Journal of Prenatal and Perinatal Psychology and Health 23(3), Spring 2009

Life Before Birth: How Experience in the Womb Can Affect Our Lives Forever

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ABSTRACT: "Until we re-direct our focus earlier, we shall never solve these human problems." Dr. Arthur Janov explains this position in his article and describes how the psychophysiological effects of events that occur during the first nine months influence the lifespan. Clearly focusing on the womb is a shift in his Primal theory. This change proposes the importance of healing prenatal imprints to more clearly see their widespread cumulative and enduring effects. "It means that how the birth trauma is played out, and reacted to, depends on earlier life circumstances—womb-life."

KEY WORDS: Prenatal, gestation, birth, primal therapy, epigenetics, health, illness.

INTRODUCTION

When I first wrote about how birth trauma and prenatal experience affected adult behavior decades ago, it was considered "New Agey." Now, there are literally hundreds of studies verifying this proposition. There seems to be little question now that a pregnant woman's mood and physiology can produce long-term effects on the offspring. That means us.

Here is a simple example of the new research. Dr. Daniel Schacter, psychologist at Harvard University, reported on a study where participants watched bits of a TV series and then had their brainwaves measured (Addis & Schacter, 2008). The researchers found when people remembered the TV event, the single brain cell signature was the same as in the first viewing. They reported that it seemed like a reliving; which of course, has been my position.

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What do you call it when a memory brings up one's exact history with its precise early physiology? When there are certain triggers, the brain conjures up its history, intact. That is why our behavior is so compulsive and unwavering; our history motivates us all of the time. We are largely victims of our deep unconscious brain. And that brain is a beehive of activity all of the time, even in a resting state. For years we have been measuring the brain when given a new task. Lately, work is going on with the brain in its resting state. What is it like? Well, it doesn't rest much. Parts of the feeling/limbic brain (hippocampus) are hyperactive, chewing up a lot of energy, glucose and oxygen. It seems to me that as we rest or when we drop off to sleep, our feelings get relayed in order to be integrated with higher centers; the (medial) prefrontal cortex of the brain is also active. It would seem that when we have a good deal of repressed pain and feelings, the brain is required to keep constantly active. I have called that the reverberating circuits. Researchers now call that state the "default mode." It works even in lieu of a task. Or, might the task of the hippocampus is to deal with submerged feelings that interfere with our sleep and rest? The default mode seems to be updating memories and turning short-term ones into long-term ones. Its job is to sort out what is important and eliminate the rest so that the brain is not overwhelmed with information.

It also can produce daydreaming where we are lost in mental images even while driving a car across the city. The hyperactive lower level has come up toward the top to replace or diminish our external focus. It may be that in default mode meditation is suppressing the active feelings, producing a spurious sense of calm.

Thoughts and beliefs are the final station of a process that can begin deep in the brain, very remote in history (personal and ancient, traveling upward and forward until feelings meet with their counterpart). In a way, then, we do every day what we do in sleep: we revisit our ancient phylogenetic past and also our ontogenetic past and then move forward in time to the present. We are clearly evolutionary creatures, creatures of needs, especially those that were not fulfilled. We are bedeviled by them all of our lives. In our therapy when we have a very disturbed patient, we may use tranquilizers for a time to block the deepest aspect of an imprint, thereby allowing the person to focus on the present and perhaps childhood. In our therapy, we also visit our ancient and remote past but in reverse order; current events first, childhood second and birth and gestation last. That order cannot be forgotten. It is sacred …

There is increasing evidence that real memory is organic; that is,

recalling a memory invokes all of the identical neurophysiologic reactions. If there is an incomplete memory, I call it an abreaction; this can affect the healing process. A study by The Scripps Research Institute (2007) found that recalling early events did exactly that; brought forth the same neurons that existed in the learning or imprinting of the event. The investigators stated that "reactivated neurons were likely a component of a stable engram or memory trace." (¶ 4) Let us not forget that those neural circuits affect a number of body/physiologic reactions, as well.

Although I have been writing about reliving for many years there is new evidence from University of Pennsylvania (2005) that "as you search for memories your brain progressively comes to resemble the state it was in when you initially experienced the event" (¶ 2). The more fully an event is experienced the deeper and more lasting its effects. The same is true for reliving. The insights are broader and deeper. It is not the insights that make us well. The neurotic isn't unwell because she lacks insights. They are the top-level aspect of a feeling and are integral to it. As one experiences deep feelings, one becomes conscious of what the feeling did to drive symptoms and behavior. It is a self-explanatory process. One then knows what the unconscious force is that gives one migraines or high blood pressure or irritability.

An event is registered at the highest level of brain function possible. So at four months of gestation, trauma will be registered at the brainstem level. There will be a highway with various detours going upward and forward informing higher levels about what is happening lower down, each level making a contribution in its own idiosyncratic language to the entire feeling.

According to a study by C. L. Lowery and colleagues, sensory fibers proliferate at 20 weeks of gestation. Thalamocortical projections mature at about 29 weeks, although the thalamus seems to be operational at around 20 weeks. Lowery and his team point out that "Evidence for the subconscious incorporation of pain into neurological development and plasticity is incontrovertible." (Lowery, Hardman, Manning, Hall & Anand, 2007, p. 275) That important statement supports a position I have held for many decades; the unconscious is not a dark, evil place but rather, something that is inhabited by imprinted events very early in our lives that endure.

In normal situations there is a smooth interpenetration of each level. When there is colitis, we often know that the imprinted cause is very early. It is also telling us when and how the information was obtained. But when there is a constant trauma, during gestation, at

birth and infancy and childhood, the barriers no longer work and the information from below surges to the top. That is why in our pre-psychotics we see them reliving birth in the first weeks in therapy. Their gating system is insufficient, damaged and cannot effectively hold back very early trauma. Their default mode is over the top. When we develop a therapy we need to keep all levels in mind so that we do not address the wrong one.

I want to go on with the notion of resonance; the idea that something in the present can trigger off or resonate with lower level imprints. I am positing the notion (still an assumption) that low level imprints have a distinct signature in terms of frequency. It may be that each level recognizes a relationship with one another in terms of a similar frequency. So that something we endured during womb-life, a mother heavily depressed and perhaps taking prescription medication, sends up through her nerve tracks nonverbal memories that then merge into what we undergo currently. That combined force then makes any reaction inappropriate. The problem thus far is that we have neglected deep brain imprints, focusing on knowable events and believing that the current situation is the one to concentrate on, when in reality it is but a fraction of the problem.

And indeed, in terms of Schacter's research on epileptic surgery patients, the neurons involved in the memory may be the very same neurons involved in the original situation. Schacter threaded fine electrodes down in the brain of the patient. These electrodes could pinpoint small brainstorms at their origins. And they could make minute measurements during recall. The lesson? We can relive past events in their entirety precisely as they occurred. What is very new in all of this is how early an experience can affect our later life. Think of the implications: that old memories reside in the same neurons (nerve cells) as were involved originally. That is why the neurotic cannot distinguish between past and present and sees reality through the prism of the past. For a number of reasons we have had good luck with treating epileptics, rarely failing. (Full discussion in my book, *Primal Healing*.)

Thoughts and beliefs are the final station of a process that can begin deep in the brain, very remote in history (personal and ancient), winding their way upward and forward until feelings meet with their counterpart. In a way, then, we do every day what we do in sleep: We revisit our ancient phylogenetic past and also our ontogenetic past and then move forward in time to the present. We are clearly evolutionary creatures, creatures of needs, especially those that were not fulfilled.

Epigenetics: The Inheritance of Acquired Characteristics

There is something we must add to the theoretical mix: epigenetics, or said other way, how very early events in the womb and at birth can alter the genetic unfolding. One genotype, a single genetic predisposition, can give rise to many phenotypes depending on what happens to those genes during gestation. So what we might imagine is genetic, is genetic-plus what happens to us in the womb. I was so surprised early on in my therapy when long-term patients reported that their wisdom teeth descended. Now I understand it better.

In the early nineteenth century, a French scientist named Jean Baptiste Lamarck decided that we acquired characteristics from experiences that our parents underwent. Russian communists applied this to agriculture but, no matter, it was a widely discredited theory … until recently. Now this avowed Marxist position may have been resurrected a bit. There is a new field called epigenetics that states pretty much what Lamarck believed. So what is the evidence? And what exactly is it? What Lamarck said was that individuals acquire characteristics as a result of their environment, and now, these characteristics can be passed on to the offspring.

Much of the research work in epigenetics has to do with diet; a mother's diet influences the offspring's physiology. Epigenetics has to do with how genes are regulated and influenced by the experience of the baby. I believe it has more to do with the fetus who resides in the womb; that his experience is influenced forevermore by the mother's diet but also by her moods, her anxiety and depression.

Has the genetic switch been delayed or was it premature? This can happen without making a radical change in the gene itself but rather in how it is expressed, whether it is shut off or on. What we are discussing is how a mother's interaction with her environment can pass this on to her offspring. I think we need to understand that a fetus in the womb is always trying to adapt to his environment and that his genes will evolve and be expressed depending on that adaptation. For example, a mother who is anxious and who has depleted much of her serotonin supplies cannot fulfill the young fetal need for his own serotonin supplies (fully discussed in a moment). He may well grow up deficient in inhibitory or repressive capacities and be an anxiety/impulsive case forevermore; this can evolve into attention deficit in his youth. There may be a continued inability to have a cohesive cognitive ability. I think it is important that all this occurs while the fetal brain is rapidly developing and needs proper input to evolve normally. An anxious mother is so agitated that the

neuronal input into the baby she is carrying is so extreme that he cannot adapt and integrate this input. Thereafter, this is the kind of person who cannot accept too much stimulation because the internal input is so great that anything from the outside, such as two term papers due immediately, can be overwhelming.

