behavior.

Behaviorists developed an animal model of procrastination with implications for human work habits. When they trained a pigeon to press a lever for food and required it to press a high, fixed number of times before getting the food, it pecked slowly at the beginning of each series as if it were putting off the hard work it had to do. The scientists found that they could get rid of this slowdown by making the rewards more frequent, or by spacing them randomly.

According to behaviorists, people learn to avoid their writing task when they are negatively rewarded for writing, whether by rejection slips or by the sheer boredom and hard work that writing entails. One behaviorist treatment might be simply to change the environment so that the writer received more frequent — and less predictably delivered — rewards for sticking to his or her task. Behaviorism pre-
dicts the benefit of having a comfortable chair to make staying at the
desk more attractive. And if, for instance, computers had a slot below
the disk drive which, after a random number of words written, slowly
extruded a crisp five-dollar bill, writers would miss far fewer dead-
lines.

Do frequent deadlines increase writing speed in the same way as
frequent rewards? Certainly, journalists working under deadline are
less likely to have writer’s block than novelists whose publication date
is vague. Of course, there is a selection bias: few journalists with
writer’s block keep their jobs. Book writers, on the other hand, deal
with editors who are famously soft on deadlines. (I once received a
letter from a book editor that said: “We must have your manuscript
by August 15. If you do not submit it by this date, could you please
give us an estimate of when you might submit it?”)

The neural circuits underlying the responses to reward and pun-
ishment have been elaborately worked out, at least in simple animals.
Although the circuits are more complicated in humans, they obey the
same neuropharmacological laws. Already many drugs block pleasure
(for example, naloxone, which can treat opiate overdose) or enhance
pleasure (name the street drug of your choice). Even complicated
psychological pleasures and pains are starting to have an understood
pharmacology. Antidepressants such as the serotonin reuptake inhib-
itors can help painful shyness. Would such medications be useful for
a writer whose fear of negative reviews kept him from publishing?
Could we get the long-awaited sequel to The Catcher in the Rye if J. D.
Salinger were on Paxil? If we did, would it be worth reading, or would
it be made bland by the dampening of the neuroses that seem to have
driven his writing?

Another neural factor in procrastination, partly independent of
reward and punishment networks, may be attention and distractibil-
ity. Goal-directed behavior on the one hand, and a tendency to get
sidetracked on the other, seem, oddly, to be increased in idiosyncratic
ways both by drugs such as stimulants and by the endogenous excit-
atory systems involved in mania. It may be that mild levels of stimu-
lation produce the focus seen in hypomania or in successful treat-
ment of ADHD by Ritalin, whereas higher levels lead to scattered flight of ideas and the sort of procrastination that stems from starting one task only to start a second only to start a third.

Procrastination has a long evolutionary history — even pigeons do it. Why should that be? Part of the reason is that procrastination is sometimes advantageous. Ancient Egyptians had two hieroglyphs that have been translated as “procrastinate.” One meant harmful laziness in completing an important task, such as tilling the fields at the appropriate time in the Nile flood cycle. The other hieroglyph denoted the useful habit of avoiding unnecessary work and impulsive effort.

Looking at procrastination as an energy-conserving mechanism that has spun out of control explains why many techniques aimed at helping procrastinators don’t work. Attempts to improve “time management” fail because the procrastinator generally knows exactly when he should be doing what, but simply cannot bring himself to do it. An energy-conservation model has some trouble explaining procrastinators who frantically do a minor task to repress the anxiety resulting from not doing the major task. In such cases, though, the minor task is always easier or less painful than the major one. Perhaps the most successful antiprocrastination device known to man, the tight deadline, works by introducing the threat of an imminent greater pain (that of missing the deadline) to counteract the pain of working. Unfortunately, there are other factors to consider beyond getting the job done. Recent evidence suggests that although people may feel they work better with deadlines, in fact deadlines hinder creativity.

**Depression**

When diagnosing a mental illness as the cause of a patient’s writer’s block, most clinicians think first of depression as the cause. Whether unipolar or bipolar, depression afflicts writers at a rate eight to ten times higher than the general population. Many of the classic symptoms of depression are also classic symptoms of writer’s block: increased self-criticism; decrease in enjoyment of the project; loss of
energy, imagination, and the ability to concentrate. And most depression directly disrupts a writer’s motivation to write. Because depression is not only a mental state but also a brain state that is at least partially understood, what we know about depression can serve as a window on the neurological basis of some types of writer’s block.

Every medical student learns a legalistic definition of clinical depression as a state lasting longer than fourteen days in which the sufferer (1) either has a “blue” mood or loses interest in most activities, and (2) also has at least four symptoms of the following seven: change in sleep, change in appetite, lack of concentration, decrease in energy, exaggerated feelings of guilt, slowed or disorganized thinking or action, and thoughts of death or suicide. Depression can be agitated, with increased activity, or what is sometimes called melancholic depression, with apathy and lethargy. This “one from column A, two from column B” approach to diagnosis, although reductionist, is fairly useful: it is better to have your internist inquire about your mood with nine rote yes-no questions than to ignore it altogether.

The many writers with intimate knowledge of depression have provided far more vivid, if less systematic, definitions of the state. Although culture influences the way depression is expressed, similarities across cultures and time are even more striking, as King Saul’s episode in the Old Testament and Ajax’s suicide in the Iliad make clear. Shakespeare fills Hamlet with descriptions of one of depression’s most characteristic features, its anhedonia, or inability to take pleasure in life. This couplet’s progressively shortening vowels musically evoke the decay of Hamlet’s enthusiasms:

How weary, stale, flat, and unprofitable
Seem to me all the uses of this world!

He continues later, with greater agitation:

I have of late — but wherefore I know not — lost all my mirth, forgone all custom of exercise; and indeed it goes so heavily with my disposition,
that this goodly frame, the earth, seems to me a sterile promontory; this
most excellent canopy, the air, look you, this brave o’erhanging firma-
ment, this majestical roof fretted with golden fire, why, it appeareth
nothing to me but a foul and pestilent congregation of vapors. What a
piece of work is man, how noble in reason, how infinite in faculties, in
form and moving, how express and admirable in action, how like an an-
gel in apprehension, how like a god! the beauty of the world; the para-
gon of animals; and yet to me what is this quintessence of dust? Man de-
lights not me.

Depression can cause block in any field of creativity. But some
psychiatrists think that depression is especially intertwined with and
harmful to language because of the way depression drains away
meaning. The French psychoanalyst Julia Kristeva described this pro-
cess:

For those who are racked by melancholia, writing about it would have
meaning only if it sprang out of that very melancholia. I am trying to
address an abyss of sorrow, a noncommunicable grief that at times, and
often on a long-term basis, lays claim upon us to the extent of having us
lose all interest in words . . . , actions, and even life itself. Such despair is
not a revulsion that would imply my being capable of desire and cre-
ativity, negative indeed but present. Within depression, if my existence
is on the verge of collapsing, its lack of meaning is not tragic — it ap-
ppears obvious to me, glaring and inescapable.

