

*Fido circled his master's grave three times and then lied down, never to move again.*

*- American folklore*

## APPENDIX FOUR

# DOPAMINE RELEASE: PDERs AND DOGS

As noted many times, many PDerS are primarily concerned with how *much* dopamine they have, how *many* dopamine-making cells they have lost. What they should be wondering is “Why can’t I mentally initiate dopamine *release*?” The amount of dopamine on hand and the phenomenon of dopamine release are two very different issues.

Dopamine release, at its core, is based on the underlying sheer joy of being alive and the feeling of unconditional safety that accompanies that joy. That joy flows in spite of whatever outrageous slings and arrows may happen to be flying at any given moment.

Actually, as you have already read, this same thrill-of-being-alive feeling is necessary to trigger the release of adrenaline, as well. However, for our purposes, and because most PDerS imagine that dopamine is the only neurotransmitter that has a release problem, this chapter will primarily address this feeling as it relates to dopamine release or inhibition. But to start with, I will use an example that doesn’t even involve dopamine or adrenaline.

## FAMILIAR EXAMPLES OF NEUROTRANSMITTER INHIBITION

### *The nursing mother example*

Consider the example of a vigorously healthy woman who finds herself unable to nurse her new-born baby because her milk will not “let down.”

The mother may be physically healthy and all her neurological systems are potentially able to work correctly. However, though her breasts are turgid with milk and the baby is crying lustily, her preoccupied mind will not allow her to surrender to the peaceful feelings necessary for triggering the release of the neurotransmitters involved in letting down milk.

Her milk might not “let down” as long as her brain is preoccupied with thoughts such as “I should never have given the dossier to Williams, of all people, and I’m not so sure I wanted to have a third baby since its turned out to be yet another boy. *Why* couldn’t it have been a girl? And I’m so furious with my husband for not even being here until two hours after the baby was born,” or the more tragic “One of the twins died; how can I ever think of this new child without thinking of the one that died?” and so on, and so on.

As the new mother’s worries, sadness and/or resentment carry her away mentally, the screaming, hungry baby must finally be pacified with a bottle of formula: no breast milk is forthcoming.

The mother is healthy and has all her neurotransmitters and hormones. However, she cannot *access* them because of a mental/emotional blockage, one that is locking her into adrenaline-based thought patterns.

You can't nurse a baby when, from a neurotransmitter perspective, you are running from a rhino. When your mind is racing and the heart is not dominant over the mind, the necessary milk drop-down neurotransmitters will not be released.<sup>1</sup>

### ***Adrenaline-dominant attitude inhibits dopamine release***

In the same manner, a PDer whose underlying, deepest, most internalized thought patterns are excessively cautious, guarded, vigilant, intellectual and/or cynical who has therefore not had, maybe for decades, maybe for most of his life, any experience with the types of thought patterns that trigger dopamine release, may not be able to have his dopamine "drop down" just because his injuries have healed. Even if the PDer is superficially cheerful and pleasant, if his deepest motivations are increasingly hedged by caution or wariness, he is inhibiting dopamine release.

The PDers who get lost in partial recovery tend to be locked into a highly negative mindset.

Many PDers have these negative types of thought patterns; like the mother whose milk is present but will not drop down, these PDers have dopamine, but they are not able to release it.

The next pair of analogies may help demonstrate this principle.

As an aside, the next analogy was partly selected because many PDers falsely assume that they must *necessarily* have a bad mood, fear, or depression because some limb is imperfect, weak or trembling. To counter this self-serving loop-type thinking, I'm including these very familiar examples to show that animals, including humans can still

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<sup>1</sup> The nitpicker may want to argue that, in this case, the problem is the failure of hormone release, and not neurotransmitter release. Historically, when the small instructional and communication molecules (hormones, neurotransmitters, and others) were first being discovered, discussions raged over nomenclature. Researchers wanted to neatly define the distinctions between hormones, neurotransmitters, "messenger molecules," and so on. I went to college during this time and memorized lists of which was which. Those lists quickly become obsolete.

