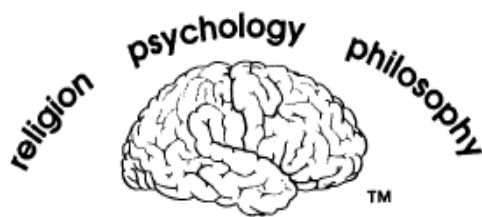


QUADRUNE MIND

Neurospirituality and the Four Minds of the Human Brain

STUDY GUIDE

Tom F. Shadid, Ph.D.



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Introduction

Paul D. MacLean, M.D. (1913-2007), former Chief of the Laboratory of Brain Evolution and Behavior of the National Institute of Mental Health, developed the triune brain model of consciousness. He believed that the human brain has three major subdivisions, each of which supports a different kind of mentality, or mind. Although some neuroscientists have criticized MacLean's description of the human brain's evolutionary history and structure, his approach to brain research continues to influence the field of evolutionary neuroethology. And his vision of human minds remains compelling.

Tom F. Shadid, Ph.D., following MacLean, presents the "Quadrune Mind." This model says that our behaviors, emotions, and thoughts are dominated by one of four mentalities, generally corresponding to MacLean's triune brain model. Alluded to by MacLean, the fourth mind, associated with the prefrontal cortex of the brain, provides the basis of our uniquely human spiritual consciousness. The quadrune mind model explains why, even though most of us have not fully developed our spiritual mind, we can still help each other become more Human.

Program Goals for Participants

1. Learn the philosophy of Paul MacLean's approach to brain research and evaluate the structural and functional usefulness of his triune brain model.
2. Possess a working understanding of the quadrune mind model of consciousness.
3. Use the question, "How is it neurologically possible that...?" to examine consciousness.
4. State the relationship between the quadrune mind and metaphysical beliefs.
5. Describe how the quadrune mind relates to the evolutionary history of the brain.
6. Describe how the quadrune mind relates to the developmental stages of the human brain.
7. Understand how afflictions of the human brain may cause dissociations of the adult mind into overly independent "pre-Human" minds.
8. Identify the three "pre-Human" mentalities by our reptilian-like, old mammalian-like, or new mammalian-like behaviors, emotions, and thoughts.
9. Learn how to help heal the dissociations of the minds of ourselves and of other people.
10. Answer the question, "What is it like to be a Human Being?"

Fee Schedule

The standard fee for presentations is \$200.00/hour. Expenses will apply outside of the Oklahoma City metropolitan area. The minimum fee is \$300.00. All fees are due at the time of the presentation, payable to: Quadrune Mind LLC. For additional information, please visit: <https://quadrunemind.com>.

Disclaimer

This material may be controversial for some people. Goals may not be fully achieved by shorter programs. No partial hours of professional education certificates, unless Board approved. No refunds for partial program attendance. Dr. Shadid is not licensed to provide direct psychological services to the public. Presentations are intended solely for informational or educational purposes.

Biography

Dr. Tom F. Shadid has a total of almost 40 years of mental health experience at the master's and doctoral levels of training. He did his predoctoral internship at the University of Virginia's Counseling Center in Charlottesville. He received his Ph.D. in Counseling Psychology in 1989 from Oklahoma State University, Stillwater. He has worked in various professional settings, including outpatient, residential, and private practice. Dr. Shadid retired as an Oklahoma Health Service Provider psychologist in 2014. Since 1997, Dr. Shadid has presented the quadrune mind model (aka "Neurospirituality") to a variety of interested people, including business, general public, religious, professional, and educational groups.

Brain Evolution Linked to Concern for Others

By Jacqueline Swartz

TORONTO—The evolution of the human brain has also meant a progression from parental responsibility to a concern for all humanity, according to a scientist at NIMH.

Paul MacLean, M.D., chief of the Laboratory of Brain Evolution and Behavior at NIMH, presented a special lecture at the American Psychiatric Association convention entitled "Evolutionary Brain Roots of Family, Play and the Isolation Call." The speech dealt in part with the development of the limbic system, the primitive cortex (found in reptilian brains) and its associated structures in the brain stem.