Where does this black sun come from? Out of what eerie galaxy do
its invisible, lethargic rays reach me, pinning me down to the ground, to
my bed, compelling me to silence?

Leon Wieseltier agrees that complete depression makes writing
impossible: “Whenever I read Kafka, I wonder: what sort of dejection
is this, that leaves one the strength to write, and write, and write? If
you can write about the wreckage the wreckage is not complete. You
are intact. Here is a rule: the despairing writer is never the most de-
spairing person in the world.”

Of course, that is one reason why we write, to prove to ourselves
that the wreckage is not yet complete.

The evidence for — and continued public resistance to — the
idea of depression as a brain disease is by now an old story. Different brain chemicals have different roles in controlling mood. Many of them are neurotransmitters, substances released by neurons to communicate with other neurons. Scientists first noticed their role in mood by accident, when they observed that drugs affecting neurotransmitters given for other reasons, such as for high blood pressure, also had effects on mood.

The transmitter that has recently received the most attention is serotonin, in part because of the success of the antidepressants known as SSRIs — the selective serotonin reuptake inhibitors. Other neurotransmitters, especially norepinephrine, are important as well. Depression seems to involve a complicated underactivation of serotonin and overactivation of norepinephrine. Drugs that raise serotonin levels (like the SSRIs) or lower norepinephrine levels generally help depression. Because no two people get depressed in exactly the same way, there is variation both in the symptoms of their depression and in how they respond to medication.

Other neurotransmitters, perhaps especially the opiate neuropeptides, may be crucial to depression but are less understood. Sudden crashes in brain opiates occur during grief and separation anxiety, states that often trigger depression. Some psychologists have proposed that the apathy of severe depression is a protective mechanism run wild, that it was originally intended for cases of grief that would otherwise cause overwhelming agitation. After extreme loss, depression can be less an illness than a relief.

While the view of depression as a distorted protective mechanism may not fit with the experiences of many who have suffered hideously during depression, it may be that their suffering stems from being not depressed enough. They are in mixed states, partly manic or anxious. This may help to explain why depressed people are more likely to attempt suicide when emerging from a depression than when deeply within it. Similarly, it seems that writer’s block during mixed states or agitated depressions is more painful than writer’s block during the deepest, most melancholic depression. As the passage from Kristeva
shows, those who are the most depressed are often the least likely to care about their depression — or their inability to write.

Depression is beginning to have a neuroanatomy as well as a neurochemistry, by which I mean that we are starting to define the brain regions as well as the brain chemicals that are most important in depression. Although serotonin and norepinephrine are widely distributed in the cerebral cortex, each originates in tiny discrete nuclei in the brainstem (the dorsal raphe and locus ceruleus, respectively). The limbic system plays a crucial role in mood. And studies using functional brain imaging techniques have begun to show patterns of cortical activity during depression. Frontal lobe activity, in particular, decreases — roughly the opposite of the frontal lobe increase seen in creative thought. When the patient’s depression is treated — whether by drugs or by psychotherapy — frontal lobe and other activity changes too. Limbic regions such as the anterior cingulate cortex and the amygdala are also relevant.

Preliminary evidence suggests that writer’s block may also have a special link to the frontal lobe. Part of the evidence is similarities between writer’s block and Broca’s aphasia, which results from damage to Broca’s area in the frontal lobe (see Figure 2a in Chapter 1). Like Wernicke’s aphasia, Broca’s aphasia causes difficulty with normal use of language, either spoken or written. In Broca’s aphasia, patients can comprehend language better than they can produce it. Most are frustrated, struggling with each word, and very often become depressed.

No doubt some of this depression stems from being speechless, from being able to communicate only the simplest needs. But frontal lobe lesions can cause depression even in patients without aphasia. As they become depressed, they become apathetic and tend to speak less. When their depression is treated with antidepressants, they become more communicative again. The depression and wordlessness of Broca’s aphasia strikingly resembles the plight of people with writer’s block. Thus language inhibition and depression appear to be cousins, different manifestations of frontal lobe malfunction. By con-
Wernicke’s patients can produce language better than they can comprehend it, the brain damage is in the temporal lobe, and they tend to be garrulous and manic. In this they are similar to hypergraphics.

The advent of powerful antidepressant drugs has made the chemical underpinnings of depression easier for people to accept. Yet many nonmedical people still distinguish “chemical depression,” by which they usually mean a depression that begins spontaneously, and “depression for a good reason,” one that follows a painful life event. Psychiatrists increasingly find that this distinction (also known as endogenous versus exogenous depression) is, at least as far as brain mechanisms go, merely one of degree. Life events trigger depression, not through an ethereal mental mechanism but through brain changes. Conversely, repeated depressions triggered by life events predispose people’s brains to spontaneous, “endogenous” depressions.

An antidepressant will ease depression that follows a bereavement, just as it helps an endogenous depression. Nonetheless, many people would choose not to take an antidepressant after someone they love dies, in part because their grief is one of the few things they have left of their beloved. Some people who can turn their depression into a tool or an aid to contemplation may reasonably choose not to treat it. But for the vast majority, whose depression brings only suffering, preserving a depression because it is “appropriate” may be not only agonizing but life threatening.

On this model of writer’s block as an aspect of depression, treatment options range from many types of psychotherapy through the ever-expanding array of antidepressants. These therapies are not mutually exclusive; many depressions that are well treated by drugs can also be treated by psychotherapy, and vice versa. In fact, most people do best when treated with both simultaneously. It is, of course, vital that the treatment be tailored to the patient.

Antidepressants do not act only in the brain regions most intimately involved in depression; that is why the drugs often have side effects. Startling new methods are being developed that may allow
more precise targeting of particular brain regions. In one such technique, deep brain stimulation, a neurosurgeon permanently places an electrode in the brain of a depressed patient. The treatment is still experimental for depression, but is governmentally approved for some movement disorders. Many of my clinic patients have deep brain stimulators. Their electrodes allow me to increase or decrease the activity of the brain tissue around the electrode, and thus dial up or down particular symptoms.

Parkinson’s disease has some interesting links with depression — not only do many of my Parkinson’s patients have depression, but nearly all of them look depressed, because of their mask-like faces and slow movements. The reverse phenomenon occurs too: a depressed teenager can start to look Parkinsonian. In some cases my electrode settings will have not only the effects on movement that are intended, but effects on mood as well. Have I cured anyone’s creative block? Proving an effect will require rigorous clinical trials. But one patient, not originally a writer, did compose an inspirational memoir afterward, and rather rapidly. But that could have been the hypergraphic response to any illness or stress. Another patient shoots off quite impressive research proposals while hypomanic on some stimulator settings, but stops generating them on settings that make her depressed. Still another patient with what was probably stimulator-induced hypomania turned his energy toward baking loaves of bread all night, so the effect is not clearly selective for writing.

