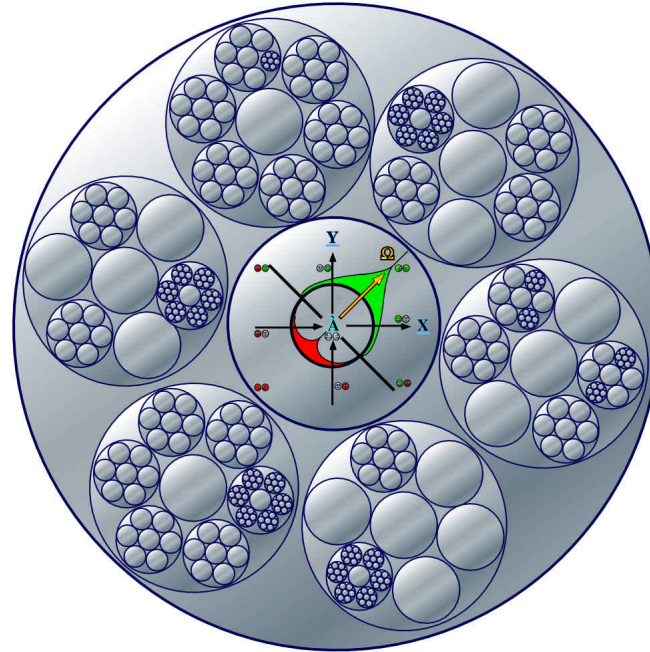


Timothy Wilken, MD



Local Physician, Synergic Scientist,
and Perennial Student

www.SynEARTH.net



Science of Mind

Opening Treatment

A Time for Healing

Timothy Wilken, MD

Thursday Evenings 7:00 to 8:30 PM

A continuing program of events consisting of lessons, meditations, exercises and discussions on health and wellness. Each event is designed to be meaningful, and useful in its own right, but experienced together, they form a whole that is greater than the sum of their parts.

A Manual for the Dual Mind

The Discovery of Duality

Robert Ornstein writes: “Diocles of Carystus, in the fourth century B.C., understood that the functions of the two sides of the brain differed, and in the way that most modern scientists see it. He wrote, “There are two brains in the head, one which gives understanding, and another which provides sense perception. That is to say, the one which is lying on the right side is the one that perceives; with the left one, however, we understand.” ”

“Diocles’ insight was misplaced by more popular but erroneous concepts of human intelligence for the next 2200 years. Duality doesn’t get mentioned again until the 18th century. When in 1780, Meinard Simon Du Pui will write that man is *Homo Duplex*, possessing a double brain.

Marc Dax

Ornstein continues: “Then 25 years later the French physician Marc Dax will have great opportunity to study the human brain as a military surgeon treating soldiers from the Napoleonic Wars suffering with head injuries and cerebral damage. In 1836, the year before his death, he wrote a paper that for the first time linked speech directly to the left hemisphere.

“Unfortunately, his paper was published locally and not seen outside of France.”

Wigan

“A few years later a London physician Arthur Ladbroke Wigan would gain a sudden understanding of duality. While viewing an autopsy of one of his patients, he was thunderstruck when the skull was cut open to reveal that one of the patient’s cerebral hemispheres “was entirely gone,” even though he had earlier spoken with the man and, as he wrote, the patient “had conversed rationally and even written verses within a few days of his death.”

“Wigan concluded that if one cerebral hemisphere was capable of supporting a fully functioning mind and personality, it followed that normal humans with two intact cerebral hemispheres must have two minds.”

Jackson

Ornstein continues: “In 1864, Hughlings Jackson also raised the point that the right hemisphere may act as Diocles stated, for "perception." And he corroborated it in 1872, when he described a man with a left hemianopsia (a blindness in the left side of the seen world, due to right-hemisphere damage) who could not recognize people, including his wife, places, or things.”