Today, although we bow to custom in referring to some compounds as hormones and others as neurotransmitters, the naming rules are increasingly meaningless. The interactions of all chemistries in the body are so interrelated that the old distinctions, in which messenger chemicals were defined by the anatomical structure that released the chemical, no longer apply. Now we know that chemicals that are emitted from a gland (a hormone, in the old days) may *also* be released directly into the blood from cells, and may even be released from neurons. Not only that, even though certain messenger chemicals work directly on an organ, they may simultaneously work on certain cells, and may also trigger other messenger chemical events in the brain. So the old distinctions between hormones and neurotransmitters are falling apart.

A brilliant, very readable book on this subject is *Molecules of Emotion*, by Candace Pert, PhD.

For a pertinent example, we now know that dopamine is present in the blood, as well as in the brain. But even though dopamine travels in the blood, and not only from one nerve to another, we still adhere to the old custom of referring to dopamine as a neurotransmitter. By the way, blood dopamine does not cross over into the brain, and the amount of dopamine in the blood has no relationship whatsoever to the level of dopamine in the brain.

Levodopa can cross the brain barrier. This is why levodopa, which can cross the brain barrier, is used instead of dopamine in the treatment of Parkinson's disease.

have full use of dopamine or other joy-related neurotransmitters even though not physically healthy in limb as long as deepest, underlying attitude remains positive.

## **The two dogs analogies**

### ***Iris, the three-legged dog***

Picture a dog who, due to abuse, has lost one hind leg. For myself, I am thinking here of a neighbor's dog, Iris, a black lab-terrier mix adopted from the local animal rescue shelter.

Iris licks my hand through her fence every morning when I take my walk. Iris, who lives one block from the elementary school, also happily tackles the job of licking the hands of every passing school child, morning and afternoon. When she licks your hand, she fixes you with her glittering eyes and her whole body wags with joy. Iris lost her leg through an intentional act of cruelty on the part of her previous owner.

Iris has no dopamine release problems. She does have a very serious structural problem, a physical problem.

A three-legged dog has, and will have, many structural problems for the rest of its life: the remaining hind leg will always need to be carried closer to center when he walks. This shift will always put a strain on his hips, spine, and neck. His shoulders may also shift a bit to carry more of the body-balance burden. These structural misalignments may create very real problems down the road in the form of arthritis and nerve pinching in some of the body parts that have shifted.

*However*, even with three legs instead of four, nearly all three-legged dogs can move “perfectly normally.” Like Iris, they can usually chase bicycles, catch a Frisbee, and romp with other dogs.<sup>1</sup>

*The point here is that the loss of a leg does not cause a three-legged dog to be depressed. The loss of a leg will in no way inhibit its ability to initiate movement. The loss of a leg will not inhibit the release of dopamine.*<sup>2</sup>

I wrote this above point in italics because many PDers insist that they must necessarily have a negative attitude because they have a tremor or some slight or large movement problem. This is incorrect. They must necessarily have a negative attitude

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<sup>1</sup> I find it highly significant, from a self-image point of view, that Iris scratches her right ear with her missing right leg. When her right ear itches, she curves her body as if she was scratching her ear with her foot. The stump of her leg moves vigorously back and forth in the open air, touching nothing. Although no foot is actually touching her ear, Iris leans into the process as if she was deeply enjoying the sensation of scratching her ear. When the attention to the ear creates the desired sensation of enough scratching, she stops pumping her leg and shakes her head, satisfied. Iris, despite the missing leg, has a complete sense of body. Emotionally and energetically, Iris is not missing her leg.

<sup>2</sup> One of my colleagues in the PD project has a father who lost his arm early in life. My colleague told me “Until I was eight years old, I never even noticed that there was anything missing. My dad was perfectly normal in every way.” But PDers, so attuned to problems and negativity, often point to the slightest bit of gait problem or the slightest bit of arm rigidity as the *reason* that they are depressed. These people are wrong. They are negative to start with, on the lookout for trouble. Any deviation from “perfect” will therefore loom large to them.

Physical immobility of a limb, even the loss of a limb, is not necessarily a justification for being depressed or locked into a mental state that prevents dopamine release.

because they are still dealing with some unaddressed fear: they are still locked into sympathetic (danger) mode.

### ***Fido: loyal unto death***

Now, picture a different dog: a dog who is a picture of health. When this dog suddenly loses his beloved master or brother dog he may quickly become despondent.