In initial trials, deep brain stimulation has helped the depression of people whose illness was so severe that they did not respond to any other treatment. It also had a surprising side effect. Because some electrode settings have different effects on patients’ moods than others, certain patients found they preferred to vary the setting depending on what they were doing. One patient said: “When I am home sitting around the house, I like setting 2 because it helps me feel calm. But if I am going out to a party, I like setting 4 because it gives me more energy.”

The thought of controlling our brains this flexibly is intoxicating.
and frightening. It calls up images of a world in which we have special
settings for job interviews, or for writing lyric passages as opposed to
philosophical ones. More ominously, it raises the question of who
would control our settings and why.

We can reassure ourselves that techniques like deep brain stimula-
tion will never be common, for few people will want a procedure that
removes a piece of their skull and pokes a (thin) piece of metal into
their brain. (As Woody Allen said, “The brain is my second-favorite
organ.”) But transcranial magnetic stimulation (TMS) may achieve
some of the same results without the need for electrodes in the brain.
If so, it may soon be possible to ward off depression and at least some
types of writer’s block by holding a magnetic wand over a precise lo-
cation on our skulls while we are watching television.

Although most writers who have been successfully treated for de-
pression find that their writing begins to flow again as their mood
improves, paradoxically, a few writers have linked their desire to write
to their depression. Producer Joseph Papp told his staff to avoid all
therapy, “because then my writers can’t write any more.”

One justification for such a position is that an artist must suffer to
create, and what more effective way to suffer than through mental ill-
ness? “The intensest light of reason and revelation combined,” wrote
Herman Melville, “can not shed such blazonings upon the deeper
truths in man, as will sometimes proceed from his own profoundest
gloom. Utter darkness is then his light, and cat-like he distinctly sees
all objects through a medium which is mere blindness to common vi-
sion. Wherefore have Gloom and Grief been celebrated of old as the
selectest chamberlains to knowledge? Wherefore is it, that not to
know Gloom and Grief is not to know aught that an heroic man
should learn?”

Other writers argue that depression is not necessary for creativity
directly, but is an inevitable side effect of the mechanism that pro-
duces elated, creative states. As Rilke said, when it was suggested that
he be psychoanalyzed, “If I lose my demons, I will lose my angels
as well.” Several more recent writers have described how their de-
sire to write disappeared as their depressions lifted, but blame the
antidepressant — not the loss of their depression — for their decreased creativity. Lauren Slater depicts such a state a year after starting Prozac:

It’s been almost a year now since I’ve composed a short story or a poem, I who always thought of myself as a writer, all tortured and intense. I can just manage this journal. So maybe I’m not a writer anymore. Maybe Prozac has made me into a nun, or a nurse, or worse, a Calgon Lady. Why can’t I manage a simple story? Why is my voice — all my voices — so lost to me?

Every morning, before work, I come to the blank page and look at it. It looks like winter. It is February in my mind. I think of the things people have said about the blank page, all the images. Sheet of snow. Anesthetized skin. To those images I add my own: the white of Prozac powder, spread thin.

The biochemistry of this side effect, if it is real, is unknown. One possibility is that it occurs through mood flattening. Some antidepressants, at least in some people, seem to not only decrease their low moods but diminish their excited or high moods. Without their highs, patients may find they have less drive to write. This occurrence can be misinterpreted as more depression breaking through the antidepressant — sometimes causing the physician to increase the dose, which only worsens the symptom.

**Cycles of Productivity**

Performance often waxes and wanes systematically. Artists or athletes may enter the Zone one day, only to be expelled like Adam and Eve the next. Three ingrained cycles are important for both mood and creativity: sleep, the seasons, and hormonal cycles. Sleep rhythms deserve the closest look, because they are the easiest to change and because it can be hard to tell block (usually treated as a work issue) from depression (usually treated as psychiatric) from fatigue (usually treated as medical) from sloth (usually treated as one of the Seven Deadly Sins).

Sleep rhythms are controlled by the suprachiasmatic nucleus in
the brain. Even without day and night cues, most people continue on a fairly normal sleep-wake schedule — with one strange exception: it will be roughly twenty-five hours long, rather than twenty-four. This explains why most people sleep and rise an hour later each weekend day, when not forced to wake on time for work — and then wake on Monday with something unpleasantly like jet lag. Not surprisingly, few individuals get their best writing done on Mondays. The treatment, studies have shown, is to keep the time one rises as constant as possible. The time one goes to sleep is less important.

Most writers — most everyone — has tried to determine how little sleep they can get away with. The U.S. Army has poured money into the problem of sleepiness, but so far has not developed a non-circadian man. It did demonstrate that sleep can be kept to a minimum by means of a twenty-minute nap every four hours. The same conclusion was reached five hundred years earlier by Leonardo da Vinci, with a much smaller research budget.

What about the role of snooze buttons in all of this? They are notoriously addictive. I have a theory, based on the exquisite morphine-like rush that follows hitting the button and going back to sleep, that the act of returning to sleep releases endogenous opiates in the brain. Admittedly, the only research supporting my opiate theory is my own introspection: looking through the literature turned up only a couple of papers on how to make snooze buttons easier to hit in the dark and a publication called “Don’t Hit the Snooze Button on God.” One way to cure a snooze button addiction is to find a loud alarm clock, disable its snooze button, put the clock on the other side of the room, and set it for the true time the snooze addict actually gets up. Within a week or so addicts will usually be able to rise even without the alarm, and will find themselves less groggy than if they had been dozing for half an hour before getting up.

Rising in an alert state increases early-morning productivity. Dawn simulators, which shine a gradually stronger light in the face just before rising, may also help. Those who find themselves still groggy after all these changes are, most likely, severely sleep-deprived, and must simply get more sleep each night.
Figure 6. A page from Leonardo da Vinci’s notebooks (c. 1490). He thought the three fluid-filled cerebral ventricles (drawn incorrectly as stemming from the eye at the level of the temporal lobe) controlled inspiration and creative dry spells. His own inventiveness alternated with severe block — he left many of his major works unfinished. His famous mirror writing, shown here, is a trait often linked to hypergraphia.
Treatments with stimulants ranging from caffeine to amphetamines can help decrease sleep for short periods. Unfortunately, the body soon becomes tolerant to the drug and needs to take more and more to get the desired effect. And heavy use triggers rebound sleepiness and disrupts sleep at night. So for most people, stimulants help only if they have the willpower to use one or two cups a week. There are some exceptions, though, such as the power user and prolific mathematician Paul Erdös, who said that a mathematician is a machine for turning caffeine into theorems.

One new medicine, modafinil (Provigil), holds promise because it has few side effects and seems to promote a state of quiet alertness rather than the jittery high of caffeine and other stimulants. The exact way it works is unclear, but it seems to affect a discrete part of the limbic system, a sleep-wake center in the hypothalamus, rather than the widespread cortical arousal network. Although modafinil was originally developed for people with narcolepsy, its use is quickly spreading to people with fatigue from many causes. Its crossover into the writing community was recently documented in the New Yorker by Jerome Groopman’s paean to its virtues.