MacLean said the limbic system derives information in terms of emotions that guide behavior required for self-preservation and primal sexual functions. Scarring of the limbic cortex may result in epileptic storms in which the mind lights up with a variety of vivid feelings, including convictions of what is real and true. Limbic storms are confined to the limbic system, and may result in psychoses.

Separation cry

As the limbic system evolved, MacLean said, it developed new nerve cells that regulate three fundamental aspects of the family situation—maternal care, play and the isolation call—that are absent in reptiles. With the evolution from reptiles to mammals, he said, "there appears to have come into being a primal commandment: 'Thou shalt not eat thy young or other flesh of thine own kind.'"

The infant isolation call, long ignored as a research topic, is characteristic of all mammals and served originally to maintain contact with the mother. In the case of the human infant, MacLean said, "the so-called hunger cry can be more predictably elicited by separation."

Separation is calamitous, he added, and from it we can trace the evolutionary roots of units of the family, the clan and the society, as well as the human yearning for an abstract kind of unity.

The neocortex, necessary for language and speech, reaches its greatest development in humans. With its focus on the material world, MacLean said, it can be likened to a coldly reasoning computer, capable of devising wars and other cruel acts.

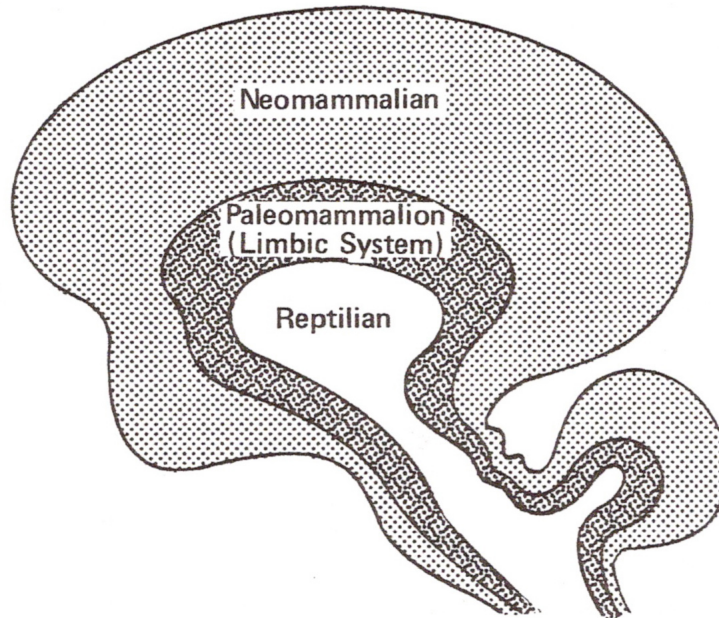
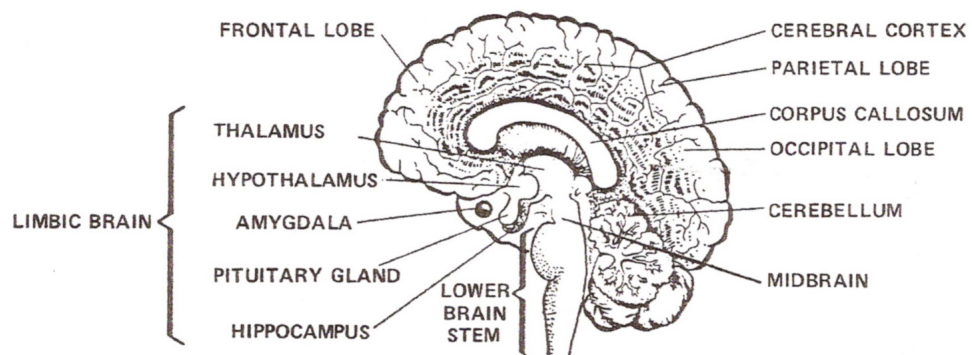
As if to counterbalance such a terrible genie, MacLean said, "nature began to enlarge that part of the neocortex—the prefrontal area—which for the first time in the world brings a sense of concern for the welfare of all living things."

The prefrontal cortex is the only part of the neocortex that looks inward, MacLean continued. It establishes strong connections with that part of the limbic system concerned with parental care. There is clinical evidence, he said, that the prefrontal cortex, by looking inward, obtains the gut feeling required for identifying with another individual.

