The Theoretical Basis for the Life Model

From *The Complete Guide to Living With Men*

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Appendix B

Research And Resources On Human Development

Many astute observers have given detailed descriptions of child development, particularly mental and verbal abilities. The last few years have produced a new level of observation. Several types of brain scans can now study actual brain activity and discover when and how the brain itself develops. Surgical studies have even studied individual brain cells--discovering such quaint things as brain cells that recognize and respond to facial expressions. Five theoreticians have strongly influenced my knowledge of the link between brain development and the growth of an identity.

Dr. Allan Schore from the UCLA School of Medicine has carefully described the many studies on development of the infant brain as it relates to the development of identity. In particular, he has studied the development of the orbital prefrontal cortex. It is called "orbital" because it sits right behind the socket (orbit) of the eyes. This is the part of the brain that is at the top of the command hierarchy and is connected to every major system in the body--even the immune system. It is the first part of the cortex to receive information from inside the body or outside as well. Dr. Schore's work is notable in describing how this part of the brain (which I have called the "joyful identity control center" in Chapter One) develops and works.

Summary of Bonding Development and the Senses

0 - 1.5 months	Taste, smell and temperature
1.5 - 3 months	Touch
3 - 12 months	Visual (facial expressions of emotion)
12 - 24 months	Auditory (voice tone)

Dr. Schore has written some of the best technical descriptions of current research on brain changes during the development of maturity. Some of the material in the first chapter of this book is based on a presentation by Schore of his soon to be published book *Affect Regulation and the Repair of Self.* He read portions of the manuscript at a conference on March 15, 1997 at the Newport Beach Psychoanalytic Institute. Dr. Schore has combined the theories and discoveries of three different disciplines in order to make sense of very complex and separate fields.

Dr. Schore's brain model is hierarchical which is a very important distinction from others I will mention. His diagram entitled *Schore's Right Brain Dual Corticolimbic-Autonomic Circuits* outlines the ascending levels of the brain's emotional control center. I find this hierarchy particularly significant because it explains why trouble at a lower lever will affect all the levels

above it. Schore's hierarchical three-level structure is the basis for the four level control structure in the right hemisphere described in chapters 2, 4 and 9. The top three levels of my model, the prefrontal cortex (4), cingulate cortex (3), and the amygdala (2) are directly from Dr. Schore's theory. The bottom layer (related to attachment) is suggested by the work of Dr. Siegel and the brain scans by Dr. Amen, who we will examine in a moment.

There are three distinctive elements to Dr. Schore's theories that, when combined, make his theories stand out above the others. First, is his understanding that brain structures function in a hierarchical way rather than a modular one. Second, his model is based on synchronization of brain activation in time "windows" not just brain area functions or biological states. Third, Dr. Schore's brain model is both individual and mutual--subjective and intersubjective. What we can make of this is a brain where small critical areas make great differences to the rest of the brain. The overall performance of the brain is not simply a matter of what its parts can do but what they do together at a given moment in time. And our brains are not so private and locked in our skulls as we might suspect, but rather share powerful, mutual states of mind at given moments in time with other brains. These states are so closely linked that we can conceive of both an individual and a mutual mind, which must both be running well across the entire lifespan. We will return to this discussion in a moment after we examine other contributors.

Dr. Erik Erikson of Harvard was unusual in that he developed a model of human growth that did not stop with childhood but continued across the lifespan. Erikson's eight crises provide us with a useful description of development. Although he was not involved in brain growth studies, later research has found that some of Erikson's crises represent a switch in development from one side of the brain to the other. The first crisis represents right hemisphere growth, the second is left hemisphere, the third is right hemisphere. The connections between what he observed and brain development in infancy have greatly expanded as new methods and technology have been developed. The massive amounts of current knowledge have been collected and summarized by three researchers in particular—Dr. Schore, Dr. van der Kolk and Dr. Siegel.

Dr. Bessel van der Kolk from Boston University School of Medicine and Harvard University has done in-depth study in the area of trauma and deprivation. Dr. van der Kolk has written summaries of early bonding research and added his own studies on the effects of early traumas at different ages. From this work we can see the tremendous deficits caused by early psychological injuries and deprivations. He details the neurotransmitter, immune system, biochemical, developmental, and social impacts of early deprivation, loss and trauma. He points out that there are critical periods for attachment and brain growth. Early trauma results in a life-long inability to regulate affect (emotion). He describes the major neurochemical imbalances and deficits resulting from early deprivation. Both he and Dr. Schore have synthesized the results of many neurobiological and biochemical studies that relate to attachment and describe what can go wrong.