This unfortunate dog, who is perfectly healthy and chock full of neurotransmitters may, due to his broken heart, quickly become dispirited. He may move more and more slowly, and with increasing difficulty, until every movement is a colossal effort. Within a matter of days he may become listless, cold, and even shaky, tremory. He may lose interest in eating and, if force-fed, may soon lose his swallow reflex and be unable to take food by mouth. This dog may likely go on to die.<sup>1</sup>

This dog is, from a structural standpoint and from a physiological standpoint, perfectly healthy. However, his heart is broken and he can no longer initiate movement. Like the healthy mother who, for emotional reasons, cannot let down the neurotransmitter that will allow the release of her milk, the healthy but broken-hearted dog cannot “let down” his plentiful supply of movement and mental neurotransmitters, neither dopamine nor adrenaline.

These two dogs illustrate two types of problems. The first dog has structural problems. He has tangible, measurable health problems. However, he does not have mood or movement initiation problems. His sheer joy in being alive allows him to release the neurotransmitters that activate his body.

The second dog has no structural or neurological problems, but he has an emotional problem that prevents the *release* of neurotransmitters. As a result of this emotional problem, he cannot initiate movement. He may even tremor. This problem will worsen in a spiraling or snowballing manner until, abject and immobile, he dies.

### **Structural problems in Parkinson’s – compared to those of the dog**

A person with Parkinson’s disease has *both* structural and emotional problems. Let’s first consider the structural problems. These problems result from the foot injury. These structural problems cause many PDer to have a similar “look,” even in a still photograph.

When looking at a still photograph of a PDer, the observer cannot know that the PDer has a movement initiation problem or tremor. However, the drooping eyelid, the sagging cheek and corner of the mouth, the forward-jutting head and the bent arm, among other symptoms, may allow the doctor to recognize a person with Parkinson’s disease, even in a still-photo. These body changes are structural rather than emotional. If a PDer has these problems, they will be in place whether the person takes L-dopa medications or

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<sup>1</sup> The state of Hawaii used to have an importation policy for dogs: dogs brought to Hawaii from out of state had to spend six months in quarantine. The intent was to insure that dogs did not bring out-of-state diseases to the islands. This policy has been changed. Why? Because the dogs usually died before they finished the six-month quarantine period. These dogs were healthy in every way. After many years of this policy, and the deaths of hundreds of healthy animals, the conclusion was made that these dogs had died of broken hearts. The policy has been disbanded. Dogs must now get various health tests prior to arrival in Hawaii. If all the tests and paperwork are in order, a dog can get through “immigration” in less than an hour.

not. They will be in place even when the person is having a “good” day or a “good” hour during which he can move normally. Like Iris’s missing leg, these problems are not related to neurotransmitter release. In PDer’s, these structural problems are due to the backwards-flowing Qi in the Stomach channel and the sequelae of this Qi pattern.

### ***If the PDer happens to feel fleeting joy***

Like the three-legged dog, the PDer will be able to move “perfectly normally” when he is in a phase of unusual, for him, emotional competency – when unexpectedly happy, for example, or when “high” from the antiparkinson’s drugs. As with Iris, the three-legged dog, the PDer’s structural problems will be compensated for by those muscles that remain functional.

To the casual observer, the PDer’s movements at these times will appear almost normal. This does not mean that he is actually moving correctly. However, the PDer’s seemingly effortless movements, like Iris’s, may distract the viewer so much that the casual observer might not even notice the structural problems.

Many neighbors, including me, have known Iris for quite awhile before they suddenly realize that she is missing a leg. She moves so normally.

A PDer, when stoned on dopamine-enhancing drugs or when feeling unusually good, will, like the three-legged dog, appear to move fairly normally despite his structural problems.

Earlier in this book, I mentioned that a few people with Parkinson’s disease have specific activities or day during which they can move with perfect ease: for example, the painter who, within ten minutes of being placed in front of his easel, could stand up and paint with fluid, graceful movements.

These PDer’s, like Iris the dog, still have detectable structural problems. However, the PDer’s can move easily during those special times when their highly compartmentalized minds are engaged in one of their rigidly defined “safe” behaviors.