Jackson continued to study and write on the duality of human intelligence publishing seminal papers in 1874 and 1876. Both Wigan and Jackson grasped the notion that human intelligence was the resultant “whole” that emerged from the working together of both hemispheres. Many of their contemporaries misunderstood the synergic relationship of this duality and soon the idea of an advanced mind coexisting with a very primitive mind became popular.

Jekyll and Hyde

Ornstein continues: “The most famous portrayal was Robert Louis Stevenson’s development of this scenario into his 1886 *The Strange Case of Dr Jekyll and Mr Hyde*. This work makes use of the left hand-right hand duality, the doctor as the portrait of the cultivated left hemisphere and Hyde as the “primitive” right hemisphere that must be restrained.

“I suppose if Dickens had written “A Tale of Two Hemispheres,” he might have begun it with “It was the best of minds, it was the worst of minds.”

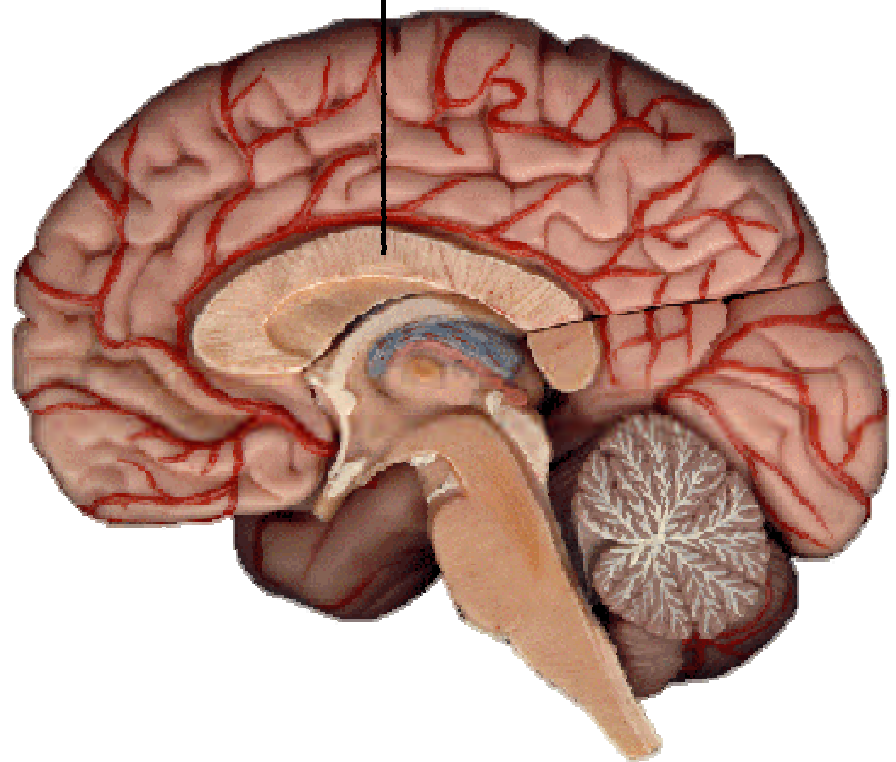
Roger Sperry

In the late 1950s, scientist Dr. Roger Sperry designed a series of elegant experiments that would clear the way for a fuller understanding of duality. Normally, both cerebral hemispheres of the mammalian brain are linked through the cerebral commissure or *corpus callosum*, which is built up of hundreds of millions of nerve fibers. When Sperry began his experimental studies on animals, the functional significance of these connections between the two cerebral hemispheres was entirely unknown.

Sperry began conducting research on cats by severing or cutting the corpus callosum. The corpus callosum is a bridge of neurological tissue that connects the the right and left cerebral hemispheres of the mammalian brain.

Corpus Callosum

It is now known that the right and left cerebral hemispheres coordinate and cooperate by communicating across this neurological bridge.



When the corpus callosum is cut and the mammalian brain is divided by this surgical procedure it is described as a “split-brain”. These so called "split brain" experiments were performed by Sperry and his associate Ronald Meyers in a laboratory at the California Institute of Technology.