Dr. Daniel Siegel from the UCLA School of Medicine has written the best synthesized treatment of attachment and brain development. As someone "down stream" from Dr. Schore, Dr. Siegel has been able to expand on Dr. Schore's theories. Dr. Siegel has done a particularly outstanding job of examining the relationship between the left hemisphere's functions and the control center

in the right hemisphere. While his approach to the brain is more modular and less hierarchical, Dr. Siegel has done a marvelous job with explaining the synchronization of the brain based on: development, memory, attachment style and mutual story telling.

ADDITIONAL SOURCES

Dr. Daniel Amen has scanned over 12,000 human brains. As a psychiatrist interested in the brain's impact on emotion and personality and a practitioner of nuclear medicine, Dr. Amen has found brain patterns behind many common problems. His prolific writings, speaking, teaching and website www.brainplace.com are excellent sources of information on the brain. Dr. Amen proposes a wide variety of specific solutions from diet to brain training for each brain region he has studied. Dr. Amen has a fairly modular approach to the brain that provides clear and simple identification of activity levels associated with personality problems. His modules quite closely parallel the areas mentioned by Dr. Schore in his theories. Dr. Amen's work is excellent.

The advantage of Dr. Schore's hierarchical model over a modular one is that a hierarchy in the brain establishes both an order of brain development as well as the order in which brain functions break down if there are problems. For example, in a modular approach like Dr. Amen uses he will simply find out which modules are working and which are not and prescribe solutions for each. Dr. Schore's hierarchical model predicts that if the middle level (the cingulate cortex) is not working, the top level (orbitofrontal cortex) will also be impaired as will the synchronization between hemispheres. You get more for your nickel with a hierarchical model.

Dr. Siegel, Dr. Antonio Damasio and Dr.Vilaynur Ramachandran all create brain models based on interactive modules. These non-linear models depend strongly on the activity of the reentry circuits described by Dr. Gerald Edelman. These are faintly hierarchical concepts. Dr. Guilio Tononi, however, dismisses the modular approach entirely and depends instead on temporal synchronization and the brain's five chemical value systems for his explanations. These five chemical value systems are: dopamine, serotonin, epinephrine, norepinephrine and acetylcholine. These value systems are powerful in that they affect the responses of the brain in a global way when they are activated. These value systems feature prominently in Dr. Schore's hierarchical model that, like Dr. Tononi's, depends strongly on temporal synchronization for its explanations.

The work by Dr. Ronald A. Ruden and Marcia Byalick in *The Craving Brain* and that of Dr. Harvey Milkman and Dr. Stanley Sunderwirth in *Craving for Ecstasy* point to the importance of the nucleus accumbens in addictive behaviors. This part of the mesocortical pleasure system in the basal ganglia attaches to both the orbitofrontal cortex and subcortical structures in Dr. Schore's model. Dr. Ruden discusses the interaction of the serotonin and dopamine value systems in the nucleus accumbens while Dr. Milkman stays primarily with the dopamine system with slight attention to the norepinephrine arousal needed for cravings. While neither of the books on cravings takes into account the central role of attachment in stimulation of pleasure and pain, Dr. Schore's theory makes both the pleasure and quieting functions of the pleasure/satiation system a direct product of attachment. Together with Dr. Siegel's explanation of how the brain manages not to know about its own pain, these writers provide a powerful model of how attachment failures produce the destructive cravings of badly bonded men.

Evidence would suggest that the emotional brain is synchronized internally at five levels with primacy given to the right hemisphere at all levels except the fifth and highest where the balance shifts based on our level of distress. The first level is the attachment system in the deep limbic area. This level determines what and who is personal to me. This level determines my personal reality. Level one is strongly tied to the dopamine value system. The second level controls approach and avoidance, giving and receiving. This system, at the level of the amygdala is tied to the epinephrine and norepinephrine value systems. With these two systems we control our alertness and action. The third level of synchronization involves the emotional energy levels and interpersonal reality in the cingulate cortex. This level synchronizes the brain internally and synchronizes with other minds externally. The cingulate cortex synchronizes the activity present in the different lobes of the brain as information is received and sorted. Level three can synchronize the activity of two minds into one point of view. This third level seems to synchronize serotonin and norepinephrine value systems associated with quieting and arousal. The fourth level of synchronization involves the direction of attention. Attention is the only resource humans have to offer. The orbitofrontal cortex at level four controls the serotonin system and with it the capacity to soothe and quiet the dopamine, epinephrine and norepinephrine arousal. Level four can synchronize the activity of three minds and three points of view. The fifth level of synchronization is between experience in the right hemisphere and explanations in the left. It is this synchronization that is tested by such methods as The Adult Attachment Inventory (AAI) and the TheoPhostic® process for addressing unresolved distress from the past that intrudes into current life.