To get an idea of how early all this may begin, there is a study by the University of Miami School of Medicine that states that: "A review on (maternal) prenatal depression effects on the fetus and newborn suggests that fetal activity is elevated, growth is delayed, low birth weight common." (Diego, et al., 2009, p. 70)

Newborns of a depressed mother show a profile that mimics the mother's prenatal state, including her physiologic state. This includes higher stress hormone levels, lower levels of dopamine and serotonin, and greater right frontal brain activity. What I think this means is that the right/feeling brain is forced to be hyperactive to deal with emotional push. It is, after all, the right prefrontal brain (orbitofrontal area) that maintains a history of our feelings and has a more internal focus. To summarize: Higher resting levels of stress hormones in the carrying mother can already have an effect on the later life of the offspring. It already presages the constant need for tranquilizers because the early imprint has lowered levels permanently. Then with even minor setbacks later on, the resonance factor can compound the pain level so that taking painkillers is a matter of urgency.

The concept of epigenetics has import for diagnosis. For example, one of my patients was told that she had a genetic vulnerability, very much like her mother had. It led to a diagnosis of a "very serious autoimmune disease." If it were seriously genetic, as the doctors believed, then any chance to change her state would be close to nil. What this does is prevent us from seeing or investigating beyond the inheritance to factors that may have been equally important; what happened to the baby while being carried? Further, if there was something that altered the immune state while in gestation, perhaps one can relive and connect to it, consequently affecting that imprint. Thus, it may be as a result of an *experience*, rather than a genetic inheritance, that is ultimately significant. This patient did relive her traumatic birth, and, perhaps, that helped her make some progress against the disease. This kind of change happens, again, because in reliving it is possible to gather up associated feelings and sensations that lie even below the later trauma but which may be related to it through frequency resonance.

There are some serious diseases that have been considered only in the domain of inheritance; muscular dystrophy is one of many. Perhaps

the cures for these afflictions have been slow in coming because our emphasis has been on inherited factors rather than experience. If we don't look at gestation as critical, our diagnoses are bound to be skewed.

Womb-life and Serotonin Output: The Origin for Later Mental Illness

What I shall be discussing is our life in the womb and how it affects the rest of our lives. Animal research sheds more light on all this. Let's begin with the mouse and her womb-life. It is only after several months of gestation that the fetus produces adequate amounts of inhibitory/repressive chemicals such as serotonin. A mouse fetus does not make its own serotonin until close to the third trimester. It seems like the mother supplies what is needed until the baby can take over. But when the mother is low on supplies, she cannot fulfill what the developing baby lacks.

Now if we extrapolate a bit to human mothers … but first a caveat: It seems to me that the principles or laws of biology apply pretty much across many species, so that what is true in the physiologic evolution of mice might also be true in our own biologic evolution, as well, and as the following discussion indicates, it is true; the lag between the ability to experience pain and the ability to repress it can be considerable.

Whereas the beginning of serotonin production in mice is sometime in the third trimester, in humans it seems to begin slightly earlier. Research on a fetus seems to indicate that I t can experience pain after thirteen weeks from conception but that it really fully experiences pain after 20-24 weeks of gestation—about five months of life in utero. It is fully sensitive to adverse events at this time (Ranalli, 2000).

What is critical here is there is a time during gestation when the fetus cannot produce repressive/inhibitory chemicals and must "ask" for help physiologically from his mother. When the fetus does begin manufacturing its own neurochemicals it sends some of it to the mother. It says, "I can soothe myself now. Thanks for the help." Above all, serotonin is a soother. Its function is to bolster the gating function so that pain does not slip across synapses in order to tell higher levels about its predicament. It enhances the unconscious; that is its job. It is merciful; that is, something in our brains has mercy and does its best to keep us out of pain. It is therefore a big part of our humanity.

Although the pain-killing aspects of serotonin are well known, less is known about its role in affecting appetite, gastric symptoms and heart function. In short, it has a role in normal development and

evolution. In particular, new evidence points to its role in actually shaping some brain structures early in fetal life (Côté et al., 2007).

Traumas very early on, before the secretion of serotonin is evident in the fetus, impact later serotonin output and can change who and what we are significantly. One reason we see serious mental illness arising during adolescence is that the hormonal turmoil going on and the weakening of defenses permits some of the fetal pain to rise and affect thought processes—hence: delusions and hallucinations.

Interestingly, in its early secretory life, serotonin functions to control and shape anatomic structure. When levels drop over time, we may expect changes in our body structure. Later on, it carries on as a pain controller. It too evolves and changes. Thus, we as humans may have a significant delay in secreting serotonin during gestation. And we rely on our mother to pitch in before we start making our own. She needs to have an adequate supply for both herself and her baby. If she is chronically depressed she is apt to have low levels of serotonin, used up in the fight against her pain. In this way, the mother cannot fulfill the fetal needs for a way to blunt the impact of adverse events (i.e., of pain). Thus, the fetus has developed a residue of unblocked, free-floating pain and terror early in his gestation. This makes him much more vulnerable to trauma at birth and in infancy. He has defective coping mechanisms. Any later trauma can have double the impact on the relatively undefended system.

The low serotonin output is an imprint that remains pretty much the same throughout our life, making us not up the task of everyday living. That is why we so desperately need serotonin enhancing medication later in life (Prozac, Zoloft). The medication is helping to block pain that may have happened before we set foot on this planet, and to bring the levels up to normal readings.

We know from current research that an imprint during gestation remains pristinely pure for all of our lives, whereas an imprint after birth can produce compensating secretions that blunt the impact of trauma during infancy. My very notion of the imprint means pre-birth events may create irreversible dislocations of function in the neurobiologic systems. The only way it can change is if we return to the origin of the dislocation and right the ship. It needs a push from below not a cry (an effort) from above.

It seems to be another biologic law that whatever happens during gestation can alter basic physiologic set points, which is rarely the case after birth when there can be compensatory mechanisms to make up for the dislocation of function associated with the original trauma.

So we have a developing fetus who has no effective repressive

mechanisms trying to borrow some of mother's serotonin to help out, but to no avail. A completely naïve physical system has no frame of reference that tells it that basic physiologic processes are deviated. During gestation the system deviates and then considers that deviation as normal. So the baby is born with an inadequate serotonin/gating capacity and that deficiency follows him throughout life. But it is an already wounded organism, a wound that almost no one can see or even imagine. He will grow up chronically anxious, unable to concentrate or focus. He may well be ADD/ADHD and be unable to sit still because the activation goes on incessantly. It shows itself in the panic attacks that happen when the system is vulnerable and gating weak; the imprint from gestation rises to the top and shouts out its message, which almost no one can decipher. It is such a mystery because its origins are so arcane.

An example: A girl is born in wartime to a mother who is chronically anxious because her husband has been sent to fight, leaving her all alone. The anxious mother transmits some of that emotion to her baby who is then considerably weakened. She cannot fully repress to hold down pain. By the time infancy happens there is already a weak, vulnerable baby who is chronically agitated. This may be the beginning of serious mental illness. It is not obvious to the human eye, but the damage is done.

Too often this is ascribed to heredity because no one can imagine what has already happened in the womb. It is kind of a free-floating anxiety that seems to have no specific time of origin. Remember, this is a purely physiologic reaction which originated at a time when there was no higher brain center to process the event. To recapture it we must retreat to that primitive brain.

What we may see many decades later are panic and anxiety attacks, and then much later a cerebral stroke. This imprint would militate against cancer because for some cancers to develop, we often need massive repression; and for that we need massive secretions of "neurojuices" such as serotonin.

What would exacerbate the risk of cancer are events later in infancy and childhood with unloving, stern parents. The result is a person who never had outlets for his pain. We have seen several epileptics who had that familial configuration. What further shuts down the person is growing up with a violent father or mother, or a strict religious household, with no one to turn to. The force of the imprint may well affect the brain when the person is in his sixties. How on earth can we access such remote experiences, back to a time when there were no ideas to help out?

Imipramine Binding Study

Through studying our patients, we learned that they were uniformly low in imipramine binding at the start of therapy but normalized after six months to one year of treatment. Imipramine is a serotonin analogue we believe can be a measure of a repressive system in action. We have done imipramine-binding studies (blind) of blood platelets. Blood platelets have a high degree biochemical resemblance to nerve cells, including neurotransmitter uptake and binding sites. We reasoned that we could measure through the blood, by surrogate, the serotonin production in the brain. Imipramine has a role as an antidepressant. It blocks the uptake of serotonin so that more of it remains to help repression. That is why it is important that levels normalized after one year of Primal Therapy (Briley, Raisman, & Langer, 1979).

Our informal analysis of a number of patients in Europe found that manic patients were low on binding. It is something we expected, as their frontal control mechanisms were faulty. We assumed that early trauma compromised the development of prefrontal brain tissue. Here is the report by Steven Rose, Professor Emeritus, Department of Life Sciences, Open University, England who led the research:

1. Self-referring individuals entering psychotherapy who a level of maximal specific binding of 3H imipramine binding to blood platelets about one-half that of a control group of self-defined normal subjects not in therapy.

2. Six months after beginning a course in Primal Therapy their average imipramine binding level had increased until it was indistinguishable from control levels, and this increase was maintained for a further six months.

3. Eleven of twelve subjects showed some improvement in score on a psychic assessment scale over this period, and this was a positive correlation between this improved assessment score and increased serotonin binding.

One important factor in this study was that the patients were able to increase their own level of inhibitory/repression and maintain it. We believe it to be the result of systematic reliving of early pain.

Michael Meaney of McGill University has experimented with mice and found that very early neglect by the mother results in lifelong alterations. In thirteen men who had committed suicide, all of whom suffered from child abuse, there were epigenetic effects. Abuse has many forms but to me those most deleterious is the abuse of a mother who smokes, drinks, or takes drugs during pregnancy (Mill, et al.,

2008). Abuse means adversely affecting a child's development. Meaney found the same changes in thirty-five people who suffered from schizophrenia. Here, several of the genes involved with the release of key neurotransmitters (which ordinarily help to repress pain or noxious stimuli) were affected.

What has been called the effects on epigenetic settings I call changing the set points of many biologic states; this includes the set points of the neurotransmitters that will later make us chronically comfortable or uncomfortable. Not feeling good in our skin is another way to state it.