Phillip J. Vogel

In 1961, coincidentally not far from Sperry's laboratory at CalTech, Los Angeles Neurosurgeon Phillip J. Vogel was creating a new procedure to transect the bridge between the right and left cerebral hemispheres of human patients as a treatment for severe epilepsy. This rather drastic treatment was reserved for those patients whose seizures could not be controlled with medication. Seizures are the result of abnormal electrical discharge throughout the brain. By cutting the connection between the right and left brain the abnormal electrical activity could be contained within one hemisphere and the seizure limited to one side of the body. Vogel called his new surgical procedure a callosotomy, the transection of the corpus callosum. The majority of his patients showed improvement as well as a decrease in the frequency of epileptic seizures.

Joseph Bogen

When Joseph Bogen, a Neurosurgeon and colleague of Vogel's became aware of Sperry's research he recognized that Vogel's technique was remarkably similar to the surgery that Sperry and Meyers had performed on their "split-brain" cats and monkeys.

Bogen realized that a unique opportunity for studying human brain organization was at hand. He envisioned the careful study of those human patients who were having the bridge between their right and left cerebral hemispheres transected as a treatment for severe epilepsy. Bogen realized that the careful follow up experiments that Sperry had designed to study the effects of the surgery could be modified for use with human patients. Bogen approached Sperry and an alliance was formed.

Split Brain Experiments

Bogen's work has shown us that the processing of information within the two hemispheres of humans is distinctly different. Sperry and his associates concluded that not only could each side of the brain work independently, each side seemed to use a different mode of thinking.

Studies with these “split-brain” patients as well as studies of the electrical activity from each side of the brain in normal subjects indicate that the left side is dominantly involved in speech, the use of symbols, analysis and logic, and keeping track of time, while the right brain is dominantly involved in visual, spatial, and musical activities, and the insight and synthesis that go on through imagination and daydreaming. The right brain also seems to have an important role to play in the translation of ideas into physical action.

Space-Time Intelligence

“Space and Time are modes by which we think, not realities by which we live.” —Albert Einstein

Human intelligence results from the complex relationship of two minds—the Space-mind and the Time-mind. Understanding their relationship will take some careful thinking. They sometimes function as separate units. They sometimes function in conflict. They sometimes function in co-Operation. All humans have both a Space-mind and a Time-mind, but often they are developed to different degrees. As I describe and compare these two different ways of thinking. You can think along with me. Every reader has his/her own Dual-Mind. So pause and think about how you think, and understanding will emerge easily.

A good way to begin understanding these two very different ways of thinking is to compare them. Although comparison implies separation, these two minds are rarely separate. This separation is to aid understanding, remember there is always more to the story.

Our time-mind likes to separate things into parts. This separation often aids understanding, but somethings can never really separated. The Dual Mind is one of these.

I will list the characteristics of the Space-Mind in the left column, and those of the Time-Mind in the right column.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
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The space-mind is responsible for *survival* in space. The space-mind also *moves* your body in space. The space-mind dances. The space-mind walks. The space-mind jumps. If you are a bird the space-mind flies. The space-mind crawls. The space-mind leaps through the trees. The space-mind controls *motion* and behavior in space.

Moving well and quickly is often necessary for survival.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	
Mobility	

The time-mind is in charge of *understanding*. It can understand because it is aware of time. It is aware of changes that occur over time. Through it's awareness of time it has developed the ability to analyze reality. By noticing the changes that occur over time, it has the ability to figure things out. It can notice what comes before what. It can determine what events cause what effects. It can notice what events precede other events in what sequences. With understanding comes the ability to *predict* and *control* sequential process. If I understand how to make a fire, I can stay warm and cook my food.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control

The space-mind is focused on “BEING”. “To be or not to be” is a question of survival and the space-mind is in charge of survival. “BEING”—How do I feel? “BEING”—Am I surviving well? The space-mind focuses on the PROCESS of life. How am I being treated? How does reality feel to me?