In this condition, with its rare flow of dopamine, they can move easily. *There is no insufficiency of dopamine.*

Like the PDer who is mentally altered by dopamine-enhancing drugs, a PDer during moments or hours of rare joy has brief periods of normal-appearing movement. During this time, the PDer’s healthy muscles must splint for (take over the work of) non-working muscles. The body is able to do that easily, if the mood is light. The comparison between the PDer when he is drugged or in one of his few specific situations in which he lets down his perpetual guard, releasing dopamine in spite of his injured body, and Iris the three-legged dog is an apt one: due to underlying joy of living, whether natural or drug induced, they all move well *despite* physical imperfection.

But what happens to the PDer when he stops doing his “safe” activity or his drugs wear off? The PDer will, once again, not be able to move well.

### ***Animals don’t get Parkinson’s disease***

The question arises, why is a dog able to permanently “override” his structural problem, but the PDer is not?

There is a significant difference between the structural problem in the dog and the structural problem in the PDer: the dog has dealt with his injury. If a dog’s injury was traumatic, he may have dissociated at the time of injury. However, as soon as a dog feels

safe again, he will switch his body back over to the parasympathetic system. He will lick, chew, and then lick some more at any body area that calls for his attention. A pain signal from an injury is a signal declaring “Notice me! Care for me!”

When the dog licks the problem area, when he notices and cares for the problem, the pain signal turns off. This tender attention, in turn, turns off the adrenaline response. Furthermore, the gentle stimulation from his teeth and tongue will have encouraged the flow of energy in the wound site or problem area.

The disrupted electrical channels will soon have formed new electrical loops that flow easily and in the right direction. Even in the case of loss of limb, the energy will still be able to flow in the right direction even though flowing in a modified, somewhat diverted route.

The PDer, on the other hand, dissociated at the time of injury and has held onto that dissociation. The PDer has not decided that he is safe. He has yet to pay adequate attention to the wounded area.

Therefore, the dissociation response, a response that tips the neurotransmitter balance towards low levels of adrenaline and inhibition of dopamine, will continue to dominate the PDer's response to his foot injury. The electrical system in the area of the injury will, without some healing attentions, remain disrupted at the injury site. The site will eventually develop enough electrical resistance in the area that currents will have difficulty moving past the blockage.

This is what is seen in PDer's: the electrical resistance become great enough that, at some point, the current that is supposed to pass through the foot begins to follow the path of least resistance: the electrical energy in the leg begins to flow backwards. The physical changes related to the structural problem begin to appear. The PDer continues to ignore these early symptoms, just as he ignored his foot injury.

The negative, anti-joy mental processes that are supposed to dominate the mind during an emergency become increasingly dominant due to the influence of the sympathetic nervous system. During an emergency, during the time when one's attention must be focused on saving the life, one should not be focused on enjoying the sensations of having a body. Eventually, these mental habits provide reinforcement for the PDer's shift into the sympathetic mode.

The dog pays attention to his injury in a productive manner. Dogs do not develop Parkinson's disease. No animal develops Parkinson's disease.<sup>1</sup>

### ***The closed heart factor in Parkinson's***

A PDer has created, by virtue of allowing his mind to regulate his heart, a “closed heart” situation. The phrase “mind regulating the heart” will be explained in great detail in a later chapter. The emotions, the ability to register feelings, may only be closed with regard to the foot, or they may be closed to anything and everything.

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<sup>1</sup> For research purposes, lab animals are poisoned or genetically manipulated so that their bodies imitate the movement inhibition problems of PD. This lab condition is called parkinsonism. This condition only superficially resembles Parkinson's disease.

When the heart is significantly closed, when the thrill of being alive is absent or inhibited, healthy amounts of dopamine cannot be released. When the heart is too empty, movement inhibition, frailty and, finally, death will occur.

There are other illnesses that cause movement inhibition besides broken or closed off hearts. For example, stroke, brain tumors, or polio can all cause movement inhibition. But in these illnesses, the movement inhibition cannot come and go; it is not mood dependent. In Parkinson's, placebo studies have proved that the movement inhibition of PD is mood and expectation dependent.

Anyone who has lived with a PDer knows all about this: the PDer can only move as well or as poorly as he expects he will. This is what differentiates PD from other movement disorders. This is one reason that PD is so difficult to pin down, diagnostically. This is one reason that the "cause" of PD has remained so elusive.

And even if researchers do suspect a mental component, no one wants to be the first to accuse these people who are, in many cases, mental giants, super-responsible, hard-working, selfless and philanthropic PDers of being in the throes of a self-induced mental/emotional illness.