What is very new is that experiences of the mother could influence the sperm of the offspring, and that may affect how the grandchildren develop. It may be that smoking or taking in drugs while the embryo is just forming can later affect sperm production. The meaning of all this is that what happens in the womb while the organism is developing can affect the baby for a lifetime. It is so important that we not neglect this period when we attempt to understand and treat those with emotional problems. The more remote the imprint the more widespread the later effects, in my opinion. When a pregnant woman is under stress, her stress hormone level is high. When the levels remain high for a long time, the immune system is compromised, and that might well affect the immune status of the offspring. And as I note elsewhere, a strong immune system (natural killer cells) is needed to stay on the lookout for newly developing cancer cells. It is not that a deficient immune system can lead to cancer, it is that a weak maternal immune system does not impart a strong immune capability to the baby; and the same compromised physiology of the mother can also affect the fetus, setting the stage for later catastrophic disease. Womb-life has largely been neglected in the psychological literature. It is time to reorient ourselves.

Cold Feet, Cold Hands and a Hurting Heart

Most of us know someone who has chronically cold feet and hands (the extremities), and who are forever cold. We think, "That's just their nature." But what if it's not? What if it is "nurture?" What if those cold hands and feet went with a certain kind of personality that got its start a few months after conception? Moreover, suppose we could change all of those tendencies at once?

Well that is a tall order and it will need some explanation. My general philosophy is that most of us are normal, born normal and adapt normally. So when there is a deviation leading to changed

anatomy or physiology early in life it means something went wrong. It is not normal for there to be serious illness or emotional problems after birth if something did not go wrong some time before.

I shall address this problem and try to explore what can go wrong that produces radical deviations in the first few years of our lives. (Some of the following information is described by the work of the German scientist, D. Singer [2004], who has done key research on the subject.)

One of the constants I see in my practice is the reliving of oxygen deprivation at and before birth (hypoxia: meaning depleted oxygen, or anoxia: a total lack of oxygen). Many patients reliving birth lose their breath, struggle to breathe, sometimes turn red and are seemingly asphyxiating. It turns out that the literature is now filled with studies that indicate that a majority of babies are born with limited oxygen. This is often due to painkillers and anesthetics, which reduce oxygen input. The baby then has to adapt to this situation. It does this in many ways but one is to revert to the animal "diving reflex." It redistributes oxygen to where it is most needed, namely, the key vital organs, lungs and heart. It deprives the extremities of oxygen so that there is set up a tendency to have cold hands and feet, not just for the moment of plus two days, but also for life/plus 80 years. Additionally, there is a reshaping of the personality, at the same time that also can last for those 80 years. Reduced oxygen (don't forget the smoking mother or one who takes suppressive tranquilizers) also happens when a mother takes serious painkillers and/or tranquilizers during pregnancy. Involved in this is a long-term adaptation syndrome. The body needs to slow its metabolism (how fast it uses up nutrients), not for then only, but again for a lifetime. This adaptation I have called the parasympathetic one.

Anoxia, Reduced Oxygen at Birth and Adult Behavior

It stands to reason that prenatal traumas are generally all encompassing; we should find damage almost everywhere we look. The problem is that without a comprehensive theory that directs us where to look we would never put together heart attacks at fifty with a trauma at minus six weeks. I arrived there years ago from clinical observation, which is also a valid part of the scientific method. Research now helps to support these conclusions.

There are several studies that have looked into fetal hypoxia (reduced oxygen) and the results systematically seem to be severe emotional illness later in life (Cannon, Yolken, Buka, & Torrey, 2008;

Fendt, Lex, Falkai, Henn, & Schmitt, 2008). There is more and more information about the later ill effects of traumas at birth and before. It behooves us to communicate with those entrusted with the care of mentally ill patients. Without this understanding we will not know where to look in order to heal patients. The information is out there; it is up to us in the helping professions to seek it out.

A question is, "why hypoxia in schizophrenia?" There are several explanations. What I have witnessed over and again is that the fetus is in danger of dying from lack of oxygen and then does not have the capabilities to combat the trauma (a mother smoking, for example). Lack of sufficient oxygen is a terrible stressor. If it continues, death is in the offing. Further, it leaves the fetus and baby with insufficient resources to combat future stress. The danger remains as a substrate so that any later trauma can set it off; hence breathing problems. So anxiety reactions to seemingly non-toxic situations are inordinate and out of keeping with the gravity of the current situation. They have simply reawakened the *almost dying* while in the womb. It is never a matter of changing attitudes, as those who focus on cognitive processes only would suggest; it is a matter of what shaped those attitudes, in the beginning.

I have discussed the notion of the "critical window" in my other works; it simply refers to a time in life when needs must be fulfilled, and at no other time. We can hug a child all day at age ten but it will not erase the lack of touch for the first 4 months of life which seriously deregulated the whole system and left a legacy of internally imprinted pain, a pain for which one must constantly take pain-killers. And it remains a mystery to the loving adoptive parents who took the child from an orphanage at the age of twelve weeks.

There is no way to make up for that kind of early loss except by going back to relive the original trauma. There is no way to "make up for" this deficit, as much as we might want to. It is set in altered biologic set points. We can treat the damage this does (kidney disease) but not its causes. The whole nervous system must retreat to the time when the trauma occurred; it can never be a matter of "remembering." It has to be organic and systemic memory. That is, part of the precise memory lies in those new set points. And they are wedded to how they first developed, in the first place.

There is a critical window for healthy functioning kidneys. It is sometime in the last trimester of gestation that most kidney cells (nephrons) are developing (up to the 36th week). Nephron development begins just after the eighth week. Trauma here, however subtle, may result in later kidney disease, with no apparent immediate

cause. Once that damage is done we can only treat its symptoms (unless and until we address origins).

Physiologic reactions are the base (main building block) that feelings are constructed on. What distorts those physiologic responses will ultimately distort psychological reactions, as well. If the system is highly activated due to early trauma, chances are we will have a hyperactive individual who will search out projects to keep herself active and busy. If dopamine and other alerting chemicals are in short supply we may later have someone who is apathetic, and who concocts reasons for not doing anything, for not following through. It is not a one-to-one relationship, but we eventually direct our psychology. If we don't have all of the mobilizing chemicals we need, it stands to reason that the adult, in order to keep matters ego-syntonic (comfortable to the person), will rationalize why he doesn't try and doesn't persist.

I will sum up once more: high stress hormones in the carrying mother usually mean high levels in the fetus. The baby who is born with allergies or other problems is already imprinted with trauma. She is born with a higher than normal stress level, which means that new events that are even moderately stressful will engender excessive reactions. All kinds of diseases later on will follow from this. So, even mild allergens can produce a serious allergic reaction, or a migraine. It means there will be impulsive out-of-control behavior, out-of-control because the level of mobilization/vigilance is already high. It doesn't take much to set it off.

There is a report from the University of Wisconsin (Proceedings, National Academy of Sciences, Jan. 26, 2009) that demonstrates how early stress impacts the immune system. Children who had an abusive early life or had spent time in an orphanage showed a compromised immune system. Even after they were taken out of an adverse environment there was still this damage apparent. The scientists point out that though the immune cells are ready at birth, how they develop and become a dependable cohesive system depends on experience.
The investigators used the control of latent viruses as a measure of immune competence. People with an intact immune system can usually keep these viruses under control. Those who are neglected, unloved and uncared for (damaged), cannot function this same way; thus, such afflictions as, the herpes virus which lies latent in many of us is more likely to be activated in those who have poor immune control. Traumatized subjects had higher levels of certain antibodies, indicating that the immune systems were compromised and thus were more likely to manifest overt symptoms of herpes. Those living in a now-stable environment still showed the damage and were more likely

to suffer herpes. Early life adversity has enduring effects. The corollary may be, "you cannot love neurosis away." Later love still does not affect the background state of damage, which sets up a propensity for disease. So some of us react to stress with the appearance of immune disease of various kinds, including, perhaps, HIV; others are able to react and hold down deleterious symptoms with a strong immune system. It all depends on very early experience. So, some immune diseases become full-blown because of early neglect and trauma. If there is no evidence of a compromised immune system, chances are there will be far less serious disease. Why do I mention HIV? Because possibly the same gestational trauma that can alter later sexual hormone output may also at the same time adversely affect the immune system. I have already mentioned that womb-life traumas can also deplete serotonin supplies so that later in life one is continuously uncomfortable, a chronic depression and anxiety because the readjusted set points fixed during gestation are so low. Even when the person in her adult life is comfortable living a calm existence the malaise is still there.

And it is also possible that in addition to reshaping personality there may be an actual reorganization of the anatomy. The fetus/neonate may reduce its metabolic level to meet the deprivation of oxygen, and possibly moderate its growth rate, all in the service of survival. Smaller bodies utilize less oxygen. At present there is not enough evidence to support this hypothesis, yet to me it represents the evolutionary logic of the human system. Whatever helps survival is what survives. It is clear that the metabolism slows as a self-protecting device; what is important here is that the survival strategy seems to duplicate itself later in life under stressful conditions; not necessarily diminished oxygen but any kind of stress. And of course there are those who fear elevators or enclosed spaces often due to this kind of early trauma. So we have a "freeze" response, a passive, inability to react in situations that are adverse, what I term a parasympathetic dominant reaction. The precursor here is hypoxia, a life-endangering event that occurs in the womb or at birth.

The person is fixated in this freeze reaction until the originating event is addressed and relived; not with a different outcome (which would entail redoing history) but with the same outcome, only now it can be experienced for what it is.

This whole notion of insufficient growth (evolutionary logic), the inability of the organism to fulfill its genetic anatomic destiny, could also play into something I have written about before: the growth of limbs as a result of Primal Therapy. We have seen breast growth, as

well as feet and hand growth, after a year of therapy. We have seen wisdom teeth descending in 40-year-olds. In short, epigenetic factors, what happens to the fetus and newborn, can block certain aspects of growth and short-circuit genetic tendencies. When that happens, the person, in my experience, is vulnerable to serious or catastrophic disease. There is a mutually destructive war going on in the system between the forces of expression and those of repression. Very often, the same person who has cold extremities is the one who has a lag in one sort of growth or another, often in women, breast growth. Of course there are inherited factors but my point is that we should not neglect key traumatic factors as well.