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control
BEING	
Process	
Feelings	

The time-mind is focused on “BECOMING”. Am I making progress? Am I getting ahead? Am I getting the things done I need to do? Did my kids do well today in school? Am I saving any money? The time-mind is interested in time—past, present, and future. It is concerned to see things progress in time. The time-mind focuses on the CONTENT of life. What are my accomplishments? What have I achieved? Am I becoming successful? What is my opinion of my reality?

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control
BEING	BECOMING
PROCESS	CONTENT
Feelings	Opinions

Space-mind thinks in *pictures*. Space-thinking appears to be located mostly in the right cerebral hemisphere. The space-mind appears to operate as an SPACE ASSOCIATIVE PERCEIVER, thinking in *pictures—multi-sensorial images—and feelings*. Its primary goal is to insure personal survival in Universe. This mind is very similar to higher animal intelligence. Space-mind *perceives* Universe. What is the whole picture? Survival requires speed. Do I fight or flight? Its focus is wholistic.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
pictures	
SPACE ASSOCIATIVE PERCEIVER	
wholistic	

Time-mind thinks in *words*. Time-thinking is located primarily in the left cerebral hemisphere. The time-mind appears to operate as a TIME ANALYTICAL CONCEIVER, thinking in word-symbols and organizing these words into *opinions*. Its primary goal is to understand Universe so it can predict and then control Universe. This is the mind that is unique to human intelligence. Time-mind *conceives* Universe. In order to understand it breaks things down into parts. Its focus is *particulate*.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
pictures	words
SPACE ASSOCIATIVE PERCEIVER	TIME ANALYTICAL CONCEIVER
wholistic	particulate

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control
BEING	BECOMING
PROCESS	CONTENT
Feelings	Opinions
pictures	words
SPACE ASSOCIATIVE PERCEIVER	TIME ANALYTICAL CONCEIVER
wholistic	particulate

SPACE-MIND

TIME-MIND

=NOW=

The space-mind lives in the *=now=* moment. All action occurs in the present. There is no past or future. In the space-mind, I was born this morning, married at noon, retired in the evening, and I am going to die at midnight. Space-mind experience is simply one long continuous now. The present moment focus of the space-mind means that when it comes to your feelings, all emotional injuries and insults even those from early childhood are processed as if they just occurred this morning. If you are very angry with someone, it can be twenty-five years later and you still feel very angry. Reality is experienced as just one big *=NOW=*.

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
<i>=NOW=</i>	<i>Past-> Present-> Future</i>

The time-mind lives in the past—> present—> future. It understands the passage of time. Why? Think about words. Words are a sequence of letters—w»o»r»d»s. Words have a beginning, a middle, and an end. Think about sentences. Imagine looking at me as I turned my head sideways and spoke a sentence. If you could see the spoken words as they left my mouth, you would see a sequence of words. —> The» quick» brown» fox» jumped» over» the» lazy» dog —> Sequence —> 1»2»3»4»5 —> Sequence —> A» B» C» D» E» F —> sequence. Past—> Present—> Future .

<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control
BEING	BECOMING
PROCESS	CONTENT
Feelings	Opinions
pictures	words
SPACE ASSOCIATIVE PERCEIVER	TIME ANALYTICAL CONCEIVER
Wholistic	Particulate
=NOW=	Past->Present->Future

Sequence

The time-mind's sensitivity to *sequence* allows it to analyze process. First A then B then C then D» Etc.»Etc.. *Sequence* is an ordered linear chain. This leads to the concept of causality. An event that consistently occurs before a following event is thought to cause the following event. First something causes an effect then that effect becomes the cause of yet another effect and so on. Thus, the time-mind comes to understand process through its temporal analysis of sequence and linear order.

Cause¹»Effect¹

Cause²»Effect²

Cause³»Effect³

Cause⁴»Effect⁴

...

Causeⁿ»Effectⁿ

Cause and Effect

This ability to sequence is the secret of the time-mind's ability to understand.

Time-mind has the ability to analyze sequence and determine cause and effect relationships and come to understand. This leads to the ability to make predictions.