"It is this new development," he concluded, "that makes possible the insight needed to plan for others as well as for oneself, and to use our knowledge to alleviate suffering everywhere."

APA Monitor (August 1982, p. 45)
[Now *Monitor on Psychology*]

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FIGURE 1. THE TRIUNE BRAIN**FIGURE 2. THE BRAIN**

Gevarter, W. B. (1982, March/May). Psychotherapy and the brain. *Man-Environment Systems*, 12, 73-88.

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QUADRUNE MIND AND LEVELS OF CONSCIOUSNESS OF THE HUMAN BRAIN

<u>Dominant “Sub-Brain”</u>	<u>Evolutionary Stage</u>	<u>Human Developmental Stage</u>	<u>Mind/ Level of Consciousness</u>
Brain Stem	Reptiles	Infancy	Reptilian/ Behavioral
Limbic System	Old Mammals	Childhood	Old Mammalian/ Emotional
Neocortex	New Mammals (Primates)	Adolescence	New Mammalian/ Intellectual
Prefrontal Cortex	Human	Adulthood	Human/ Spiritual

¹**mind** [Gk *menos* spirit, intent] **3c**: the sum total of the conscious states of an individual
3d: the sum total of the individual's adaptive activity considered as an organized whole
 though also capable of being split into dissociated parts < as the conscious and the
 unconscious ~ >.

Webster's Third New International Dictionary

EVOLUTIONARY TRAITS OF THE BRAIN

<u>Reptilian</u>	<u>Old Mammalian</u>	<u>Human</u>
Signature, Challenge, Courtship, & Submission displays	Nursing & Parental care Isolation or Separation call	Greatly expanded consciousness Autonoetic consciousness Episodic memory
Perseverative behavior: e.g., routines & rituals	Tropistic behavior with increased influence by contextual cues	Language, including Speech, Abstraction, and Irony
"Tropistic" behavior: responding to partial representations of things: Sign Stimuli, Fixed Action Patterns, Releasing Mechanism (Transference)	Social "Imprinting" (Avian) Olfactory sense dominant Sociosexual expression	Visual sense dominant (including Hindsight, Foresight, & Insight)
"Isopraxic" behavior: 2+ with same behavior (Parallel play)	Social grooming Functional altruism Social play	Conceptualization of Past & Future, Eternity Mortality "Chronesthesia"
Est. of homesite Showing place preferences	Harmonious family groups, usually of not more than 12 members	Theory of Mind Cognitive Empathy (Perspective taking)
Hunting, Mating Deception	"Species" identification: Predators, Prey, and One's own ("Socialization")	"Thinking together" (Active listening) Enhanced learning within a social context
Marking and Patrolling territory	<u>New Mammalian</u> Group-based culture, including morality Symbolic reasoning	To Accept (receive into the mind) Impermanence Conscience Inner healing
Ritualistic display in defense of territory with use of coloration and adornment	Tool-making Gestural communication	Able to humanize our own "Samaritans"/No one is demonized, including ourselves
Triumphal display in successful defense	Mother-infant mutual gaze Problem-solving collaboration, including hunting and conflict	Capacity to have a sense of responsibility to, and communion with, people never met, all living beings, and the earth
Est. Social hierarchy; e.g. by ritualistic display Courtship with coloration and adornment displays Breeding with isolated cases of parenting		

From "Brain Evolution Relating to Family, Play, and the Separation Call," by P. D. MacLean, 1985, *Archives of General Psychiatry*, 42, 405-417. Copyright © (1985), American Medical Association. All Rights reserved.
Adapted with permission of the publisher.

See also *The First Idea: How Symbols, Language, and Intelligence Evolved from Our Primate Ancestors to Modern Humans*, by S. I. Greenspan and S. G. Shanker, 2006, Cambridge, MA: Da Capo Press.