Reconfiguring our oxygen reduction response is one key way to prevent oxygen damage to the brain. The system does it for us and sends more oxygen to the heart and lungs than to the feet. It also means less possible damage to the heart. If there is a trauma that affects the heart it may not show up for fifty years until the first heart attack. Of course, one way to avoid all that is to provide sufficient oxygen at birth. Failing that, the fetus/newborn will reduce its oxygen demands. But that can mean inadequate cerebral oxygen supplies and lower cerebral metabolism rate, which later can mean learning problems. You know when we say, "He's got cold feet." It is true. The person is reacting based on fear and terror, perhaps the same fear accompanying oxygen lack early on.

As I have written in earlier work, it is not unexpected that there may be an early oxygen deprivation involved in later Alzheimer's disease. That is, the brain is in constant adaptation to imprinted reduced brain oxygen. The brain is saying, "I am lacking supplies," and originally adapted to that lack in various ways. One way includes a change in the amount and strength of certain synapses, which are the gaps between nerve cells that are filled with chemicals that either enhance or slow the neuronal message from one cell to the other. In brief, that earlier adaptation becomes permanent and almost immutable. All of this underlies much of the deep depression I have seen (see my, *Janov Solution*, for a more elaborate discussion of this) where a constant hopelessness and helplessness accompany the personality. And of course, there is a drop in core body temperature. As patients get close to these deep early feelings of womb life and birth, the temperature can fall three degrees in minutes as it is being relived. Or, patients deeply depressed can come into a session with a 96-degree reading.

We must be cautious about deciding what key feelings a patient should feel or is feeling. After observing thousands of sessions over

decades I now believe that hopelessness and helplessness lie at the base of so many other feelings. These are the feelings that usually accompany life-and-death gestational or birth traumas. And it is not I who decided this. I simply record what so many patients feel during the reliving.

The point about original reduced oxygen experience is that the whole personality seems to "shrivel up." It is a constriction rather than an expansion. When she speaks she takes up much less space and air; her words hardly move out of her mouth, and there is an air of fatigue about her. Is it any wonder that she (or he) is less sexual? Again, the whole system slows to adapt to reduced oxygen; the system is doing its best to avoid a mismatch between supply and demand (Singer, 1999). And when there is imprinted low oxygen we might expect slower growth rate. One way we see this is in neonates born to smoking mothers who are often of smaller stature. That in itself assumes trauma somewhere during womb-life maturation. That can foretell of a premature heart attack or cancer later in life. I think it is more likely to lead to cancer than cardiac problems because of the massive repression or inhibition that goes along with this kind of personality. Repression of womb life events is nearly always of life-and-death matters; the repression it engenders is massive, and the result can cause serious distortion at a cellular level. Thus, in my scheme, heart disease is that of expression and cancer of repression. This is clearly not a hard and fast rule, but is something to think about. So many other factors play a role in all this, not to exclude a whole childhood filled with experiences.

There are so many later effects of womb life trauma—namely, diabetes and hypertension. It has been shown that when a pregnant woman is given steroids (the stress hormones), the offspring tends to suffer from high blood pressure (Seckl & Meaney, 2006). In particular, babies born of these mothers show hypertension tendencies just after birth. They note a strong link between stress hormone intake of a mother animal and her baby's long-term hypertension (in sheep). It seems like the later in pregnancy this occurs, the more permanent the adult high blood pressure. It has to do with the sensory window when a stimulus is most apt to create alterations in functioning. And the reason why this is important is that an anxious mother is delivering stress hormones to her baby/fetus. And so the baby can be said to be born with a tendency to anxiety, as well. One way we know this is that mother's who are anxious seem to raise the cortisol levels in the amniotic fluid surrounding the fetus. It may seem like heredity but it is not. Epigenetics (or the environment) is at work again.

More is being learned about high levels of stress hormones in the pregnant woman. It is implicated in later diabetes, immune disease, allergies, hypertension and others. There is now a much stronger correlation between mother's stress level and later dementia. What is most important in all this is that this stress in the mother/fetus compromises the repressive system so that later it will be difficult to hold down surging feelings. The importance of this is that low level imprints cannot be suppressed so that the person has difficulty in concentrating and focusing—attention deficit disorder. A key element of that repressive system is the prefrontal cortex that is pressed into service to counteract feelings that are on the march into awareness—hence, overt anxiety states.

We begin to understand a bit about later drug addiction, which always seems like such a mystery. We are slowly become aware that pain can be installed in the fetal system before she is born. It still needs quelling. It is generally of such high valence (one has only to witness our patients reliving early trauma) that it is logical that one uses painkillers later on. Until we re-direct our focus earlier, we shall never solve these human problems. It is why most drug rehab centers are ineffective.

I have mentioned earlier that if we bring a mother of a child/patient into a session where she hugs and kisses him, nothing changes. But if she stays outside the clinic while her son relives the early lack of love, everything changes. And this is why we cure addictions; love is not the answer. The *lack* of it is. That is the historic reality. Feeling that lack alters and normalizes many hormone levels. Our cortisol research showed that after deep reliving over months, there was a normalization of cortisol levels. As I often say, "You can't love neurosis away." What we are addicted to is need. If we don't feel the early unfulfilled need, then the addiction seems like some immutable or innate force. It is not. One mistake we must not make is to try to alter the patient's reality by providing a different ending to an old hurt. The system is constantly reacting to that hurt. If we change it to our liking we are no longer addressing reality.

So much happens to us in the womb; so much as been ignored in terms of their long-term effects that many diseases remain a mystery because we are looking at the wrong place at the wrong time with the wrong tools. What I am learning is that events in the womb explain so much about later life. As already noted, if you bend an emerging twig you are bound to get a distorted tree.

The question has always been, "How early is early?" This is where epigenetics is relevant. A group at Washington State University (led by

Matthew Amway) found that gestational experience in animals that sways the genetic unfolding can show effects for three generations. They found that exposing pregnant adult rats with defective sperm could engender many diseases including cancer in adult animals. Females avoided mating with other rats that were also exposed during gestation. And this went on, not only for the life of the adult, but also with their offspring, as well. It seems that the system itself knows how to behave given certain biologic deficiencies, and it is always in terms of what is best for heredity; what gives us the best shot of succeeding in life. So when we cannot explain some trait in adults by heredity we may have to reach back several generations to explain it. This gives us a new perspective on so-called psychological problems in adults. When we do an intake interview of prospective patients it has to be thorough enough to include prenatal life (and transgenerational effects too).

We can now only guess as to what traumas occurring to the pregnant mother continue their effects on grandchildren. It isn't just that the mothers underwent trauma, but that trauma alters her basic physiology, and that alteration may have lifetime effects on herself and her offspring. And so when a grandchild develops heart problems or cancer in his 30s, we may have to rethink the probable causes; seeing what kind of pregnancy his grandmother underwent. It's a stretch but it is something to keep in mind. Was it wartime? Or were the prospective (grand) parents fighting all the time? Was grandma depressed? Was she a heavy smoker or drinker during her pregnancy? There is a whole host of new variables to consider.

An example: Someone is born with all kinds of allergies from birth on; a history of emergency clinic visits for all kinds of infections, asthma, breathing problems due to allergies, and in general, a very deficient immune system. Here is where we need to push back the envelope and direct our attention to those early months in the womb. When we do, we often find out that the mother was quite anxious and/or depressed. Or sometimes the marriage is falling apart. Or in one case, as her belly got big the husband was turned off and sought out an outside relationship. The mother was crestfallen, fell into a depression, and had a baby that was born with a diminished immune system. In short, this was something that got its start early on in the pregnancy.

Don't forget that the immune system, in some respects, is our first nervous system, getting out infectious organisms and other invaders, and organizing defenses against them. This includes secreting some of the same painkilling neurotransmitters we know about today. What starts out to defend us ends up hurting us. If the immune system is

compromised, there is a good chance that natural killers cells will be compromised as well. This is something we discovered in our research with St. Bartholomew's Hospital, London. (Natural killer cell levels normalized after one year of our therapy. We made several different measurements before therapy and after one year).

That fact that we normalize this basic physiologic system means that patients do indeed relive very early origins. I believe that no cognitive/insight therapy could ever alter the natural killer cell system. They have recently discovered that planting electrodes into the brains of heavily depressed subjects could ease serious depression. But what if we could have access to those deep brain centers without brain surgery? Would not that be preferable? I think we can. We have had very good results with depressives.

Huot and colleagues (2004) have shown that a mother's depression when pregnant negatively impacts the baby. This is not the case of a mother who is depressed at the time she gives birth. The investigators found that stress hormone levels reacting to a minor stress stimulus (arm restraint) predicted negative responses in infants. There was a particularly negative effect if the woman was depressed during the first two trimesters. In short, the effects on in utero life endure. And it is predictive, given certain kinds of adverse events that impact the fetus. And, it seems the earlier the trauma, the more devastating. Here again we see how important events that happen during womb life are more important than post-birth experience. It has been a saying of mine for decades: The more devastating and early the trauma, the more devastating the symptom. The symptom is often deeply located because the origins are also registered deeply in the most primitive of nervous systems—the brainstem and a bit of the limbic system. This often tells us how early and how hurtful the imprint is. Its depth in the physical system is another indictor of how early the trauma (i.e., colitis).

Because the baby can be born with higher than normal stress hormone levels, and because the immune system works in seesaw fashion with cortisol (high stress, low immune function), the fetus has possibly set the stage for a lifetime of immune problems. Here is where genetics plays a role; high stress in the fetus will affect those areas with genetic vulnerabilities. After all, what is the meaning of high levels of stress hormone during fetal life? It means an input that agitates the system to be chronically alert and mobilized. And when the neurologic system can no longer shut off that input, we have the makings of an enduring Primal imprint. So we have a newborn with a high level of agitation already set in place many weeks earlier. Here is

ADD (attention deficit disorder) waiting to happen as forceful information from very early on intrudes into the thinking apparatus. The neurons seem to be adrift, and the top-level cortex cannot focus on one thing because of the constant internal input, from the bottom-to-top and from the right-to-left brain. Too much information creates overload. Overload creates shutdown. Shutdown produces symptoms.