Occasionally, what may seem like writer’s block is merely a matter of writing at the wrong time of day. The distinction between morning people and evening people is not entirely understood, but it can influence creative productivity. Many writers write very early, perhaps because the early-morning increase in stress hormones such as cortisol provides a natural rush. The artist Ted Orland, on the other hand, tells of watching his output inexplicably shrivel up until he realized that the problem began when he switched from working in the evening to working in the morning.

Because sleep rhythms change with age, it helps to experiment periodically with new regimens. Adolescents, who annoy their parents by insisting that they need to stay up until all hours and then sleep late, recently received support from scientists who have shown that their sleep melatonin rhythms really are different from normal human beings, and that adolescents do best going to sleep between midnight and two in the morning. Some school systems have changed
their hours in an effort to decrease classroom sleepiness and perhaps even increase SAT scores. As people get older, their total need for sleep decreases and they often wake earlier and earlier. Some seek treatment for insomnia or depression; others interpret the same symptom as an opportunity to do several hours of work before their official workday starts.

Although fatigue is not really the same as block, it certainly feels like block when you try to write and your mind refuses to move. A short (less than fifteen-minute) nap during such a lag may be much more effective than coffee. The length of your nap, however, is important. Naps longer than fifteen minutes usually allow you to transition into dream sleep (rapid eye movement or REM-stage sleep), and you will wake up much groggier than if you had remained in nondream sleep.

Dream sleep, whatever we speculate about the relation between dreams and creativity, actually seems to have a negative effect on mood. If you keep a depressed patient awake all night, his or her mood will improve significantly. (Unfortunately, the benefit only lasts until the first nap that contains dream sleep.) Most (but not all) antidepressants suppress dream sleep, and some researchers have speculated that this property might be essential to their effectiveness. I hope not. I have experienced this drug-induced dream suppression and disliked it. A dream, even when somber, gives flavor and depth to a day. There are worse things in life than being unhappy.

Writers who are feeling too manic and hypergraphic, with too many scattered ideas, may benefit from a sleep regimen opposite to that for depressed or blocked writers. Sleep deprivation doesn’t calm down overenergetic writers, it often only disinhibits them further. They may find that their writing becomes more organized if they are forced to go to bed two hours early. Some have speculated that an all-nighter may help writer’s block by using sleep deprivation to disinhibit the writer. Perhaps it is the approaching deadline that finally spurs the writing to begin, but sleep deprivation itself seems to decrease creativity, rather than increasing it.

The first rule a medical resident learns is “Sleep when you can, eat
when you can; you may never get a second chance.” But the resident’s life, while tiring, is also pleasantly loaded with call-room beds. What about writers whose work situation is not so well equipped? In my first job after my residency, I had no office and took naps under a very deep desk. I stopped when I woke up one day to find a colleague borrowing my computer, her shoes close enough to my face that I could have tied her laces together. She stayed for what seemed like forever, as I tried not to sneeze. Afterward I found a convenient closet to sleep in, an arrangement that lasted until one of the departmental administrators came to look for paper plates. He screamed, and later told me that he had been sure I was dead. So naps are problematic productivity strategies for people who have to write in public places. One such problem even had a technical name when I was in college: the “snarf mark,” the imprint of a spiral notebook wire on the face of someone who had fallen asleep facedown in the library.

Humans are driven by seasonal cycles as well as sleep cycles. In earlier times, food supplies and activity levels varied a great deal from summer to winter. These days, although the most seasonal activity is often preparing taxes for April 15, seasonal brain changes remain. Circadian and seasonal rhythms are related, for increased night length is what tells the body that winter is coming. In some animals the increase triggers hibernation; in humans, the effect is often weight gain and a desire to watch reruns. On average, people are less productive and less creative during the winter. Kay Jamison has collected evidence that artistic and other creative works peak in the early fall, with a smaller peak in the spring.

Some people, especially sensitive to day length and seasonal cycles, show an exaggeration of the productivity dip that most of us experience in the winter. A fraction have seasonal affective disorder, in which the short days of autumn trigger depressions every year. They can be helped by light therapy, a simple but effective technique in which the sufferer looks at a bright full-spectrum light for thirty minutes early each morning, tricking the suprachiasmatic nucleus into thinking it is summer again. There is some evidence that winter light
therapy can help the mood and energy even of people without depression.

Behavioral strategies too can aid writers whose output drops in the winter. Some are able to edit in the winter even though they lack the energy for new writing. If they shift their writing to the summer and their editing to the winter, they may greatly increase their productivity. Finally, choice of habitation is crucial. The expatriate writers who have long flocked to Paris should particularly beware short days, since Paris is on the latitude of Vancouver. (On the other hand, Parisian health insurance, unlike that in this country, covers light therapy — providing more justification for its description as the city of (full-spectrum) lights.) Writers in the United States often self-medicate with a winter trip to Key West (Ernest Hemingway, Elizabeth Bishop, Walker Percy . . .).

Finally, rhythms in reproductive hormones can have effects on productivity that dramatically imitate block. The best understood of these is premenstrual syndrome (PMS), or, more accurately, the psychiatrically more intense form of PMS known as premenstrual dysphoric disorder. I will blur the two. Most women — up to 75 percent — have moods that worsen just before their periods, although only about 5 percent have symptoms strong enough to interfere significantly with their work or home life. These symptoms are generally mood swings and depression, but can include decreased concentration and short-term memory. Doctors have long suspected a role for the sex hormones estrogen and progesterone. The situation is complicated, however: PMS seems not to be directly a function of a patient’s hormone levels, since most women with premenstrual mood changes have normal hormone levels. And treating premenstrual syndrome with serotonin reuptake inhibitors turns out to be more effective than manipulating hormone levels.

Sylvia Plath’s poetry is a fascinating example of how a body’s rhythms can affect a body of work. Scholars have for some time believed that Plath had bipolar disorder, but the publication of her unexpurgated journals has confirmed that her poetry’s content and style
also fluctuated dramatically with her menstrual periods. (In fact, bipolar women often have severe PMS.) The influence of her menstrual cycle is perhaps most notable in her famous “Ariel” poems. The recurrent rise and fall in the tone of the poems, with their themes of barrenness, fertility, misery, bleeding, and relief, are overseen by the image of an inspiring but indifferent moon goddess. “If I could bleed, or sleep!” Plath wrote in “Poppies in July.” Eventually, she did both: her suicide, like the writing of her bleakest poems, was during a premenstrual period.

Presenting a work of literature as influenced by PMS will no doubt offend some readers as reductionist. Others will see it as perpetuating the gender stereotype of the irrational, labile woman. Actually, I held both positions until I had a bout of severe PMS for a few months after I stopped nursing my daughters. (PMS often starts or is worst during the first few menstrual cycles postpartum; indeed, it was during one of these that Plath killed herself.) It was disorienting to feel my mood worsen rapidly each day, to feel my ink dry up before it reached the page, to watch the lines between infertility and literary sterility blur. And then suddenly have it all disappear, and feel normal again. Now it makes more sense to me that someone would bother to write an entire poem cycle about PMS.