The four level control center in the right hemisphere presented in this book is a result of combining the work of these doctors. Not one of them can be said to agree with my four-level model although Dr. Schore clearly established the top three levels in his hierarchy of the brain. In addition, my vision of hierarchically synchronized modules shaped and conditioned by five value systems would exceed what any one of them would propose. Dr. Schore and Dr. Siegel would certainly agree however that we have both individual and group minds and that synchronization is not just a matter of internal brain levels but of interpersonal states of mind as well.

The material from Schore, Seigel, van der Kolk and Amen forms the basis for what I have written on the brain development. I have tried to teach these ideas in common English and in word pictures. The result is clearer but less precise. Any errors or misrepresentation of their work are purely mine.

THE LIFE MODEL

The LIFE Model is, as its name implies, a model for life from conception to death. It is an idealized model, that is to say, it proposes what life should be like as opposed to merely describing what life on earth generally produces. In short, the LIFE model proposes that in order to thrive people need five things:

1. A place to belong

2. To both receive and give life
3. The capacity to recover from malfunctions
4. Maturation
5. To stay true to their identities

Expansions on many of these themes can be found in my books including this one, which is an expansion of the maturity component of the LIFE model. The staff at Shepherd's House recorded the most concise expression of these elements during the latter part of the 1990s in a small book called *The Life Model.* This book is now in Spanish and Russian with translation underway into Korean with other languages being considered for the future. *Bringing the Life Model to Life: The LIFE Model Study Guide for Individuals and Small Groups* further expands and applies these themes.

ERIK ERIKSON'S DEVELOPMENTAL STAGES

Erik Erikson developed a model of human growth that he divided into eight stages, each one with its own crisis. In the years since his observations were made, brain development studies have shown that the brain goes through profound growth changes during many of these stages. It is currently theorized that, during important transitions the brain goes through a time of reorganization and then functions differently after that point. Without help from older brains, these transitions leave the newly transformed brain in a state of disorganization. Stages of development are physical as well as mental and social.

Erikson's Eight Crises:

1. BASIC TRUST VERSUS BASIC MISTRUST: ages 0-1, I am what I am given. The infant's identity develops out of what he is given and how he is treated.

2. AUTONOMY VERSUS SHAME AND DOUBT: ages 1-3, I am what I will. The infant thinks of himself in terms of what he can do often, pulling his hand away and insisting on doing things himself.

3. INITIATIVE VERSUS GUILT: ages 3-6, I am what I imagine I will be. The child becomes the things and people he dreams he is. He loves to pretend and try new things.

4. INDUSTRY VERSUS INFERIORITY, ages 6-13, I am what I learn. The child begins to see that he must learn things he does not yet know. He sets out on quests, adventures, and conquests. Dreams become real.

5. IDENTITY VERSUS IDENTITY DIFFUSION: ages 13-19, I am all of the above. Each aspect of identity must be combined with the others to become an adult who contains all these attributes.

6. INTIMACY VERSUS ISOLATION: Young adult. He must now learn how to maintain himself in close harmony with others.

7. PRODUCTIVITY VERSUS SELF-ABSORPTION: Adulthood. He is now challenged to be the source of good things.

8. INTEGRITY VERSUS DESPAIR: Maturity. Now his soul must be capable of maintaining itself and his influence even if he loses some abilities and strength.

As can be observed, my *LIFE* Model stages generally combine two of Erikson's into one. There are several reasons for this. First, the categories I use, infant, child, adult, parent and elder are generally recognized across cultures and languages. Second, these are the categories mentioned in scripture. Third, my categories are usually used with the qualifier *young* by language, culture and scripture to indicate that those in the early part of the stage are different from those in the later part of the stage. So a *young man* is known to be different from a *man*.