Over time, the deleterious results can range from impulsive tendencies to migraine and high blood pressure (to hold down the imprinted input). It is then no mystery when the child cannot concentrate or sit still. It is redundant to call it attention deficit hyperactive disorder, since it already is a matter of hyperactivity of brain function. It is not enough to know that there are high levels of stress hormones in the baby; we need to know what causes it, in the first place.

We change deficient natural killer cell levels of the immune system after one year of our therapy into normal levels. These cells key function is to watch out for cancer-developing cells and pounce on them in an effort to contain them. (Work done with St. Bartholomew's Hospital, London.) So a mother's distress while pregnant can spell life-endangering effects on her baby, not the least of which is later cancer. The earlier the trauma occurs during womb life, the more disastrous the effects. That is our important secret life.

What can be done about this? Treating it first and foremost, then make sure it will not come back. How do we do the latter? By reliving the earliest womb-life events. How do we do that? Well, luckily, each new harmful or adverse experience that remains unintegrated is re-represented later on in a higher level of the nervous system and is coded as the outsider or enemy. It is indeed a threat to the organism because of its load of pain. So a certain frequency has a load factor that is enormous. And, as I stated, it may be that specific frequencies tie these events together. When we explore these ramified events and begin to relive them, we are also reliving deeper and earlier aspects of the feeling and/or pain. And that is how we relive purely physiologic brain-stem responses without ever acknowledging it. With an fMRI we may be able to measure such things as where anxiety is organized and what each level's contribution is to the overall state of anxiety. We have done four separate brainwave studies and found a shift of power from right to left and from back of the brain to the front (Hoffman & Goldstein, 1981).

When there are certain kinds of triggers, the brain conjures up its related history, intact. It kindles like-minded feelings together and their physiology. That is why our behavior is so compulsive and

unwavering; our history motivates us all of the time. We are largely victims of our deep unconscious brain. We can only reach deeper into the remote past as we gain more and more access to deeper levels of brain activity. We need to have good access to our feelings first, then very early brainstem events. That takes time but it can be done.

The beginning deformity of cells can well begin in the womb with mother's anxiety due to her own history or due to her marital circumstances. In any case, the fetal system needs to gather its resources to shut down excessive input. Here is where many cells are evolving and gathering their identity, but instead there is massive repression and, ultimately, physiologic deviation, even at the cellular level.

One patient had three siblings all "messed up" and depressed, according to her. It remained a mystery why all of them were so disturbed (her parents were indeed loving), until she had very early Primals (a systematic reliving of early trauma). She learned that there was a civil war in South America, which lasted many years. The father left the family to go and fight, coming home occasionally to make babies. The mother was in desperate straits with no money, no one to turn to, and fearful of the constant raids into her village. The children, even in fetal life, suffered. She was a loving mother whom the children adored, but with a neglected womb-life, which should not be ignored. It had far-reaching effects. It therefore is an indicator of what went on during fetal life. Can we imagine a doctor learning about a stroke with her patient and then examining his fetal life?

Low birth weight is associated with slow fetal growth and lack of development of various physical systems. If the newborn is abnormal in any respect, even birth weight, we may assume that something abnormal may have happened during gestation. Babies of depressed mothers are more often of low birth weight. At least, let's consider it. Babies with low birth weight lack muscle, something that follows her into adulthood. Here is a quote from the Helsinki Birth Cohort Study: "(We) have shown that the risk for coronary heart disease and type 2-diabetes or impaired glucose tolerance is further increased in 60- to 70-year-olds who were small at birth, thin or short in infancy, but put on weight rapidly between 2 and 11 years of age. A similar growth trajectory has been shown to predispose to type-2 diabetes or impaired glucose tolerance." (Canoy, et al., 2009, abstract)

People who suffer stroke tend to be thin or short at two years of age. There is evidence that these early events can lead to hypertension later on, which is an important risk factor for both coronary heart disease and stroke. The point is that when a child is born out of the

curve of normalcy (too fat or too thin), it may be an indication of some abnormality during gestation. I will discuss in a moment the now-significant amount of research on high stress levels in the pregnant woman and its effect on the heart of the baby whose physiology closely adheres to the mother. Also, we need to study Alzheimer's disease as it relates to gestational trauma as well as birth difficulties. Is there a correlation between gestation/birth trauma and much later dementia?

Certain height and weight problems at two years of age are a well-accepted indicator of childhood emotional problems. Growth of the fetus relies heavily on adequate oxygen supplies. Because of the large brain, which uses a good deal of oxygen, there is a physiologic demand for more and more. As stated previously, if these supplies become limited for any number of reasons, the body growth will slow down so that the brain can be left intact. Hence, lower fetal weight. Let us keep in mind that cancer can develop and live without oxygen, and maybe that adapting to lower levels of oxygen in the womb is part of an explanation for some cancers later. Deprive a cell of a majority of what oxygen it requires and you may have one key element in the origin of some cancers. This can only be a hypothesis.

In experimental animals, it was found that anything that increased fetal stress hormone levels could result later on in elevated blood pressure, anxiety and hyperglycemia. And when we fiddle with stress hormone levels, we increase the likelihood of later cardiac crises. Cortisol levels are also heavily implicated in signaling the birth process to begin. And if it begins too soon we might look at the maternal stress factor.

Cortisol is a stress hormone because it sets in motion the alarm signals to combat too much and too strong of an input. When it goes on for a long time it accelerates the possibility of dementia and a whole host of other diseases. Primal imprints do exactly that; maintain a high level of cortisol for a lifetime; the danger is imprinted and the body continually reacts to it. All of these reactions as an ensemble are how we remember the trauma physiologically. Our beginning patients are uniformly high in cortisol (normalized after one year of therapy).

In nearly every study of prenatal life, there is the implication that high stress hormone levels in the pregnant woman can result in hypertension and cardiac problems later on in the offspring. Infants of mothers, who were diagnosed as anxious before pregnancy, had significantly higher stress hormone levels. Neuropsychologist Paula Thomson (2007) explains: "Prenatal stress responses are dependent on the mother's stress level. But how babies show it is through a limited physiologic vocabulary" (p. 100). She believes that the fetal stress

response is already skewed and, given later stress, the earlier stress response does not change. It can be blocked, diverted, covered over, but it remains pristine clear.

Thomson (2007) maintains that stress states in the prenate and neonate can be recognized by elevated heart rate, and greater activity levels (gross body, single and multiple limbs with higher reflex activation). The prenate and neonate may show mistimed diffuse movement and overt grimacing; and will be rather clumsy and have a lack of coordination. All this can be a predictor of later heart disease. That is only if we look at the problem in a gestalt overview. Thomson further states and other researchers agree:

> One overarching goal of this article is to help clinicians understand the potential deleterious effects of prenatal stress … It is hoped that increased knowledge of prenatal stress will inform psychotherapeutic treatment protocols, especially when treating severely traumatized and dissociative patients who may themselves have suffered early prenate stress. Further, when these patients become pregnant, appropriate treatment for the mother may benefit the offspring. *When clinicians provide therapeutic intervention to a pregnant woman the prenate may also be affected* (Field, 2001; Ponirakis, Susman, & Stifer, 1998). (p. 88) (My emphasis)

Let us not forget that (Thomson): "One of the most dramatic changes occurs in the first moment of conception. The primitive cell carries the blueprint for an individual who has never existed before and will never exist again" (p. 101). While in the womb, he is having the most important experiences in his life, because nearly all of it is of life-and-death significance. This is what Freud should have addressed when he was developing his theory of psychoanalysis. Here lies the deep unconscious; a dark place with no exit and no words. Biologic responses dominate. (But how could he know?) In order to relive, we have to include all of our physiologic processes, not just cerebral memory. The first step is to acknowledge these facts; a much more difficult step is to fashion a therapy for them. I think we have done that.

One of the key factors in high levels of maternal cortisol is the increase in the chances of a lost baby, or at the least some kind of prematurity. Again, those stress levels descend into the fetal system and change the baby in ways we are still learning about. Babies born to depressed mothers have higher levels of cortisol than normal. Here was what Lauren Kaplan and colleagues have to say about this: "In utero environment sculpts the uniquely plastic fetal brain resulting in

long-term maladaptive patterns of behavior and physiology." (p. 249)

What researchers are now reiterating is that womb-life can inalterably affect the lifetime of the offspring. And, it is not only behavior that is altered but the physiology as well. To make it even more dramatic there is now evidence that it can change the anatomy. Does this mean a change in Primal Theory? Absolutely, it pushes the envelope much earlier for when imprints start and for their widespread enduring effects. It means that how the birth trauma is played out, and reacted to, depend on earlier life circumstances—womb-life.

Information is now amassing as research continues into a heretofore unexplored area. There is an article in the November 14, 1998 *British Medical Journal* by Marc Bygdeman and B. Jacobson entitled "Obstetric Care and Proneness of Offspring to Suicide as Adults" that suggests that "through a process of imprinting certain individuals might subconsciously create a traumatic situation during the act of suicide that produces a sensation similar to that experienced during birth" (p. 1346). This could be a quote from one of my books (and indeed, one of the scientific contributors was a student of mine). What they found was that those who committed suicide violently were more often exposed to complications during birth. Strangely, those mothers who were drugged did not result in suicide by the offspring. But there is the implication that the adult whose carrying mother used drugs may be more likely to be addicted to drugs. The implication seems to be that opiates given during birth reduce the impact of the trauma and are, hence, less likely to produce suicide-prone individuals. But already in the womb we are learning how drugs ease pain. What my theory states is that when provoked by a certain hopelessness in the present, which is not overwhelming in itself, it can trigger off—resonate—with earlier imprinted hopelessness during birth and sets off an attempted suicide; because it not only triggers the original traumatic feeling but all of the circumstances around it. Thus, suicide, to try to put an end to the agony. And when drugs were given to the mother to ease her pain it, at the same time, eased the suffering of the baby. Thus, later on, one turns to drugs to ease pain, a replication of the earlier event. And when emotional pain is inordinate, drugs is the mode of choice for suicide. It worked when it was a matter of life-and-death.