Of course, women are not alone in having writing shaped by hormones. Testosterone, though, does not cycle as women’s sex hormones do; or rather, it is one long cycle accelerating in adolescence and tapering off in old age. Late in life is when the risk of depression and suicide rises dramatically in men; some have argued that depression can be helped by testosterone. The writer Andrew Sullivan is perhaps the most articulate fan of testosterone as a mood elevator, based on his own experiences with testosterone replacement. Some doctors are now attributing many of the ills of middle-aged men, including depression and decreased productivity, to “andropause,” the midlife decline in testosterone, and treating it with supplements — even in men whose testosterone is not low. So far, however, the data supporting these treatments are highly controversial.

While the relation between low testosterone levels and depression
is still not completely understood, the relation between high levels and aggression is clear. In both animals and humans (male and female alike), after a fight, testosterone increases in the victor and decreases in the loser. The hormone has a complicated relationship with social rank: it turns out that a high testosterone level benefits upper-class men, but in lower-class men it is associated with unemployment and being unmarried, perhaps because a poor man’s aggression is more likely to get him into trouble than a CEO’s is. In some primate species, the alpha male actually has less testosterone than the males in middle management, perhaps because the alpha male does not have to fight as much.

Is high testosterone useful to creative people? Or is it merely a distraction in the relatively peaceful creative life? Did Hemingway’s presumably high testosterone help him, or merely cause his violent death? Science may eventually have answers to these questions.

A friend, on reading these passages about testosterone, argued that I was an essentialist, one who believes there are inalterable biological differences between men and women. That took me aback. I had always been in the unthinking “I can do anything you can do” postfeminist school, perhaps because I had never suffered much from men (other than occasional bits of patronizing if well-meant advice from oldish ones, and the ubiquitous annoyance of abrasive beard stubble). Then I started to think more about my writing. Why was I writing a female-style book full of unsolicited personal confessions about how emotions and childbirth and PMS and choosing daycare centers (see the next chapter) had changed my writing? Why couldn’t I have written a purely objective scientific treatise, or chosen a less female topic — fly fishing, perhaps? Of course, it’s possible for women to write like men; my own first book was clipped and distant. Yet I have the disturbing feeling that something has been turning me from a writer into a woman writer. Is it the hormones in the pregnancies? The activity of raising young children? Part of me wishes that whatever is doing it would stop. But part wonders why scientists are supposed to hide the reasons why they care about their research. And why fly fishing is considered of general interest, anyway.
Anxiety and Excess Motivation

After depression, anxiety is probably the second-clearest link between writer’s block and a psychiatric illness. Anxiety and depression share many features, but may cause writer’s block through different mechanisms. One of the chief ways in which depression causes block is by sapping the energy and motivation to write. Paradoxically, the increased energy and motivation of anxiety can also interfere with writing. This is an example of the venerable Yerkes-Dodson law. Yerkes and Dodson first described the connection between a subject’s arousal and task performance in 1908, in a study of the beguilingly named dancing mice. (These mice have a brain mutation that causes them to run in circles and toss their heads — enough to make them popular pets at the turn of the century.) Yerkes and Dodson proposed that performance has an inverted U-shaped dependence on arousal, so that both very low and very high levels of arousal interfere with performance. Low arousal produces immobility because of torpor; high arousal does so through the frozen deer-in-the-headlights phenomenon. Yerkes and Dodson also noted that the optimal level of arousal varies with different tasks; cognitively difficult tasks have lower optimal levels of arousal than tasks requiring endurance or physical strength.

The excessive motivation that can paradoxically cause writer’s block can derive from a number of sources, whether external, such as parental pressure, or internal, such as a consuming desire for fame. Frequently the arousal comes from negative emotions such as anxiety; but the emotion need not be negative. Even states of increasing elation, as seen in manic episodes (or the beginnings of love affairs), can progressively disorganize and distract the writer. Note the surprising fact that this form of writer’s block is not the motivational opposite of hypergraphia. Rather, both share the quality of being excessive states of motivation to write. What would make one person with extreme motivation hypergraphic while another was blocked? Some evidence indicates that strong internal motivations are less disorganizing than strong external ones. High-arousal block may alternate
with hypergraphia in the same person, as in graduate students who ricochet between feverish nonwork on their dissertations and reams of e-mail and blogging.

Writer’s block that is linked to anxiety is often also tied to procrastination — the process that leads you to suddenly clean out your basement the week before a writing deadline. Procrastination of a different sort can accompany depression. For at the most fundamental (or simplistic) level, there are perhaps only two types of writer’s block, high energy and low energy. Unlike low-energy block, high-energy block may worsen as your deadline approaches; it makes you sweat, makes you sit down only to jump up again. When your work is part of who you are, and you fear that it is bad, you become more and more frantic. Perhaps you have ideas, but you quickly reject them as worthless. Perhaps you do not even let them into your consciousness, but feel them swelling, purulent — an abscess where your brain used to be. In low-energy block, the desire that makes you sit down to write is a dull sense of guilt. Instead of ideas, you have only sterile ruminations on how things used to be when you could write, when the world had color.

The Yerkes-Dodson law explains why the bigger the project, the bigger the block. It explains why a writer like Coleridge could be blocked in writing poetry, the genre most important to him, but could freely write essays. It explains part of the second-book phenomenon, in which writers freeze trying to live up to their first success, and it gives one reason why the harder a writer tries to fight his block, the more he mires himself in it. The Yerkes-Dodson law also gives strong and specific recommendations for combating this form of writer’s block; namely, by lowering the blocked writer’s arousal, even if that includes lowering his or her motivation.

At first glance, decreasing arousal is a counterintuitive way to combat writer’s block — typically, a blocked writer will do the opposite, drinking black coffee or mentally whipping himself in the hope that increased motivation will drive increased productivity. Moreover, little in the standard literature addresses this aspect of block. Instead, we have to look at stage fright as a model.
Psychotherapeutic approaches to stage fright or performance anxiety usually divide into psychodynamic psychology and symptomatic treatment. In the former, the sufferer uncovers past events contributing to the anxiety. In the latter, relaxation techniques, meditation, or biofeedback teach the sufferer to control the physical symptoms of anxiety (tremor, quavery voice, sweaty palms) without necessarily understanding them. Only a few centers have approached writer’s block with symptomatic treatment, perhaps because getting rid of your racing heart doesn’t usually help you to write better.