Example:

	***LIFE* Model**	**Erikson's Crisis**	**Neurobiological**
INFANT STAGE			
	Infant 0-1	Trust versus Mistrust	Right Hemisphere Growth
	Toddler 2-3	Autonomy versus Shame	Left Hemisphere Growth
	WEANING - Reorganization of brain structure and identity		
CHILD STAGE			
	Young child 4-6	Initiative versus Guilt	Rt. peak at 4, Lf. peak at 6
	Child 7-12	Industry versus Inferiority	Rt. peak at 8, Lf. peak at 12
	RITE OF PASSAGE - Reorganization of identity		
ADULT STAGE			
	Young adult 13-17	Identity vs. I.D. Diffusion	Right Hemisphere Growth
	Adult 18-24	Intimacy versus Isolation	Left Hemisphere Growth
	BIRTH OF FIRST CHILD - Reorganization of identity and brain growth		

The periods of right hemisphere growth are important as they constitute the best times for bonding as well as for forming new identities. This observation is based on the right hemisphere's dominance for emotions, relationships and bonding. This is also where the most remediation can be done for existing bonding deficits. The best time to improve bonding, self-control, emotional expression and correct relational problems is during right hemisphere growth. During these times the right hemisphere may be more open to new experiences. These are the emotional intelligence development times. Conversely, verbal and logical development is best corrected or improved during left hemisphere growth. The times of left hemisphere growth are best for introspection and learning to speak about one's internal world to others.

PERIODS OF RIGHT HEMISPHERE GROWTH

AGE	STAGE	MAIN OBJECT
0-2 years	Early infant	Mother
4 years	Early child	Father
8 years	Late child	Friends
15 years	Early adult	Mate
First child	Early parent	Baby

It is important to note that the metamorphosis for the mind, body, and social development that occurs between stages, will be attempted by the developing individual's brain based on an internal schedule. He or she is run by a biological clock as inexorable as the one that begins childbirth at about nine months. This means that each metamorphosis is attempted whether the child is being guided or has been abandoned. His attempts to grow continue even after an identity transformation fails. The child's capacity to live and mature will simply be diminished greatly from that point onward.

Writers, such as Harville Hendricks have developed descriptions of what adults are like if they get stuck at one of these developmental crises. Hendricks particularly focuses on the effects which getting stuck produces in love relationships and mate selection. Notice the importance of this connection between the failure to grow up properly and adult life. Omitting or distorting any stage of development will produce a deficit in all the stages that come afterwards. Once again we see the power of a hierarchical model, this time of maturation. Further examples and tables can be found in *The Life Model*.

As can be seen, these stages can be broken down into many smaller steps, accomplishments and developments such as Jean Piaget has done with cognitive development or Kolberg has done with moral development. I believe that the five stages of the *LIFE* Model are sufficiently clear and useful for community use, while admitting that there is a sixth stage--prenatal. This sixth stage is actually the first in line. Counting this stage, man has a perfect six stages. As with the other five stages, the forty or so weeks of prenatal life also can be divided into substages or steps. That would be another book. The way we are made is awesome!

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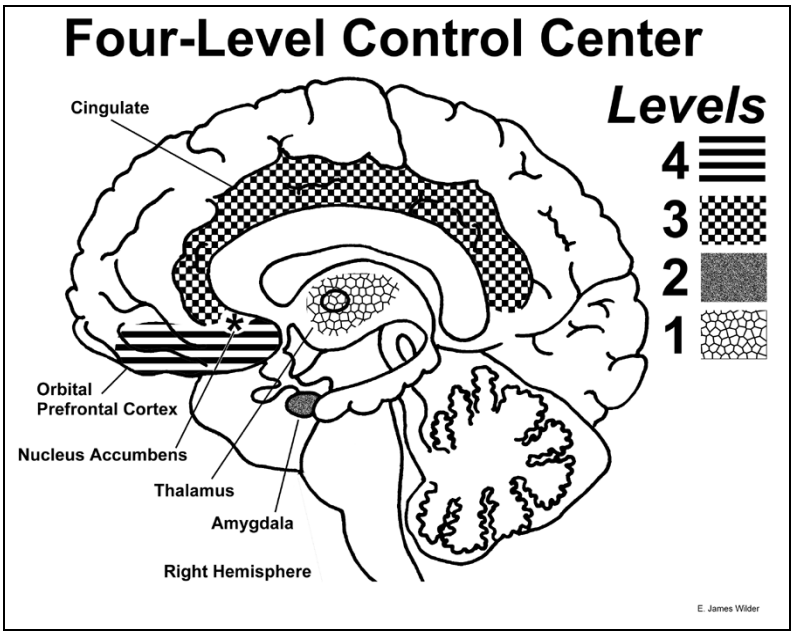

Figure 1 Right Hemisphere Four-Level Control Center Brain Model