One reason that current psychotherapy has not been profoundly effective is the factors that produce current behavior are far, far earlier than we might have imagined. To ignore all of this research is dangerous for the patient because it means she stands little chance of resolving suicidal feelings (and perhaps suicide) without this

understanding. So, it can again mean life-and-death for the patient. This is to say nothing about chronic withering depression that usually gets its start in the womb or at birth. (See *The Janov Solution* for a full discussion).

We do know that each level of brain function can incorporate the previous lower level and represent its sense or meaning to higher levels, which then code it in terms of the specific function/structure of that level. As the imprint is registered it will take on a new coloring as it moves upward. Hypoxia as a choking, suffocating sensation on the brainstem level becomes being suffocated by one's husband on the emotional level; and then there is the last level rationalization for the lack of freedom in a given situation. The patient starts with the latter ("She suffocates me"), and then over time moves downward until she arrives at the Primal event that started it all.

So early memories become elaborated on higher levels of brain function and are incorporated into those levels and interpreted differently depending on the level of brain tissue. But they are not separate entities. It is all an ensemble of levels that produces a complete memory. When we relive a non-verbal pain or trauma in infancy we are at the same time reliving the residue from earlier in womb-life. The events are united under a resonance factor that makes a higher level of brain function trigger off a deeper and more remote feeling. To put it differently, each early preverbal imprint is ramified on higher levels so that feeling fully on the higher level automatically has us feeling the earlier aspects of the feeling. Because of this we can overreact (or underreact) to events in adult life. As we see in our therapy, it may be one cause of erectile dysfunction—the feeling of being overwhelmed because of even slight pressure to function in the present. Or the inability to get going at work.

To summarize: There seems to be a time in gestation when pain or noxious stimuli impinge, but we are not yet able to produce our own gating chemicals, such as serotonin and endorphin, resulting in ungated pain. When I refer to gating, I refer to electrochemical process that blocks the transmission of the pain message across the synapse. This residue will continue and may lead to bouts of anxiety later on in life. It becomes free-floating, unbound fear or terror. It can then be focused on elevators and a phobia is born. This is not due to heredity but rather to experience in the womb. Part of our in utero life, therefore, takes on hurt at a time when the system can do nothing about it; nevertheless, it affects all later development. At 30, we may suffer from panic attacks that began life in the very early months of our mother's pregnancy. It is pristine, ready to spring forth whenever

we are vulnerable. No talk therapy can affect it because it involves a vegetative, primitive nervous system that was only adequate to register pain and terror during womb life. This is a nervous system impervious to words; so insights leave it absolutely indifferent. That is why new experiences do not change the neurotic. She goes on having the same experience, the imprint, over and again. It is a sealed-off feeling that remains as part of a survival function.

The womb experience leaves us fragile for a lifetime so that any insult or lack of love in infancy and childhood weakens us all the more. And the imprint can dictate chronically low levels of serotonin. That is why we need drugs that work on lower brain centers below the intellectual in order to suppress these imprints for a time.

So much severe mental illness has its causes early in our lives; and then nature later provides us with unusable intellectual tools to address them. All we have to do is let the primitive nervous system take charge and lead the way. It knows the path to liberation.

About the hypothalamus: It controls many hormone secretions. It also controls two different nervous systems—the sympathetic, managing our aggressive, active tendencies, as well as the parasympathetic, managing the more reposeful, healing ones. A trauma such as low oxygen at birth can produce a dominant parasympathetic predilection that encompasses many biological parameters and also psychological ones, as well. In short, we have the makings of a depressed, passive, unassuming, held back personality; someone who is always reacting to the imprint of low oxygen input. Thus, everything becomes a problem, everything is too much, and there is a tendency to give up easily because there is a not a prolonged and continued aggressive, assertive response. These are the shallow, slow breathers, cold in the extremities, reluctant of personality, diffident and not a self-starter. We think we can change these individuals? Remember that the ensemble of all these biologic/psychologic responses are involved in survival strategies; not things picked at random because they were simply convenient.

We begin to understand a bit about later drug addiction, which always seems like such a mystery. We are slowly become aware that pain can be installed in the fetal system before she is born. It still needs quelling. It is generally of such high valence (witness our patients reliving early trauma), that it is logical that one uses painkillers later on. Until we re-direct our focus earlier we shall never solve these human problems.

The University of California, Irvine is important in this research. Gary Lynch, a well-known neurobiologist and his colleagues (2008)

there found that with very early trauma there was a later likelihood of memory problems. After years and years of suppressing feelings there seems to be a "caving in" of the externally oriented prefrontal area as neurons under constant pressure from the imprint begin to die. That is one reason why in early stress a memory structure in the brain, the hippocampus, tends to diminish in size. Mice that have their hippocampus surgically tampered with are much more excitable and prone to anxiety states. They do not adapt well. In short, one's personal history, one's neurobiologic memory, is a significant factor in what happens to her brain.

An experiment by Cirulli, Bonsignore, Venerosi, Valanzano, Chiarotti, and Alleva (2003) investigated neonatal rat pups born with reduced oxygen. Those females who were born with limited oxygen (rats delivered by cesarean section with reduced oxygen) were less loving to their offspring; slow to retrieve puppies and did much less licking.

The author believes that this hypoxia results later in an "arousal deficit." It seems that the animals had less energy and that possibly there were reduced dopamine levels in their systems. They were simply not aggressive or energetic. The traumatic birth of insufficient oxygen produced that. Though it was animals that were being researched, clearly, there are implications for humans. Too many of us, some report up to fifty percent do not get born with adequate amounts of oxygen. Depletion of energy, then, is one way that birth hypoxia shows its effects. It becomes an imprint. And that imprint can and does produce neglectful mothers; mothers who were not alert or watchful of their babies.

Research on dopamine has discovered important new information. Tiffany Field and her colleagues (2007) have studied dopamine levels in depressed mothers. Two groups were divided by high and low levels of dopamine. It was found that the babies they were carrying mirrored almost exactly the levels of dopamine and serotonin in the mother. Depressed mothers, in general, have higher stress hormone levels (cortisol) which means that pain/stress is a major component of the affliction. So it is no wonder that painkillers help alleviate depression in many cases. And it is also clear that those depressives with low dopamine levels do not fare as well in life. There is a biochemical *send-off* when babies are born with deficient dopamine levels. In short, there may later be vulnerabilities to depression in them, as well. And depending on life circumstance it will flower into full-blown depression when there is a repressive atmosphere in the home. This is why one child responds with depression and another does not. It depends on the

chemical send-off.

This notion of the send-off also helps explain some addictions in adulthood. Mothers who take tranquilizers or other painkillers are forcing the fetus to adapt to the input. Often a dose for an adult enters the fetal system, and is much too much to allow for adaptation. Later on, in adverse events, the now grown-up adult will seek out drugs; this time voluntarily (Nyberg, Buka, & Lipsitt, 2000).

Clearly, we cannot alter hormones in human for research on ethical grounds, but animal experiments show that over-stimulation of the fetus can alter its growth hormone output.

Sedatives given to the mother during pregnancy increase the chance of later drug addiction in the offspring. Anand (2007) has concluded that imprinting at gestation or birth is far more predictive of later addiction problems than the socioeconomic status of the person. His view is that the critical window for trauma is just before and just after birth. Here adverse events leave an indelible mark for a lifetime. The field of psychology is coming around to the notion of imprint. Once that is accepted it will lead us back in history to when and how the event was sealed into the nervous system. We will no longer focus on the here-and-now to understand the human condition.

The concept of the imprint is critical to my theory, for it means that very early preverbal events control our destiny. It means alterations in the biologic system even down on the molecular level. And when later there is catastrophic illness we should be alert to possible molecular origins. Generally, the more catastrophic the imprint is, the more catastrophic the illness. The symptoms will occur deeper in the system in accordance with where deep-lying imprints are stationed. My rule is: a brainstem imprint results in a brainstem reaction/symptom, hence major disease; dangerously high blood pressure, for example.

And we should not forget the concept of the critical window, the time when the input is most needed to fulfill basic need (oxygen, for example), and the time when deprivation engenders the most widespread effects. That window cannot be changed. It is evolutionary and biological, predetermined in our DNA. We get one shot at fulfillment, not several. It cannot be made up for. The greatest painkiller that exists for us is parental love. When that is missing we hurt—for a lifetime.

Perinatal insult has lasting results, particularly in the dopaminergic (alerting/vigilance) system. This is often involved in learning disorders and attention deficit disorder. It is also a factor in later schizophrenia. Children of women, who undergo an extremely stressful event during the first month of pregnancy, are more likely to

develop serious mental illness later on (a death of a close relative, for example; *JAMA*, 2008). The time when the baby is getting organized as a human being is when even slight disruptions in development can have catastrophic effects later on. One of the possible results is autism. (See the work of the Dutch investigator, Annemie Ploeger). It would seem that stress provokes the increase of stress hormones in the pregnant woman. This is not a benign event because that may alter the baby's developing brain, as well. It is clear that there are different critical windows during gestation so that a trauma to the mother/fetus in the first month will have different effects than a trauma in the last month of gestation.

For example, birth weight reduction is most severe when steroids are administered in the late stages of pregnancy. And birth weight change usually indicates problems in fetal evolution (i.e., trauma). It is known in animal research that stress hormones given during pregnancy will elevate blood pressure in the offspring.

There is evidence, as well, that this happens in human evolution. When stress is evident in the last month of gestation there is a good chance of high blood pressure later on. At the risk of "drowning the fish" it has become clear that life before birth is paramount in later behavior and symptoms; so much new information and research continually points in this direction. When we have inexplicable symptoms or behavior deviations later in life we need to search out prenatal events to see what impact they had. This is truly the new frontier.