HEALTHY DEVELOPMENTAL STAGES OF THE HUMAN BRAIN

<u>Mind</u>	<u>Neurologically Available</u>	<u>Mind Becomes Dominant</u>
PRE-REPTILIAN (Somatic) Sensory reactivity, inc. hypo & hyper, and processing in each modality—tactile, auditory, visual, vestibular, olfactory. Motor tone & motor planning.	0 months	Pre-Birth
REPTILIAN (Behavioral) Self-regulation and emerging interest in the world. Purposeful communication. Intentional behavior.	2 to 4 months	During Infancy
OLD MAMMALIAN (Emotional) Represent or symbolize experience: pretend play or verbal expressions of feelings.	15 to 18 months	During Childhood (Or never)
NEW MAMMALIAN (Intellectual) Create logical bridges between ideas. Reason about right and wrong.	About 2 years	During Adolescence (Or never)
HUMAN (Spiritual) Able to self-observe & reflect on one's own & other people's inner feelings. Able to observe self in past & future, as well as present; and across space. Behavior, emotion, and thought are harmonious in spirit and intent.	About 3 years	During Adulthood (Often never)

From *Developmentally Based Psychotherapy*, by S. I. Greenspan, 1997, Madison, CT: International Universities Press. Copyright 1997 by Stanley I. Greenspan; and *The Growth of the Mind: And the Endangered Origins of Intelligence*, by S. I. Greenspan with B. L. Benderly, 1997, Reading, MA: Perseus Books. Copyright 1997 by Stanley I. Greenspan.
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AFFLICTIONS OF THE HUMAN BRAIN THAT MAY CAUSE A DISSOCIATION OF MINDS

(1) Maternal stress during pregnancy may alter the hormonal balance in the placenta, leading to disruption of normal brain development in the fetus, especially during the first or second trimester. The child may experience dysregulation of the hypothalamus-pituitary-adrenal (HPA) axis or reduced ability of the hippocampus to mediate stress responses.

(2) Infants born to mothers contaminated by mercury have profound neurological disabilities including intellectual disability and cerebral palsy. Environmental exposure to heavy metals (inc. lead, manganese, mercury, cadmium) has been linked to violent behaviors, alcoholism, cocaine use, learning disorders, language deficits, shortened attention spans, and slower reflexes.

(3) Exposure to alcohol may negatively affect neural development and functioning from the embryonic period through adolescence, as well as during adulthood, perhaps leading to psychosis, dyslexia, epilepsy, poor social and family relations, autism, and dementia. Effects can vary by age and by affected structures of the brain.

(4) Even by 3 months of age, well-cared-for babies are able to suffer discomfort without invoking the stress response versus babies who experience more chaotic, unstable, and resentful family origins.

(5) Emotional neglect in infancy/early childhood is associated with reduced pituitary production of the hormones oxytocin and vasopressin, which may inhibit positive social and sexual relations as an adult.

(6) Lack of physical activity during childhood may dampen cerebellar development. Deficient cerebellar enhancement limits not only physical coordination, but cognitive coordination as well. Virtually all higher abstract thought, such as mathematics, music, philosophy, decision making, and social skills, depends upon a well-developed cerebellum.

(7) Brain infections can lead to a wide variety of diseases; e.g., rabies with extreme restlessness, hallucinations, and death; or Rubella with intellectual disability.

(8) People tend to show psychopathic traits when they have brain damage to the paralimbic system. The paralimbic system assigns emotional value to experiences, and handles decision-making, high-level reasoning, and impulse control. Conversely, brain images of psychopaths tend to reveal underdeveloped paralimbic areas, associated with impaired emotional development. It appears that life experiences and genes equally contribute to the development of psychopathy.

(9) Epigenetics is the study of the epigenome. The epigenome is DNA (the genome) *plus* various environmentally caused biochemical markers that can attach to DNA. The resulting epigenetic marks on DNA may then turn on or off the expression of certain genes. The stress of maternal separation in mice can disrupt neural connectivity of the brain, and lead to poor social and cognitive functioning in descendants. A wide array of human traits, including obesity and intelligence, may be related to epigenetic inheritance. Epigenetic studies indicate that childhood abuse may damage the way certain stress-fighting genes function, leaving victims more vulnerable to stressful events throughout their lives. Because of epigenetic inheritance, it may take several generations for a population to recover from ancestral exposure to poverty, war, or dislocation.