Pharmacologic approaches to performance anxiety are used too. Unfortunately, antianxiety drugs such as diazepam and alprazolam (Valium and Xanax) have sedative effects that tend to take the edge off the sufferer’s performance. Alcohol has similar effects. Is alcohol’s temporary effect on anxiety one reason why so many writers and other artists have become alcoholics? (Of the seven U.S. Nobel laureates in literature, five have been diagnosed as alcoholics.) The writer Stephen King, a recovering alcoholic, argues that although writers may say they drink because alcohol helps their writing, they really drink simply because they are alcoholic. They use their status as writers, though, to invoke what King calls the Hemingway defense: “As a writer, I am a very sensitive fellow, but I am also a man, and real men don’t give in to their sensitivities. Only sissy-men do that. Therefore I drink. How else can I face the existential horror of it all and continue to work? Besides, come on, I can handle it. A real man always can.” Ultimately it is likely that so many writers drink because they have mood disorders and mood disorders correlate independently with alcohol and drug abuse.

Whether or not alcohol helps any artist in the short term, it appears to hurt creativity in the long run. Tom Dardis has argued persuasively that the reason Faulkner, Hemingway, Fitzgerald, and others did their best work in their twenties and thirties was the progressive brain damage that alcohol caused later in their lives.

Besides sedatives, a second class of drugs used for performance anxiety is the beta-blockers, such as propranolol (Inderal). Beta-blockers have little central nervous system effect on the brain and
do not dull thinking. Instead, they treat the adrenaline-induced peripheral nervous system effects of anxiety, most notably tremor. Beta-blockers have been useful for musicians and public speakers, for whom a shaky hand or voice can be disabling. They do not help writer’s block, which doesn’t depend on physical dexterity — unless you count the typing.

A third class of antianxiety drugs is the antidepressants, especially SSRIs such as fluoxetine (Prozac) and newer agents such as venlafaxine (Effexor). More and more, these drugs are being used, instead of tranquilizers like Valium, as first-line antianxiety agents, and most of them are not sedating. We would therefore expect them to be effective in writer’s block and, with the caveats mentioned earlier, they seem to be. Whether this is because of the antianxiety effect or the antidepressant effect, or both, is not clear.

Thinking of this type of writer’s block as a less physical form of stage fright raises the question of how self-consciousness relates to both problems. Self-consciousness depends on our awareness of how others see us, of our audience. Philosophers sometimes talk of self-consciousness as the trait that makes us fully human. Yet, as anyone can attest who has ever appeared in an elementary school play, self-consciousness can subjectively feel as if it only interferes with our ability to act and live fluidly.

In a relevant parable, a centipede walked past a spider who said: “I can’t tell you how much I admire your walking. I can hardly manage my eight legs; how can you possibly manage a hundred?” With that, the centipede, who had never before given his legs a thought, collapsed in a tangle. If self-consciousness disrupts skills primarily by making them slower and less automatic, it may be less of a problem for writers and visual artists than for athletes, musicians, and centipedes. Indeed, a heightened self-consciousness may be necessary for at least a certain kind of introspective artist. As Franz Kafka wrote in his journal, “This inescapable duty to observe oneself: if someone else is observing me, naturally I have to observe myself too; if none observe me, I have to observe myself all the closer.”

The novelist Claire LaZebnik has pointed out the danger of being
conscious of the possibility of writer’s block. When she once brought up the subject at a party, she got angry phone calls afterward from several of her writer friends, who said that just hearing the words had made them unable to write for days. On hearing this story, a writing counselor I know said in exasperation: “People are so suggestible! This is why it’s so hard to prove block even exists.”

I would draw a different conclusion. Beliefs about block can influence block, because beliefs are important things. Important biochemical things, too. The suggestibility of block points to a practical question: the trade-off between offering well-publicized help groups that deal with block, and downplaying the existence of block to avoid suggesting anxious writers into it. The trade-off is similar between publicizing the problem of campus suicides and avoiding the problem of “copycat” suicides. Despite the derogatory term, copycat suicides are real, tragic suicides. Similarly, thinking oneself into a block is a real block, one caused by the failure of helpful repressive mechanisms.

Although I have never had the experience LaZebnik described, of being knocked off balance by hearing the word “block,” perhaps that is because I am never able to forget the possibility of block. Paradoxically, it drives my writing — compelling me to put aside everything else because of the possibility that today may be the last day I will ever be able to write. It’s another way writer’s block is sometimes not the opposite of hypergraphia but the cause. Perhaps writers could re-claim the concept of block as Saint Jerome in his study used a memento mori (a skull, or an hourglass with the sands of time slipping away) to drive his work, in those lovely Renaissance paintings where he sat at his manuscript with a conveniently cat-sized lion purring at his feet and a casement window opening from the room onto a jewel-like Flemish landscape. The perfect writer’s life.

OTHER BIOLOGICAL FACTORS

The left brain–right brain theories of creativity may have implications for the treatment of block. As I described in Chapter 2, creativity seems to require a high level of interaction between the two
hemispheres. Self-help writers often go far beyond the neuroscientific evidence, stereotyping the left brain as the exclusive seat of logic and the right brain as the seat of holistic thinking and creativity. On such a view, block arises when the left brain dominates the right brain.

The proposed treatments, which are claimed to increase right brain activity, use many of the same techniques — relaxation, brainstorming, visualization — as do other self-help approaches to writer’s block. One physiological technique unique to left brain–right brain enthusiasts is the memorable advice that plugging the left nostril can decrease the amount of oxygen going to the left hemisphere and thereby cause an artist to perform more creatively. Although this theory apparently is based on a medieval notion of oxygen traveling directly from nostril to brain without mixing in the lungs or heart, there has been one laboratory group — a single one — that has tested the proposition empirically and found some support.

Another technique proposed to alter hemispheric activity and creativity is called broadly the Mozart effect, in which listening to music (usually classical) produces an increase in creativity, SAT scores, and other cognitive tests. A small industry of audio recordings has sprung up, claiming to manipulate brain state by altering EEG rhythms by selectively increasing blood flow in certain areas of the brain. However, a review of sixteen studies of the Mozart effect shows that its average effect is minimal (roughly two to nine IQ points for only thirty minutes after hearing the music) and depends on “enjoyment arousal.” You have to enjoy Mozart’s music for the phenomenon to work — and in fact, one study showed that for Stephen King fans, reading one of his short stories work just as well. Thus, if music while you write helps you stay awake, so much the better — but it’s probably not because of music’s right hemisphere effect.

Finally, a few other classes of drugs have been anecdotally reported to help writer’s block, at least in some people. One is the neuroleptics, sometimes called the antipsychotics. These drugs act mostly on dopamine, a neurotransmitter important for motivation, initiation of movement, and many other functions. The neuroleptics would not appear on anyone else’s list of drugs to combat writer’s block (if any-
one besides myself were rash enough to make such a list). Yet as the newer ones are becoming safer, they turn out to be useful for milder mood disorders and anxiety. Also, unlike traditional anxiety drugs such as diazepam, neuroleptics help suppress the critical internal voices that, as Anne Lamott described, can distract from a writer’s true voice.

