Going Beyond Self as Image
As it Unfolds in the Human Brain

a conversation with Michael Mendizza and Keith A. Buzzell

MM: What led to your interest in human development, health, and the central role the brain plays in our continued evolution?
KB: In the 1950s, I discovered the work of Gurdjieff, who introduced the concept that human beings have not one but three brains. This was 50 to 60 years before Paul MacLean began his work on the "triune brain." Gurdjieff developed a sophisticated view of three-brained beings and talked about many of the issues which Paul gave a neuro-anatomical foundation. As a physician, when I came across MacLean's work it created an explosion of associations between Gurdjieff's views and modern neuro-physiology.

MM: What do you mean by human beings having three brains?
KB: Over 600 million years ago, with the appearance of the cold-blooded vertebrates, there appeared sensory systems that could construct a resonant representation, or image, of some portion of the external world. The life of cold-blooded vertebrates, what I call one-brained creatures, is determined by the spectrum of sensors and imaging capacity of this basic core brain. The primary function of this reptilian brain is survival, focused around food, reproduction and defense.

MM: What is your definition of a brain?
KB: A brain should be called a brain when it has developed the capacity to take a slice through all of the variable forms and energies possible, and build a resonant representation or an image of the external world. The creature has the ability to act upon these images for survival. That is what can be referred to as a brain.

MM: So the range of sensitivity of its sensors emanating from the brain defines the world?
KB: Yes. Once the first brain became well established as a whole sensory/motor instrument (which occurred about 200 million years ago), elements of what MacLean refers to as the limbic brain, or the second brain began to appear. Actually elements of this second brain began to appear long before the second brain could be called a whole brain. The critical difference is that the world that the second brain opens to is not the world out beyond the bounding membrane, but the inner world of dynamic metabolism and motions.

For instance, lizards and crocodiles have all the various muscle groups, but they have a rather gross muscular control. This begins to become more refined as the muscles themselves become interpenetrated by extensions of the second brain. Smaller and smaller groups of muscle fibers gain the ability to relay information to the spinal cord and up to the second brain. This increasingly complex monitoring and imaging of inner states is the hallmark of the second brain.

MM: With this feedback we develop a feeling or image of what the body is doing, inside and out.
KB: Self-perception, when limited to the first brain, is a representation only of the surface of the body. Certainly a lizard has receptors that will tell it to some degree the amount of pressure it's putting on one of its fore limbs. But it doesn't relate the internal dynamic state of the limb itself, the muscles, blood flow, etc.. This capacity evolved with the second brain. With the development of the second brain, we also see a transition from a two-chambered heart to a four-chambered heart. We see the evolution of the diaphragm, the uterus and the support for intra-body development of the embryo. In addition, because of all of the neural controls and the monitoring of all of the blood vessels and other fluids (the lymphatic system), we have the appearance of an increasingly sophisticated immune system.

A crocodile has an immune system but it is elemental and primarily related again to the body surface and the outside world. Within the limbic system, or second brain, we see an incredible diversification of internal defenses via the immune system. The core brain senses and represents an image of the external world. The limbic brain monitors and images inner bodily states. Resonate representations or images that are formed from those states, including feelings, are what MacLean calls the emergence of the *sense of self*.

MM: What kind of image is created from these inner states?
KB: We subjectively experience our inner world in a totally different way than we do external sensations. There is a blending between these two in perception or consciousness. Both, however, are sensations. We flip from a state of sensation into a state of feeling. You stub your toe and then you kick the dog, for example. There is pain and suddenly we are angry because we have pain. The states of sensation at one level will blend into the other and it can be very difficult to differentiate the two.

A clearer cut sense of self appears with the *cingulate gyrus*, the highest part of the second brain. It is interesting that no cellular precursor of the cingulate gyrus has been discovered in one-brained beings. Here we see the centers for nurturing, audio-vocal communication between parent and child, and play. MacLean calls this great triad of functions the Family Triad. He feels that as we study the biological cellular evolution of this area of the second brain we will be studying the history of the family. It's a lovely way to put it, although it is certainly controversial in some circles.

We have been raised to believe that human life is somehow different, shall I say, superior to that of other animals. How does this hold up under current research?
Many traditions place an absolute separation between what we as three-brained creatures or human beings experience and what other creatures experience. The neuro-chemicals inside a chimpanzee are exactly the same as those inside of us. Their facial expressions are the same and their play behavior is very similar, for example. It is increasingly difficult to deny that they are living a world of great, rich feeling. This is one of the most essential insights: all mammalian life has a rich feeling experience. Human life is far more complex and subtle, however, because we have a neural system hundreds of times larger. All mammals, with a second brain in common, have similar subjective experiences that are just as real, whole and important in the life of that creature as is the inner experience of the human. We should be eminently respectful of this.

Traditions would have us believe; due to our superior nature that humanity holds dominion over all of nature.
The word dominion has been misunderstood. Etymologically the word *dominion* is not "power over," it is "responsibility to." When we are disrespectful or abuse aspects of the outside world and other life forms, we are abusing ourselves.