When I see Cause¹, I can predict Effect¹, when I see Causeⁿ, I can predict Effectⁿ

Intuition & Reason

The Space-mind is the home of *intuition*. Intuition is seeing the pattern of the parts and *synthesizing the whole*. I sniff the scent of the tiger. I imagine the whole tiger. I run. Intuition is a powerful tool for *survival*.

The Time-mind is the home of *reason*. Reason is seeing the pattern of the whole and *breaking that pattern into parts*, then by analyzing and sequencing the parts it can first *understand* and then *predict* and *control*.

Rationality and Morality

Space-mind does not comprehend rationality or morality. These are understandings only available to the time-mind. Rationality and Morality are the result of **consequence**. This is the source of many problems in human culture. The space-mind is not irrational. It is arational. The space-mind is not immoral. It is amoral. The space-mind does what “feels right”. It doesn’t have any opinions.

The time-mind is nothing but opinions. The time-mind understands sequence. And so, it can understand the **consequences** of its actions. It can know right from wrong. The time-mind chooses actions that are either rational or irrational—that are either moral or immoral. It can learn and understand the the difference between right and wrong.

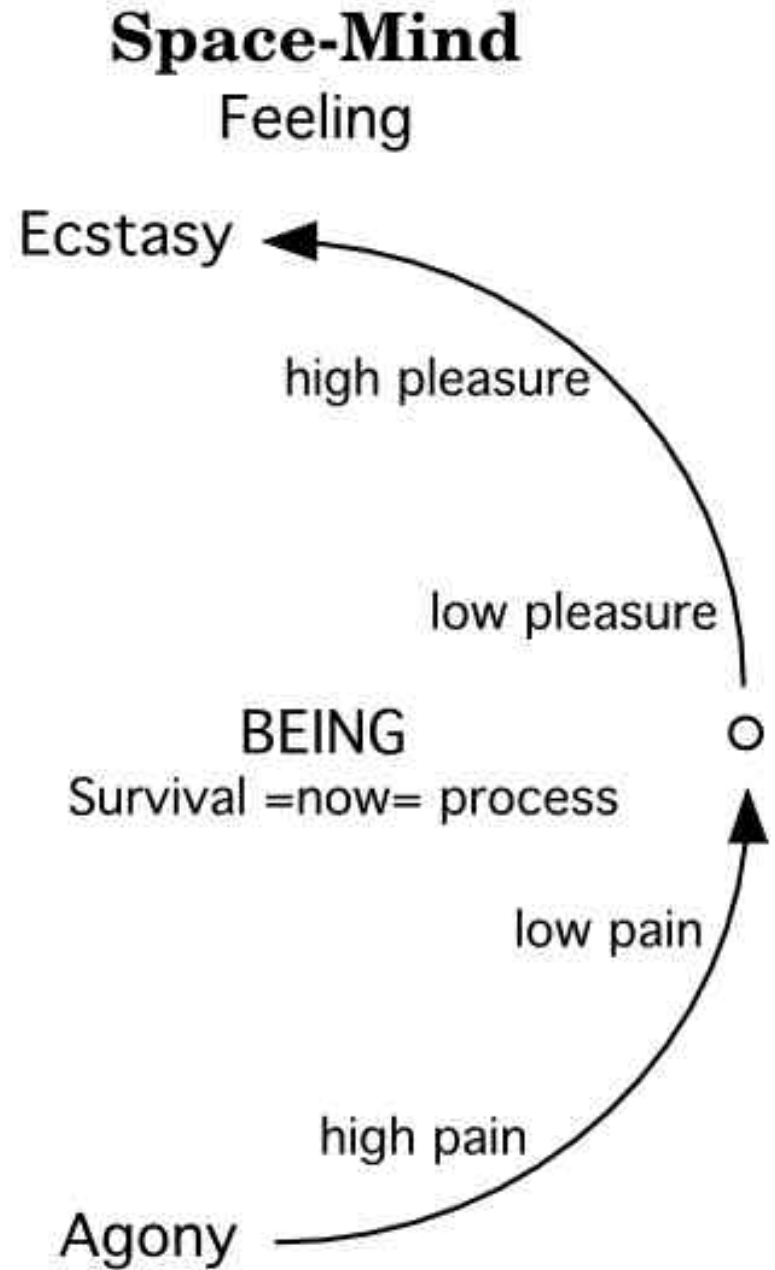
<i>SPACE-MIND</i>	<i>TIME-MIND</i>
Survival	Understanding
Mobility	Predict & Control
BEING	BECOMING
PROCESS	CONTENT
Feelings	Opinions
pictures	words
SPACE ASSOCIATIVE PERCEIVER	TIME ANALYTICAL CONCEIVER
Wholistic	Particulate
=NOW=	Past->Present->Future
Intuition	Reason
aLogical aMoral	Logical or illogical Moral or immoral