Illness that includes a mental component is still thought of, in western cultures, as being somehow less "real" and more shameful. In eastern medicine, mind is recognized as the most important factor behind *all* illness.

In the case of the dying dog in this example, he is dying from a "broken," or empty, heart. Anyone who has deeply felt the loss of a loved one knows how it feels when the area of the heart seems to be missing some of the vibrations that previously filled it. The broken heart may feel as if a part of the heart is physically missing. The fullness of one's heartwaves (similar to radio waves) and the accompanying heart-nerve signal to the brain is altered when a loved one is no longer alive.<sup>1</sup>

In a broken heart situation, there is an actual decrease in the accustomed pattern of heartwaves. This situation, in which the heartwaves and the accompanying heart-nerve responses are insufficient to trigger the healthy, normal release of thought and action neurotransmitters, can lead to decreased mobility, frailty, poor memory, and even death.<sup>2</sup>

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<sup>1</sup> The subject of heart-nerves will be discussed in a later chapter. Briefly, these are the nerves that make up a large part of the heart tissue. These nerves are *not* a part of the system that regulates the beating of the heart. These heart-nerves communicate with the brain, and instruct the brain in many arenas, including whether or not incoming sensory information or thoughts should be processed using adrenaline or dopamine.

<sup>2</sup> Probably the single greatest difference between eastern and western medicine is that western medicine believes that the wave processes of the body are the result of chemistry. The eastern system recognizes that, from the moment of conception, an individual's primary wave patterns initiate a chemical dynamic, and the chemistry then regulates the secondary wave patterns, which further influence the chemistry, which then creates more wave patterns, and so on.

The western method has no way to make sense of the personality differences between identical twins, let alone the manner in which joy and fear alter the chemistry of the body. The western method cannot explain the placebo effect, let alone the ability of yogis to sit motionless for weeks without breathing by stilling their wave patterns. Eastern medicine recognizes that almost all of the brain's interpretations of sensory signals are determined by the mindset, which is in turn determined by the degree to which the heart is open (resonant with the Love that pervades the universe, and unoccluded by ego.)

### ***Intentional heart emptiness***

In the cases of the PDer and the broken hearted dog, the heart becomes empty enough that it can no longer trigger the release of neurotransmitters, a sort of “I wish I was dead” kind of emptiness. However, the dog’s case and the PDer’s case are significantly different.

In the case of the PDer, the emptiness in the heart is not necessarily caused by a sudden loss of accustomed heartwaves but, in most cases, is caused by an intentional guarding of the heart. The PDer, first consciously and eventually, from habit, subconsciously, is living as if his heart was closed: he PDer has cultivated a mental state that corresponds to the dissociation condition, a condition in which the signals from the heart are sedated. I think of this condition as “closed-off heart causing an empty heart.”

In the case of most PDer in our experience, the heart is being held shut by the mind, and is therefore empty, deficient in the ability to trigger neurotransmitter release. The PDer’s heart may be bruised, it may be afraid of being wounded. The heart may be stunned into silence. But in the case of the PDer, the actual condition of the heart, whether wounded or healthy, sad or frightened, is unknown: because he has learned to dissociate from physical and emotional pain, the PDer has turned off his access to his heart.

Although the PDer may or may not champion the rights of others and be kind to animals, although he may devote his life to community service and be utterly selfless when assuaging the feelings of others, his heart is not complete: he cannot experience his *own* feeling. The guardedness of his heart, as he protects himself from physical and emotional pain, eventually accumulates to the point that he cannot feel, in his own breast, the physical and emotional joy inherent in life.

### ***Heart emptiness from tragic loss***

In the case of the dog, the heart is wide open and empty.

The dog does not have a choice in bringing his beloved back from the grave. Happily, a PDer always has the option of relearning how to open his *intentionally-closed* heart.

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You can argue Yin and Yang versus physiology until the cows come home and never prove that one school of medicine is better than the other. They are both powerful and valuable. But in its essence, allopathic (western) medicine, derived originally from the German and French fascination with physics and built upon the principle that humans are a very sophisticated form of clock-type mechanism, can only explain or manipulate how *the components* work. Eastern medicine can actually explain how and *why* humans work.