One final class of drugs that might be helpful in writer’s block is the anticonvulsants. A few people with abnormal temporal lobe activity do not have the classic hypergraphia of Geschwind’s syndrome; rather, their desire to write is combined with block or word-finding trouble. The epileptic Flaubert, who crossed out nearly as many words as he wrote, was probably an example.

In a recent case report, an excellent public speaker who wanted to write a book visited a neuropsychiatrist because he felt he could get words out of his head when he spoke, but not when he wrote. Functional imaging of his brain showed abnormal temporal lobe activity on both sides. Once started on a low dose of anticonvulsant, he was reportedly able to write for hours at a time. It is not certain that the anticonvulsant worked by preventing low-grade seizure activity, however, because anticonvulsants usually have mood-stabilizing effects as well.

The Risks and Benefits of Self-Experimentation

In this chapter and the previous one, I have touched on many different techniques for getting around creative block, all with different theoretical justifications, few with extensive testing. Even treatments that clearly work well on average may not work well for a given person. The multiple aspects of block show how specifically tailored an effective treatment — behavioral or medical — should be. Determining the best treatment for a creative problem depends on subtle, subjective descriptions of the writer’s mental state before and during treatment. A description in mental language is at present better than any brain scan or neurochemical measurement to reveal what is go-
ing on inside a writer’s head. Determining the best treatment none-
theless requires objective knowledge of the treatments under consid-
eration, and objective record keeping of how the writer responds. Without a clinician with an infinite amount of time and sympathy, no one is better suited to do this than the writer (perhaps with help from his or her family).

Therefore, overcoming a creative problem, whether it is low-
energy block, perfectionism, or having too many too disorganized ideas, often requires what in the Introduction I gave the inflamma-
tory name of self-experimentation. Although I could have called it something blander, the fact is that self-experimentation, although it is essential, can occasionally be dangerous. You should proceed cau-
tiously, and of course with supervision when medication is involved. It is critical — and sometimes difficult — to define your primary goal. To write a successful book at all costs? To make yourself feel cre-
ative, independent of success? To more comfortably balance the de-
mands of work and family? These goals might indicate quite different treatment regimens.

Start with techniques recommended by reliable sources. Anec-
dotal evidence (“Someone in my writer’s group knows someone who wrote a book in thirty days”) is probably the least reliable. Inspirational publications and seminars usually contain advice that has been endorsed by more than one person, although it is often in the frus-
trating category of advice that could be followed only if you had al-
ready solved your problem (such as “Write for half an hour each day”). As you might expect, someone with my training prefers dull peer-reviewed scientific articles. But since there are very few on cre-
ative block, people with problems now, who can’t wait for science to catch up with their needs, have to make compromises.

As much as possible, control for other variables besides the treat-
ment you are introducing. For instance, try not to compare the ef-
effects of a light box at 7 A.M. in the fall with sleeping until 10 A.M. in the summer. Will you be able to control for everything? No. Often you will need to run the same experiment repeatedly as conditions
change, which is another way of saying that a technique that didn’t work in the past may help later on.

Never underestimate the effects of suggestion or placebo; these are two phenomena that make many people have at least an initial response to a persuasively advertised but inert nutritional supplement, or a twelve-step writing technique. You may believe you are above that sort of manipulation, but you also probably feel more alert immediately after your first few sips of coffee, when your brain has registered the taste and not yet received the caffeine. This is a classic placebo effect, and it reflects not stupidity but a neurochemically conditioned brain change, despite being independent of the actual caffeine.

Try to put the placebo effect and suggestion to use; for instance, by going to seminars by inspiring teachers rather than dull ones (the former will have more impact even if the content of the messages is the same). Cults often can strongly affect behavior through suggestion, but they do tend to have disadvantages.

A common mistake is to hear of a new treatment, start it with exaggerated enthusiasm, then give up on it after the first bad day. Trying the new technique long enough is very important. I have patients who have tried as many as forty therapies for a severe neurological problem, but quickly give up because of side effects that they find frightening — say, dry mouth from a medicine. Yet if they step back from the new problem, they may realize that it is trivial compared to the original one. Allowing yourself time to get used to a new symptom will let you put it in perspective, especially since such side effects are usually temporary.

Some people give up a treatment too early because they underestimate the improvement they have made. This is a significant problem in depression. I am always torn when a patient comes in saying that nothing has changed, and his wife and children vehemently disagree — pointing out how much more active he is, how he is taking walks and writing again. Even his behavior in my office is different; he smiles and jokes with me. I want to give his perceptions priority — it
is his body, his life — but I also know that his perceptions are skewed by his illness.

An essential technique to help escape perceptions colored by mood is to create an objective rating scale by which you can judge your performance. It could be as simple as using your computer’s word-count tool at the end of each day or week. (Seeing the number creep up can even be mildly rewarding.) You may also want to keep track of other factors you suspect influence your writing: hours of sleep, exercise, amount of alcohol or other drugs used, visits from children, lunch with worst enemy. Especially if you are a perfectionist, subjective judgments of your writing’s quality tend to be less helpful than cruder but more objective quantitative ratings. Blocked writers are often so full of self-loathing that they may rate the quality of their writing every day as $-2$ on a scale of 0 to +10. Choosing a scale that always bottoms out in this way is useful only as proof of your gloominess. As a measure of your response to treatment, it is like putting a meat thermometer in your mouth to try to detect a fever. Select a new scale — for example change $-2$ to $+5$, to allow you to see changes around your average performance.

Daily quantitative evaluations (or even more frequent ones, if you want to know how diurnal rhythms affect your writing) can help you think objectively about your writing; they can also swamp you with data. The ability to summarize changes by means of anecdotes can be useful. My patient with Parkinson’s disease who brought me hundred-page color printouts of his symptoms might also document his progress by noting whether he can flip pancakes and have them land on the griddle again. Someone who procrastinates might say, “This term I handed in four of five papers on time; last year it was only one.”

Let me conclude by giving the usual doctor speech about the importance, in the case of prescription drugs, of taking them under the supervision of a physician trained in that field. Your own personality will influence with whom you work best. If you don’t like the first or second doctor, see another. (If you don’t like the fifth, though, it just
might be you that is the trouble.) Remember that finding a doctor exactly like you may not be useful — if you are a risk taker, get someone more cautious. If your physician emphasizes the value of trying a medicine for a month or two before deciding whether it works, it usually pays to listen. But if after a reasonable interval, you still believe the side effects outweigh the benefits, you have the right to be firm about stopping even if your doctor tells you the sedation you’re experiencing is “minor,” and your family says, “But dear, you’re so much easier to get along with these days.” It is easier for others to downplay the side effects of a treatment if they have not tried it themselves. When your block is accompanied by significant psychiatric illness, though, you may have to resign yourself to taking your doctor’s and family’s advice very seriously.