Space-mind Decision Making

Remember the animal mind is a space-mind. Animals move toward pleasure and away from pain—toward *good space*—away from *bad space*. My cat comes running when he hears the automatic can opener. He jumps into my lap to get a good rub. He runs away when hears the bark of a dog, or the slam of a door.

The space-mind has only one goal—survival. Once achieved, the space-mind is content. It has no need to become, no need for achievement, no need to accomplish anything more than survival. My house cat once he has obtained shelter and good food has no need to do anything more. He is willing to lie by the fire, day after day, year after year—totally content with his full belly and his masters stroking hand. But if he encounters pain he gets away from it as fast as is possible. And few animals move as fast a “scalded cat”.

The space-mind's purpose is to secure survival for the body. When its decisions produce *high survival* it feels *pleasure*. When its decisions produce *low survival* it feels *pain*. The space-mind tries to guide the organism *towards pleasure* and *away from pain*. *Very high survival* is called *ecstasy*. Sexual orgasm feels very good because reproduction of the organism is the most powerful form of biological survival. *Very low survival* is called *agony*. Space-mind makes all its decisions by moving *towards pleasure* and *away from pain*. *To be or not to be* is a question of survival. Is my *being* pleasurable or painful.



Time-mind Deciding

The time-mind works in totally different fashion. The time-mind is concerned about becoming. To become somebody, I need to understand. And, if I understand something I know what it means. So understanding, allows me to develop meaning in my life. Meaning and becoming are tied integrally to understanding.

Understanding leads us to predict what will happen and with accurate prediction, I can control. We humans judge our lives by how the events in our world compare to our predictions. So if nothing is going the way I predict it should—If nothing is the way it *ought to be*, I feel depressed.

Depression & Excitement

Disappointment and *depression* result when our lives are not working as we predict they *should*. I predict a well deserved raise in my salary, but instead I get fired. I predict the pleasure and enjoyment of a brand new car, but I buy a lemon. I predict my wife will throw me a surprise birthday party, but she doesn't even remember my birthday.