THE FOUR MINDS OF THE HUMAN BRAIN

<u>Reptilian</u>	<u>Old Mammalian</u>	<u>New Mammalian</u>	<u>Human</u>
Behavioral	Emotional	Intellectual	Spiritual
Sub-emotional	Sub-intellectual	Sub-spiritual	800,000 to 200,000 years ago
About 335,000,000 years ago	About 220,000,000 years ago	About 75,000,000 years ago	Rapid brain enlargement and reorganization
First reptiles	First mammals	First Primates	
R complex Striatum Brain stem	Limbic System Paleocortex	About 6,000,000 ya First Hominins	About 300,000 ya First Homo sapiens
Infancy	Childhood	About 2,500,000 ya First Homo species	About 60,000 ya Conceptual Religion
Instinctual survival	Group survival		
Undifferentiated Object Relations	Attached (partially differentiated) Object Relations	Isocortex Neocortex	About 2,600 ya Philosophy
Highest Good: Homeostasis	Highest Good: Loyalty	Adolescence	Prefrontal cortex
High "Drama": Control of "others"	High Drama: Group conflict	Ideological survival	Adulthood
"Egoist"	Tribalism Colonialism Imperialism	Individuated Object Relations	Well-being of all
Defense mechanisms		Highest Good: Reason/Knowledge	Integrated Object Relations
		High Drama: Debates	Highest Good: Wisdom
Roles, Rules Ritual, Precedence Legalism, Militarism Habit, "Tells" Tradition, Elitism Conservatism Dogmatism	Wars Team sports Demagoguery Nationalism Irredentism Xenophobia Ethnocentrism Sexism, Mobism Denominationalism		No High Drama: Equanimity
Ritual Speak Ritual Identity Automaticity Ennui		Axial Age Modernity Relativism	Practice the skills to do good Elimination of craving
Drug Addiction	Drug Abuse	Alienation Angst, Anomie Absurdity, Atheism Animism Literalism, Realism Reification	The Arts/Creativity Aesthetic distance
Cold-blooded murder or sex	Us vs. Them, Cults Good guys vs. Bad guys "Racism"	"Value-neutral" science, STEM "Abstractification"	Universal Love Empathy Forgiveness Inclusiveness/ No exceptionalism
	Fantasies Entertainment	Bigotry Sectarianization	Mindfulness Sense of awe Engagement Stewardship
Scientism Monarchism	Seek pleasure Avoid pain Feeling good= Being good Ugly = "Evil"	Patriotism Utopianism Doctrinaire Ideologue	Finding the sacred in all things
Psychopaths Stalkers		Morality, Ethics Altruism, Liberalism	Reduce suffering Increase healing
Single-mindedness Many capitalists			
Homo reptilian	Homo paleomammalian	Homo neomammalian	Homo spiritus

**HEALING THE AFFLICTED BRAIN—DISSOCIATED MINDS:
A DEVELOPMENTALLY BASED NEUROSPIRITUAL MODEL**

<u>Mind</u>	<u>Goals</u>	<u>Relationship</u>
PRE-REPTILIAN (Somatic)	Sensory balance Calm attention	Physiology precedes psychology Comforting, Safe
REPTILIAN (Behavioral)	Engagement Behavioral integrity Gestural interaction	Practical, helpful with firm and compassionate limits Concrete
OLD MAMMALIAN (Emotional)	Emotional attachment Affect regulation Expansion of reflective affect	Shared meaning Not situationally concrete Emotions associated with physiological and behavioral patterns
NEW MAMMALIAN (Intellectual)	Symbolic abstractions of behaviors, affects, and higher concepts	Help develop verbal representations of the relationships with self, others, and God [the Good]
HUMAN (Spiritual)	Healing of the behavioral, emotional, and intellectual dissociations	Complex, nuanced, conciliatory, trusting, “self-emptying,” spiritual (mutual inspiration) — but with God ineffable “ <i>Aspirare sapere aude</i> ”: Dare to aspire to know. (Robert. H. Kane) [contra Immanuel Kant]

From *Developmentally Based Psychotherapy*, by S. I. Greenspan, 1997, Madison, CT: International Universities Press. Copyright 1997 by Stanley I. Greenspan.
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Today, like every other day, we wake up empty and frightened. Don't open the door to the study and begin reading. Take down the dulcimer. Let the beauty we love, be what we *do*. There are hundreds of ways to kneel and kiss the ground. (**Jalal al-Din Rumi**)

The Meaning of Life: What does it tell us about the meaning of life when we can now say that for the first time in the known history of biology, we are witnessing the evolution of human beings with a concern not only for the suffering and dying of their own kind, but also for the suffering and dying of all living things? (**Paul D. MacLean**)