This book is partly, among the other genres it has jumbled, one of those doctor-turned-patient narratives in which the physician (played by William Hurt, of course) should become a better, more sensitive doctor because of his experiences. In my case, so far I am merely confused by divided loyalties. It still sometimes frustrates me when a patient irrationally turns down the wonderful treatment I offer because it has a trivial (to me) side effect. Yet the period when I tried so many treatments for excesses and dearths of words and moods did teach me something: I am more aware of how double-edged powerful treatments can be. I was lucky that, despite having at one time or another about nine different side effects, none was severe except the antidepressant-induced agitation that hospitalized me. But even my mild tremor was physically tiring; it made it harder to get a key into a lock, and when I stroked my daughters’ hair, it caused my hand to stutter or slap across their foreheads.

Of course I still recommend pills to my patients. It is nonetheless clear that exercise or psychotherapy or education or moving out of one’s parents’ house may be a more specific and effective treatment — if sometimes requiring greater effort. Accepting a medical model of mental functions doesn’t restrict treatment to pills. Educational and behavioral techniques are still available. They affect the brain too, sometimes in much more focused ways. Greater knowledge of
the biomedicine of learning and psychotherapy and meditation may evolve to make these treatments become more effective than standard medical treatment.

Relating the Causes of Block

There is little reason to believe that the “mental” varieties of writer’s block I described are fundamentally different from the more obviously brain-based varieties. How far have we come in this chapter and the previous one in discussing writer’s block in both mind language (thoughts, experiences) and brain language (neurochemicals, brain regions)? Both are complicated propositions.

I will consider mind language first, but in a backward way, by using a physiological metaphor to relate the mental phenomena of perfectionism, suffering, lack of skill, procrastination, inspiration, oppression, and the many other states related to writer’s block (sloth, fear of rejection, and simple confusion). Imagine the writing process as a heart pumping blood. How well it pumps depends on a number of factors. The first is the heart’s ability to pump strongly, which requires both muscle energy and rhythmic coordination. Second, the heart pumps against a pressure, the afterload, which must be low enough that blood can move out of the heart. The afterload depends both on the mass of blood in the outflow vessels and on the stiffness of the heart’s exit valve. Third, the pumping also requires an adequate supply of blood delivered to the heart, in what is called the preload.

On my heart model, the writer’s intrinsic ability to pump out work depends on his or her energetic state (normal motivation with absence of depression or fatigue) and ability to coordinate the rhythmic contractions (skill, good work habits, avoidance of procrastination). The writer’s afterload is inhibiting disapproval, whether internal to the writer (the tight valve of perfectionism, oedipal fears, generalized anxiety) or external (the burden of the past, critical colleagues, sociopolitical pressure). Finally, the writer’s preload is the inspiration or set of ideas needed to prime the pump. Just as the blood that the heart pumps out eventually returns to feed it and prime the
next contraction, so a writer’s output is the basis for further ideas. When that output falters, there is less inspiration and energy for further work, a vicious cycle that has given many writers the literary equivalent of a heart attack.

Why is it better to describe lack of inspiration as lack of blood than, say, as an unwell inner child? Partly, a heart model takes into account many phenomena that are not explained by inner-child psychology. Partly, too, a taste for the more scientific- and manly-sounding heart metaphor is to some degree just a doctor thing. Because the heart’s physiology is better understood than that of most organs, physicians tend to use it to explain metaphorically everything from biochemical cycles to bowel function. (The heart metaphor for the gut function leads to the useful warning that when treating constipation, dire things happen when you increase preload — the pressure in the intestines — without first decreasing afterload, the sphincter pressure).

As metaphors go, the heart pumping blood is a more romantic image for creative work than, for instance, a salivary gland squirting out its product. But the heart metaphor is romantic in another way, since it implies the Romantic belief that a writer’s inspiration is delivered passively, the way the heart’s preload blood flows into the right atrium. Antiromantics would argue that this is inaccurate, that a writer actively suckst new ideas and observations into his or her work. And once inside, they might argue, the ideas are altered and . . . digested. A bowel metaphor of creativity. If we shift to this rather less romantic organ, the preload becomes food, the contractility and coordination of the bowel takes the place of the heart muscle, the anal sphincter becomes our pinched or expansive self-judgments, and our finished work is a glistening stool.

Freud, of course, famously argued that the bowel metaphor of creativity is not just a metaphor; that our attitude toward our later work is shaped historically by how we were rewarded or punished for our first “jobs.” Although as adults we need a great deal of imagination to take such a position seriously, there was a time when eating was a strange and sometimes alarming process of taking alien mate-
rial from the outer world into an equally mysterious body. Bringing products forth from that body, and casting them into the outer world of limitless space, was no less frightening. The process of creating a book is not so different.

Finally, how to summarize mental descriptions of writer’s block in terms of brain states? I began this book with the suspicion that writer’s block might be the opposite of hypergraphia from a neurological point of view as well as from the viewpoint of productivity and pleasure. Hypergraphia — and metaphor, and inspiration — are associated with altered activity in the temporal lobes. Might writer’s block be the opposite temporal process?

The more research I did, however, the more likely it appeared that writer’s block is a frontal lobe process rather than a temporal lobe process. (Granted, the two lobes influence each other strongly.) Block shares the strangled muteness of Broca’s aphasia, the inflexibility of perseveration, and the task specificity and stress dependence of writer’s cramp — all frontal lobe neurological disorders. And the two psychiatric disorders most closely tied to writer’s block are depression and anxiety, both with evident neurobiological underpinnings and both showing decreases in brain activity that are especially severe in the frontal lobes. The parallels between depression and anxiety on the one hand and what I have been calling low-energy and high-energy block on the other suggest pharmacological treatment for block. They also support the effects on block of behavioral treatments (exercise, psychotherapy, meditation) that can help anxiety and depression.

Of the many drugs discussed in this chapter, none are approved by the Food and Drug Administration for writer’s block — and of course, writer’s block is not even something that the FDA would consider a medical condition. Moreover, these drugs have other, primary, effects — on depression, anxiety, and other mental states. This is not a surprise: current drugs work on neurochemical systems that are widespread through the brain. But it is not clear whether writer’s block ever appears as an isolated problem. Even if it did, wouldn’t the
unhappiness and sterility that come with being blocked soon infect other aspects of the writer’s life? Thus it is to some extent not a disadvantage that these drugs affect mood as well as writing.

Often, people self-treat their block in ways that merely exacerbate it neurochemically. A depressed person may stop exercising, while an anxious person may drink more and more coffee in an attempt to stay vigilant. When a drug affecting a particular neurotransmitter system has an effect on writing, it is evidence for the role of that system in driving the writing. Just as no two depressions are biochemically identical, so no two blocks are. In the many people who have low-energy blocks with a depressed character, the success of antidepressant drugs, which work on serotonin, and also norepinephrine and dopamine, implicates these three systems. People with high-energy block may benefit from these same drugs, but in addition may be helped to some extent by sedatives, which decrease cortical excitation. Whether blocks are high-energy blocks or low-energy blocks, their association with intense mood states demonstrates the importance of the limbic system in the desire to write.