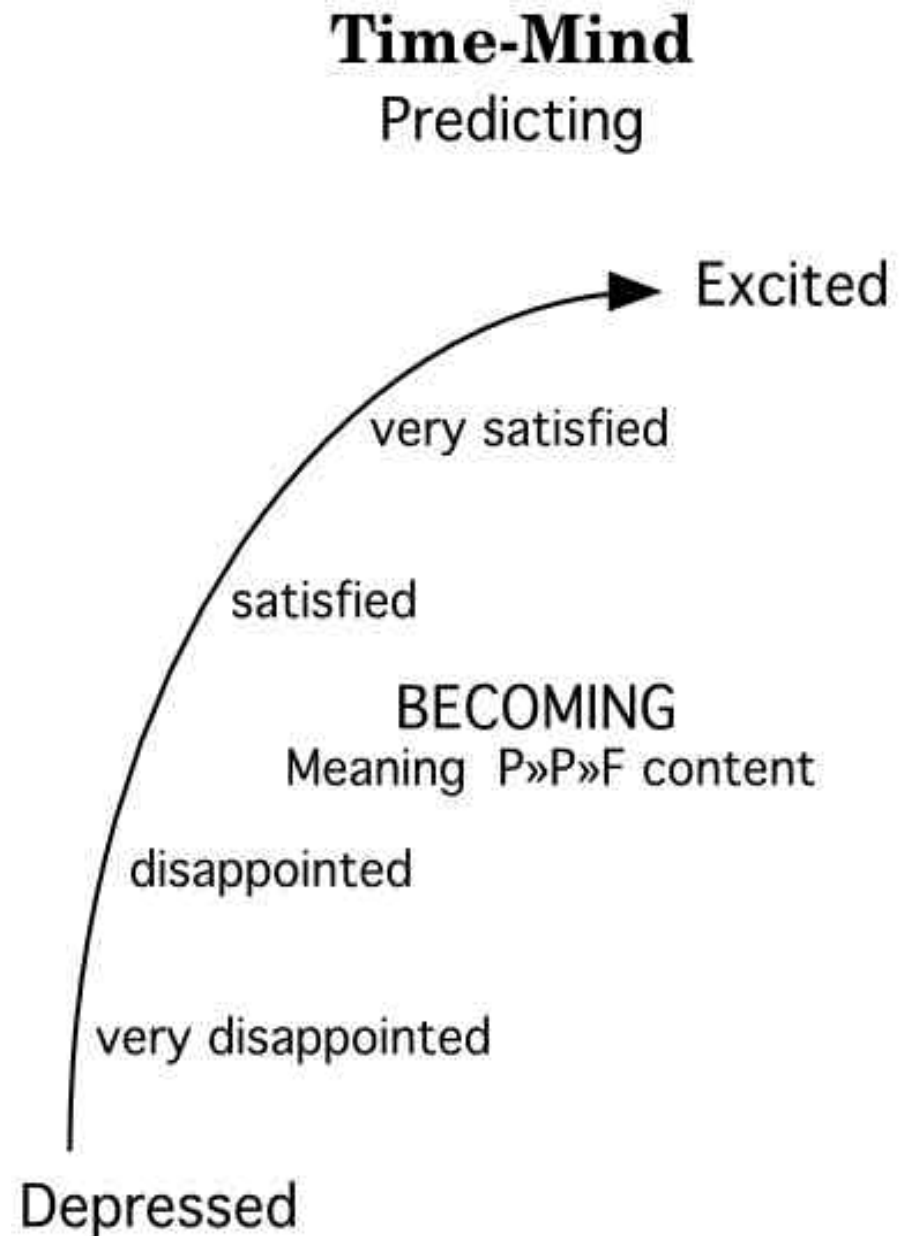
When life does not occur as I predict it *should*, I am *disappointed*. When my experiences do not become what I expect they *should*, I am *depressed*. And, just the opposite, when things go the way I predict they *should*, I am *satisfied* and *excited*. I predicted I would win the award as an outstanding employee, and I won the award. I predicted I should get a new car, and I did and its even nicer than I imagined. I wanted my spouse to celebrate my birthday, and she threw me a marvelous party with all my friends.