VALUE STATEMENTS

Let his mind be changed from a man's, and let a beast's mind be given to him.... (**Daniel 4:16a**)

Jesus said, "Blessed is the lion which becomes man when consumed by man; and cursed is the man whom the lion consumes, and the lion becomes man." (**The Gospel of Thomas 7**)

Man is the only creature that refuses to be what he is. (**Albert Camus**)

To live is the rarest thing in the world. Most people exist, that is all. (**Oscar Wilde**)

Little do the people comprehend the great—that is, the creating. But they have a mind for all showmen and actors of great things. ("Thus Spoke Zarathustra," **Friedrich Nietzsche**)

No problem can be solved from the same level of consciousness that created it. (**Albert Einstein**)

The man who loves only his own children loves only himself. (**The Tanya, Epistle Nine**)

Who dared to be judge, jury, and executioner of his own sick brother? (**Alcoholics Anonymous**)

Wars are not social explosions, they are political decisions. (**Rima Majed**)

We must be the change we want to see in the world. (**Mohandas Karamchand Gandhi**)

More men become good through practice than by nature. (**Democritus**)

If our natures were different our duties would be different. (**Thomas Aquinas**)

The answer is like that of the wise man who, when asked whether it was far to the town, answered, "Walk!" (**Leo Tolstoy**)

It is no use walking anywhere to preach unless our walking is our preaching. (**Francis of Assisi**)

Give what you have to somebody, it may be better than you think. (**Henry Wadsworth Longfellow**)

What do we live for if it is not to make life less difficult for each other? (**George Eliot**)

The unexamined life is not livable for a human being. (**Socrates**)

For a Buddhist to be attached to any doctrine, even a Buddhist one, is to betray the Buddha. (**Thich Nhat Hanh**)

At this Peter took him by the arm and began to rebuke him: "Heaven forbid!" he said. "No, Lord, this shall never happen to you." Then Jesus turned and said to Peter, "Away with you, Satan; you are a stumbling-block to me. You think as men think, not as God thinks." (**Matthew 16: 22-23**)

Religion is a good thing for good people and a bad thing for bad people. (**Reinhold Niebuhr**)

You can safely assume you've created God in your own image when it turns out that God hates all the same people you do. (**Anne Lamott**)

Upon my life [Christian forgiveness] is a noble philosophy, but the people of the world are not all philosophers.... And indeed, ever since Constantine the Victorious became a Christian, both sword and whip have been ever employed. (**Abu al-Rayhan Muhammad ibn Ahmad al-Biruni**)

Security/Is mortals' chiefest enemy. (Hecate in "Macbeth," **William Shakespeare**)

In order to be moral.... [e]ven fear must not make me forget the other person. (**Alexander & Margarete Mitscherlich**)

For the first time in history, basing international politics on moral and ethical norms that are common to all humankind, as well as humanizing interstate relations, has become a vital requirement. (**Mikhail Gorbachev**)

The assumption that there will be enough reflective adults to maintain a free society is not to be taken for granted. (**Stanley I. Greenspan**)

What kind of life would make me want to be conscious every day? (**Jewel Kilcher**)

Whatever gift each of you may have received, use it in service to one another. (**1 Peter 4:10a**)

I can never be what I ought to be until you are what you ought to be, and you can never be what you ought to be until I am what I ought to be. (**Martin Luther King Jr.**)

Morality emerges for all of us from social interaction punctuated by moments of personal reflection. (**William J. Doherty**)

And let there be no purpose in friendship save the deepening of the spirit. ("The Prophet," **Kahlil Gibran**)
I've got better things to do than survive. ("Swan Dive," **Ani DiFranco**)

We shall die before we kill.... [N]egotiate with everyone. We do not have enemies. (**Josué Vargas, et al.**)

Service is the rent we each pay for living. It is not something to do in your spare time; it is the very purpose of life. (**Marian Wright Edelman**)

Faith receives, love gives. (**The Gospel of Philip**)

As long as space remains/As long as sentient beings remain/Until then, may I too remain/And dispel the miseries of the world. (**Shantideva**)

... and the hour of our moral death has turned into our spiritual birthday. (**William James**)