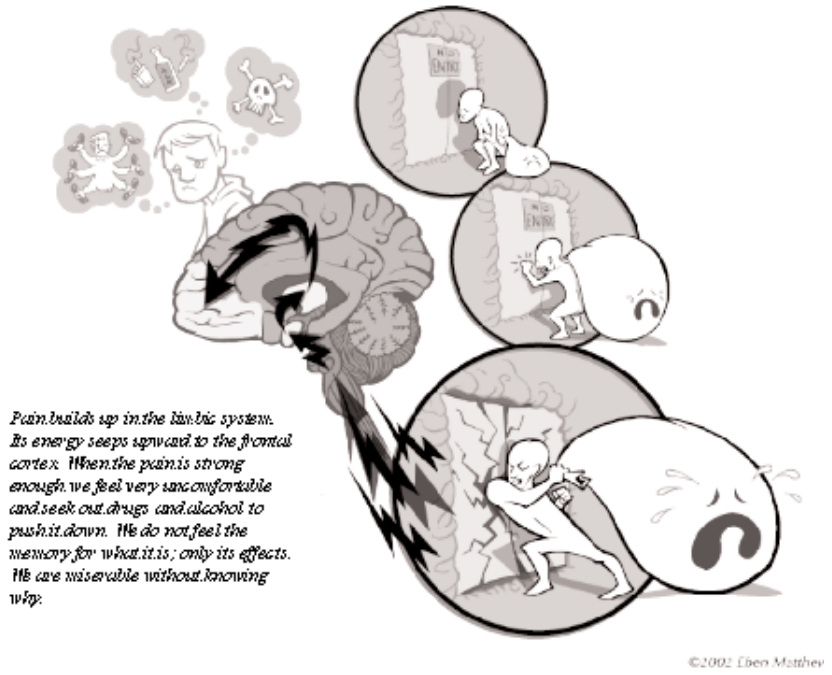
A study by Finnish scientists Huttunen and Niskanen (1978) investigated children whose fathers died either while the mother was carrying them or during the first year of the child's life. The offspring were examined over a thirty-five year period using documentary evidence. Only those who lost their father while the child was in the womb were at increased risk of mental diseases, alcoholism/addiction, or criminal behavior. Clearly, the emotional state of the mother was affected and that possibly had lifelong deleterious affects on the child. The results of this study suggest that the emotional state of the pregnant mother has more long-term effects on the child than the emotional state of the mother during the years following birth.

And when we are investigating addiction, we must pay attention to womb-life. We know from animal experiments that those deprived of touch and love right after birth tend to consume alcohol later on when offered, versus those normal, loved animals who refuse it.

A study with monkeys by Barr, Newman, Becker, Champoux, and Lesch, et al. (2003) demonstrates this point. Those more stressed early

on were more likely to drink alcohol. Eighty rhesus monkeys were investigated; half were separated from their mother at birth. This group responded to any later stress with 25% more stress hormone release. Later both groups were offered drinks with alcohol in it. One fifth drank nothing. Among those who did consume alcohol, those with the higher levels of cortisol before the experiment were the heavy drinkers. Those monkeys weren't saying any irrational things to themselves; they reacted in terms of their history. We may ascribe alcoholism to genetics, but this study makes clear that those who were unloved early in life took to alcohol.

Figure 1



We are still those primates, but with a cortex added-on; we've put on a thinking cap permanently. If monkeys can be neurotic without words, so can we. If they can be addicted, so can we. Because these monkeys were deprived of love early on, they later felt the need to comfort their pain, and did so with alcohol. The basic pain and physiology of two primates, humans and monkeys, are pretty much the same. We hurt in the same way with basically the same physiological equipment. It is clear from so many similar animal experiments, and there are literally thousands of them, dating from the early work of Harry Harlow to the present, that words do not matter and cannot permanently ease the pain.

The point I have been making for the last forty years is that traumas while being carried and at birth create new set points for important chemical/hormone release. These may well be accompanied by long-term changes in the feeling/limbic system so that there may already be a tendency to overreact because there is a resonance factor where a current event can enter the brain at a certain frequency and trigger off similar feelings within the same frequency in the limbic system (helplessness, for example); and also because the bar for reaction is already quite low due to the imprint which has compromised the nervous system.

Supporting evidence for our theory has come from D. I. W. Phillips and Alexander Jones (2006) who researched fetal programming. They presented their results to the *Journal of Physiology* Symposium. They use the term "set points," and maintain that early trauma can permanently alter basic physiologic set points. This means deviations in our physiology and psychology. Studies are coming in quite fast now confirming this point, specifically, that anxious pregnant mothers set up higher than normal levels of stress hormones in the baby. And this high level can be the predictor of later serious illness.

The fetus has an environment—his mother; and he is reacting to that environment, having key experiences just as he would after birth. He is learning. Just because we don't see it doesn't mean it doesn't exist. But because we don't see it, and because we never perfected the tools to observe it, we have fashioned psychotherapies that ignore it. Because we do now have the tools, we are able to observe this first hand.

When we understand that feelings of hopelessness and helplessness underlie many of the deep depressions we can then understand how deep the base of it all is. Those feelings can occur to the fetus before birth when the input to the baby from an anxious mother cannot be stopped so that he is overwhelmed before he sets foot

on this earth. That feeling, not yet articulated, shapes both physiology and psychology, and is shaped by it. We therefore cannot undo what heretofore was called "endogenous depression" with a current focus. We need to address origins of feelings. Suppose we learn that in many cases of acute anxiety there is not enough residual serotonin in the person's system. So we add chemicals that boost serotonin (Prozac) and the person feels better, somehow *normalized*. We now need to roll back the clock to see why that serotonin level was so low, and we may find grave traumas in the sixth month of gestation when serotonin production in the fetus was being organized. When the patient relives those kinds of traumas there is again a normalization (see our research on imipramine binding as discussed in my book, *Primal Healing*).

We need to understand how deep "deep" is, because otherwise we shall be skimming the top in depression, leaving the basis to continue its destructive path. That means not changing the critical set points. I am suggesting that nothing can alter those set points, which may be too high or too low, except for fully addressing and reliving origins. The adult system is now adequate to tolerate critical levels of pain involved in those early systems. Current psychotherapeutic tools simply cannot go deep enough to touch origins. It is no accident that many studies now show that in recalling a memory the same neurons are reactivated as originally involved. As I noted earlier, in reliving we are attacking the same memory neurons. Many of these neurons are located in the limbic system, and the hippocampal cells where memories are created and stored is heavily involved. This is the area of the brain where Alzheimer's disease is concentrated. Memory formation and retention relies on this structure (as well as others).

What is current in science is the tendency is to avoid any leap of faith, from the facts to possibilities. For the most part I agree. However, there has to be a middle ground; there has to be a space for leaps of faith but as well as observable truths. This is uncertain territory, I know. But we need to make an effort to both have those leaps into imagination coupled with what we know in science. Observation is still a valid mode in science.

My thesis is that there are predictable long-term effects of prenatal, neonatal, and infancy experience. This is not the "shoemaker sees only shoes in the world," but a need to emphasize a neglected aspect of the human condition. If we are to fashion a truly scientific psychotherapy we need both; I mean if we did not do research into cortisol levels or imipramine binding (measuring levels of serotonin in the system) we would not know exactly how a therapy can change the

human being. We would not know what aspects of a psychotherapy are valid and which are not. For example, thirty-five years ago I thought that forced heavy breathing was essential to our therapy. Now, as a result of research and the refining of our techniques we know that deep breathing as a therapeutic option is not necessary, and can be dangerous—the same with forcing patients or subjects to delve into reliving a birth-event when the neurologic system is not ready.

But with a bit of a scientific background, one would know that we cannot breech evolution and hope to succeed; that integration is the be-all and end-all; connection (bottom-to-top; right- brain-to-left), is the goal. We cannot integrate massive pains unleashed prematurely; it is simply not possible. Sometimes the patient is getting worse while the therapist and patient swear they are making progress. As therapists we should never trump evolution in our work.

My patients have been reliving birth traumas for a very long time. These events are often minutely measured by us. (We used an electronic rectal thermistor and blood pressure cuff fixed during the session to observe the rises and drops in body temperature, which were often significant; beyond what a physician might see except in cases of extreme illness.)

I had trouble believing what I saw originally to the point of threatening to discharge patients who continuously fell into reliving birth. The UCLA neurology department told me it was not possible. Well, it is! And not only is it possible but the birth trauma lays on an already heavy substrate of adverse events during gestation. And this substrate can determine a good part of our adult life, including how long we live.

The problem has been that we have equated memory with what we remember cerebrally, when there is an important physiologic memory that exists before we have thoughts or words to explain the memory. But what do we call it when heavily depressed patients enter a session with two degrees less in their body temperature; and after a session the readings (and the her body) normalize? When we see this month after month and year after year we are building an objective case. The problem, then, is to find out why this is so; and then further to find out how to treat and normalize this problem.

Our UCLA Pulmonary Laboratory Study

At the UCLA Pulmonary Laboratory we wired two patients to a number of instruments, oxygen levels, carbon dioxide, and blood samples every three minutes while they relived, as it turned out,

oxygen deficit at birth, something we had not planned at all. Again, we had no preconceived notion of where the participants had to go. Neither patient observed the other so we had a rather pure experience on the part of both men. After the reliving, we did another experiment where each patient mimicked the Primal in every way (same movements and breathing) except for being in the past. Both almost fainted after three or four minutes in what was clearly a hyperventilation syndrome (clawed hands). While in the past feeling they breathed very deeply (I call this "locomotive breathing" because that is what it sounds like and seems to emanate from the brainstem—medulla), for about twenty minutes with no hyperventilation. What the researchers from the pulmonary laboratory found was that when the patient was back in the old feeling and its context of anoxia at birth the body needed oxygen; the patient was "back there" in every way, not the least of which was physiologically. It was evidence of the veracity of reliving; that patients can and do go back in time. And they not only go back psychologically but in a complete biologic state. The corollary to this is that the early need for love stays the same and does not change throughout our lifetime. We seek symbolic, substitute fulfillment but it is never fulfilling and compels us to go on seeking more and more, always in vain. The critical time (or period) when need must be fulfilled has past.