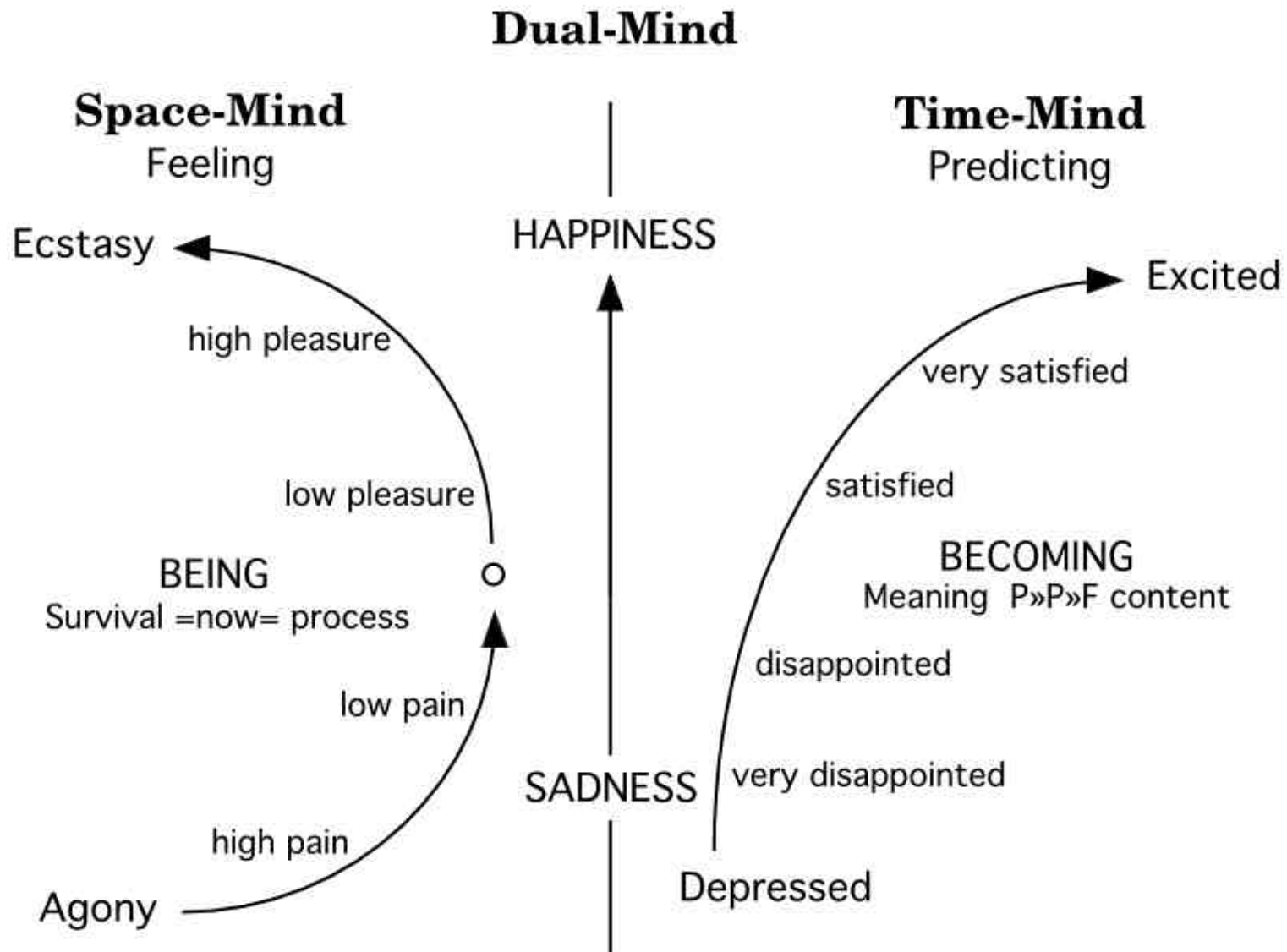
Now let us examine the spectrum of our prediction accuracy. We can have very low prediction accuracy—very low meaning. Life can be depressing.

We can have low prediction accuracy—low meaning. Life can be disappointing.

We can have high predictive accuracy—high meaning. Life can be satisfying.

We can have very high predictive accuracy—very high meaning. Life can be exciting. Things are going the way I predict they should be going. My life is meaningful. I am becoming a success. I feel in control.





Happiness is when my life is both *pleasurable* and *satisfying*. I feel *joyous* when my life is *ecstatic* and *exciting*. *Sadness* when my life is *disappointing* and *painful*, or God help me, *agonous* and *depressing*.



Develop Calmness for Self

Practice Unconditional Respect for Other

Be ready, able, and willing to change

Live your life intelligently and wisely

Live by Reality's Rules

Balance is the Key to Validation

Obtain meaningful survival by seeking pleasure and satisfaction