What we found at UCLA was that despite the heavy prolonged breathing the acid-alkaline balance did not change. The conclusion of the investigators, who were not Primal based, was that no other factor other than memory could account for the results. In short, the life-and-death memory was real. It was imprinted. Despite the fact that the blood oxygen was normal in the room the brain was sending signals of a great lack of oxygen, and the heavy breathing ensued. There was no hyperventilation syndrome because the whole system was back in history re-experiencing a key trauma and urgent need.

This is important because it can open up a whole universe to us about the depths of man's unconscious. It confirms that very early experience is impressed into us; not just as a memory but also as a wound that needs healing. It endures. We can directly observe anoxia and hypoxia. Reliving is a real event; the baby cries during a session can never be repeated by the patient after it. Again, that is because his entire neurophysiology is in the past, in a specific time and place and undergoing a specific experience. The marks that originally appeared during the birth trauma may again appear in a later session. It is clearly not a simulation. In other words, the past and its neurobiology remain encapsulated inside of us. This is exactly what can account for

a number of lingering diseases in adult life. What is remarkable is that it never changes; it is impervious to experience. No matter how much approval an actor gets he always needs more. It is why I maintain that only being in the context of an old traumatic memory can be curative. Consider, in the session, despite the adequate oxygen in the room the brain is signaling a serious lack of it and the body responds accordingly, gasping for air, all to do with the memory and not reality. Therein lies the tale. We are continually responding to old imprinted memory (reality) despite current reality.

The body smokes to kill the pain of anoxia or it takes drugs beyond all control of the upper reaches of the cortex. It is reacting to internal events. That is why lectures on smoking do very little good. The little girl inside the woman is taking drugs to kill her pain, something we never see. Something the person never sees, being disconnected as he/she is.

We must understand that resonance is a two-way street. At first there is the imprint, followed by compounding events that reinforce and seal it in. Then later there are ideas to resonate with the original imprint. If the original imprint produced a physiologic deviation, as it nearly always does, then when we have the ability to develop ideas, those ideas will follow suit; that is, they too will be deviated so that perceptions are askew. In brief, the traumatic information from below will resonate higher up and will distort those thinking processes, as well. So it is not just that ideas are warped or bent. It is that those ideas and perceptions continue on from the imprint. The whole neural circuit is "off," or deviated. On an emotional level we often see the sex drive distorted, as well. An example of this resonance is found in a young man who was suicidal when he came to us. His girlfriend left him for his best friend while his closest male friend was killed in battle. He felt hopeless and helpless; there was nothing he could do about either situation. This current situation with its feelings left him in great anxiety and too weak to do anything about it; all he could think of was killing himself. That resonated down the chain of pain to the deepest brain levels and dredged up the same feeling with a great deal more emphasis and power.

Originally, there was nothing he could do to get born; the odds were insurmountable because his mother was heavily anesthetized (and of course, so was he). Biologically he was helpless and hopeless, as yet completely unarticulated feelings. But feelings don't have to be articulated to exist physiologically. They can only be articulated when we have the brain capacity for it; that is, when the prefrontal neocortex is sufficiently developed. But there it was—the resonated part of the

whole feeling. Further, what was also dredged up was the notion that the only way to end the agony was death (i.e., suicide). His method of choice: painkillers. It was most certainly the only way out of the pain originally, a biologic memory which was whisked up with the feeling of hopelessness. None of this was thought out—but was inescapable, nevertheless. So the current situation left him with no alternative forms of behavior, duplicating the original situation where there were, indeed, no alternate forms of behavior. That is why he could not think of anything else to do. Resonance is what makes us behave redundantly, and causes us to duplicate our earlier trauma over and over again.

In the case of anxiety, imagine a current situation where someone refuses to honor an application, and it sets off inordinate anxiety. Why? The situation resonated with very early terror, which is dredged up and inserts itself into the person's current situation. Anxiety is the lower level aspect, the primal aspect, of the overall feeling of, "I can't get through … to you." It is current, resonates with parents whom could not be reached emotionally, and finally to the birth where the baby could not get through (was blocked). The essential part of this is, "I can't get through." That is the base. Later on, we add whatever circumstances compounds the feeling. It gets to be anxiety when the gating system is inadequate to stem the access to lower brain levels. It is very much like need. At first there is pure need for love, for touching and holding, for caressing and warmth. When that is deprived very early on the need becomes the "need for." It can be the need for drugs or food or gambling. But that is derivative of basic need; so when we treat these afflictions we must keep in mind that it is at bottom a real need we are dealing with.

Getting straight with oneself, as a result of reliving the very early imprints, generally will correct strange ideas and perceptions, not the least of which are psychotic notions. I have seen a psychotic relive a deep trauma and come out of it with an explanation for her delusions. "Those devils that I thought were pursuing me were my deep, bad thoughts and fears of my parents." In this case we used tranquilizers for a time to allow her to feel and experience aspects of the imprint without being overwhelmed by the totality of it all. What we do with medication is use it sparingly in order to feel. What conventional therapy does with medication is use it to block and suppress feelings, a very different approach.

On Memory

Research reported in the Sept. 26, 2000, Proceedings of the National Academy of Sciences, indicates that when a memory is activated, the visual cortex is busy when a memory includes visual scenes, just as auditory memories light up the auditory cortex. Those with heavy emotional content activate limbic structures. In other words, memory is total and needs to be when we go back and visit our past. Too often recall is an intellectual exercise bereft of the emotional connection that would make for personality change. The report indicates that parts of the frontal brain recruit these secondary areas to integrate the totality as a memory. It is the assembly point where aspects of our history join to become whole and to make sense of disparate aspects of our history. If one goal of psychotherapy is make a person whole, then memory must be complete and connected.

Without proper cortical connection the energy is not dissipated and is rerouted back into the system creating one symptom or another from tendencies to hypothyroidism to asthma. Though there may well be genetic components, I submit that the symptoms may not become manifest without a residue of trauma. One way we know this is that reliving these traumas often rids the person of troubling symptoms. One of the most important by-products of this connection is that stress hormone/cortisol levels are reduced permanently. When we consider that high stress hormone levels impact so many symptoms from nightmares to depression, from palpitations to hypertension, this finding is of some import. Cortisol levels do not drop over time without deep feeling.

What is curative is that repression is lifting and the system is again reacting, as it should have originally. The pain is finally traveling to its proper destination—connecting with frontal cortical structures producing conscious-awareness. It is not simply cortical awareness, lacking in feeling, but conscious-awareness derived from feeling. Thus, it is unconsciousness that is the culprit, and consciousness that is the savior—and that unconsciousness is the result of repression; and that repression is a function of pain; all an automatic process.

As our patients' defenses weaken, great pain begins its march to prefrontal areas. And when the feelings lock-in and connect the system can finally relax. All vital signs fall below baseline readings. Until there is this lock-in, the cortex may continually ruminate about this danger or that until sleep becomes impossible. Low-lying imprinted terror in the brainstem can activate cortical centers creating outbursts

of unusual thoughts: "There's no space for me." "I am stuck and no one is helping." These often are birth statements, emanating from the birth imprint that is consciously unknown to the person. The latest evolving cortex must deal with the input in some fashion or another. It must make it "ego-syntonic," comfortable and not alien to the self.

What we do in our therapy is take away the rerouting symbolism, "I am stuck—in my job, marriage, etc.," and help the patient place it in direct context, "I am stuck in the canal and I'm in danger of dying." And as I write this I am aware of how strange and perhaps unbelievable all of this seems. But this is not an intellectual proposition stemming from some ideas of mine, but rather the result of careful observation and measurement over 40 years.

Returning to our research at the UCLA Pulmonary Laboratory, one of the young men, after reliving a birth sequence, suddenly went into apnea and stopped breathing for a full minute. This was not a voluntary act. He replicated what happened to him at birth. It was a wordless reliving which achieved some kind of awareness that was not totally verbal. In fact, it was a connected sensation that heretofore played out in his sleep where he suffered from periodic apnea. If we relive an early terror before we have words to wrap around it, it still can be a connected event. It has entered awareness. Afterward, it is no longer a vague, inexplicable anxiety. It is what it was—terror.

We are still those primates, but with a cortex added on; we've put on a thinking cap permanently. If monkeys can be neurotic without words, so can we. If they can be addicted, so can we. Because these monkeys were deprived of love early on, they later felt the need to comfort their pain, and did so with alcohol. The basic pain and physiology of two primates, humans and monkeys, are pretty much the same. We hurt in the same way with basically the same physiological equipment. It is clear from so many similar animal experiments, and there are literally thousands of them, dating from the early work of Harry Harlow to the present, that words do not matter and cannot permanently ease the pain.

Ideas arrived hundreds of millions years after our instincts and feelings. Ideas are not the problem; they signal the problem, providing the words for it all. Changing ideas is not as important as feeling feelings in psychotherapy. It is those hidden feelings that so often drive us.

Let us not abandon the past in an effort to modernize current practice. Memory is medicine. Let us not eschew critical medicine in order to cure our afflictions.

In sum, there is a qualitative difference between events that

happened to us while being carried in mother's womb, and those events that happened after birth. It is a matter of irreversibility. What happens to us during gestation imprints a now-print memory that endures as if that were our genetic legacy. The physiology and later psychology revolve around this imprint. There are little or no compensating mechanisms that will right the ship. It adjusts to the imbalance and goes on from there. If the imprint includes a general passivity then the vital signs, temperature and blood pressure will accommodate themselves to this new state. After birth there is often the possibility to correct the imbalance. So, accommodations, which the body makes while we are in the womb, take on a genetic focus because it seems to occur so early in life and remains such a force.

Thus far we have been talking to the non-verbal brain! This brain is one that contains our history, our pain and our feelings, and ultimately, the one that can finally liberate us. We need to speak that language—one without words. We have to convince the brain that spouts words and ideas that it is necessary to go back to early life and relive—that lack of love—feelings that were too much to feel at the time. We have to convince that thinking brain to let go, let the lower brain systems emerge and breathe the air of freedom. It can be done. A cure is possible.

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