I can close my eyes and see an image of my room. I assume this is a function of the core or first brain. When we start talking about the image of emotions or the image of inner states, it's a different experience. Can you explain that?
All sensory instruments are an extension of a brain, whether it's the core brain looking into the outside world or the second brain interfacing with the inside world, or the third brain that interfaces with both of those brains. In each case, a system of sensors feed back data that the brain uses to construct a resonant representation of the energies to which that particular sensory system opens. These are all images and are the first of all brain images, because they are created via data from a world beyond the boundary of the creature and are relatively concrete. They are literal images. When we come to the second, emotional or limbic brain, it is much more difficult for most people to see the image.

Perhaps it would be helpful to introduce the term, self-image. What do we mean by self-image?
Some examples of self–image are pride, vanity, or a presumption of honesty, strength, purpose, or anger. Externally we see these states expressed as postures, gestures, tones of voice and facial expressions. We can see joy, hostility, suspicion and fear. We see satisfaction, constancy or hesitation. We see maternal love expressed between many mammalian forms. We are looking at the external image reflected through this inter-penetration of the first brain muscular system by the second brain. That inside state is an image because it is not a material whole of anything. The organism has sampled a variable range of energies that reflect the internal state. We experience that reflection or image as "self."

With the evolution of the second brain, special chemicals, called neuro-peptides, report the inner state of the body to the brain. Candice Pert, formerly of the National Institute of Health, calls them the "chemicals of emotion." The important differentiation is that the world of the second brain is a world of both neural and chemical formation and function. It isn't just the nervous system alone. Now there's interplay of inner

and outer images. It is important to keep in mind that our emotional world is very rarely composed of one feeling. Each moment may be filled with a kaleidoscope of emotions. We can be happy, sad, depressed, and joyful simultaneously. When your child goes off to school for the first time you might have a big smile on your face but you have tears coming down your face. All this is happening at once. How we feel, our emotional state can be a complex flow of multiple experiences.

Is the core or maintenance brain completely different in form and function from the emotional or second brain?
MacLean never said that the three brains are separate. The primary structures have evolved over long periods of time. They are fundamentally different in their function and can, relatively speaking, function independently, but are able to function as a tightly integrated whole.

There's a great deal of misunderstanding about the third brain. What is the third brain and what does it really do?
As we have evolved over the last 200 billion years, increasingly dense neural structures have begun to open capacities and functions—this is the third brain—(e.g., the clever monkey using a stick to dig for food). We then see the emergence of curiosity for its own sake—not for food or survival. All this requires the neural matrix of a third brain. As the third brain develops we naturally see, in the life of many mammalian forms, aspects which appear surprisingly similar to those that emerge with the full human brain. But the third brain isn't complete. When it is complete it will have the capacity to create various types of abstract images—of letters, words, and numbers; of comparisons, analogies, similarities; of spatial and sound forms. It will image logical sequences, and play with symbols, word, colors, sounds, and forms. This is the world of the third brain.

Since the third brain is the latest evolutionary structure, might it be considered immature? You described how the core and limbic brains developed feedback systems that create images of what is happening outside and inside (proprioception). David Bohm suggests that the new brain, the neocortex, has not evolved such a feedback process to keep track of thought and that this is a major source of confusion and conflict.
This is a recurring theme in MacLean's monumental work, *The Triune Brain in Evolution (1990).* There are far fewer paths connecting the second brain to the third brain than those that connect the first brain to the third brain. This makes the new brain much more vulnerable to data from the outside than information coming from the sensors of the second brain which monitors inside states. We have a strong neural prejudice from the outside world and fail to give equal attention to what is going on internally. There also seems to be a clear difference between generic males and females in this regard.

Males tend to emphasize the outside world. Women, because they are the source of nurture, the source of life and continuity, are more aware of the inner world. The connections between the second brain and the third brain of females, especially the right side of the third brain, are much more pronounced than males. As a result, they can be more attentive to the reality of their second brain's inner world.

More important, so far as the emergence of the third brain, is what it does in terms of perspective. Lizards live in a one-dimensional world. They have fixed habit patterns that react and respond only to the present. They have very poor memories. Two-brain creatures develop an enormous trail into the past. Memory develops and becomes longer and immensely dense. But the second brain has little capacity to reach into the future. With the appearance of the third brain there is a sudden extension into the future, built upon the second brain's past and the first brain's present. With that extension life takes on a three-dimensional perspective. I can't emphasize that too much. Another way of looking at our three-brained nature is to see the outside world represented by the first brain, the inside world imaged by the second brain, and the third brain emerging as the third point of a triad, receiving input from both.

Adding this third dimension changes the first brain's sense of the outside world and the second brain's sense of self and of other. Now one has a three-dimensional perspective that gives rise to the inner representation, or the subjective experience, of an independent "I." We talk about having a body. We talk about having feelings. This third-brain subjective experience of "I" is unique and enormously powerful. It is an instrument of infinite separation, as well as an instrument of infinite unification.

Bohm described how we could look at our self–image as being made up of three completely different representations—Me, Myself and I. In light of what we have been exploring, "Me" might be the image created by the first brain; "Myself" the resonate representation of the limbic or emotional brain, and "I" a representation of self generated by the third brain.
All three are images, however. If you penetrate to the core of the great traditions you always find this differentiation. There lawfully appears in all humans a sense of "I," a sense of singularity, but that is still an image. There is a possibility of moving beyond the image to what may be called *Real I*. This is a perception of participation and relationship that is not an independent "I," but an "I" that is completely integrated in and through everything. To consciously go beyond the images created by our triune brain presents extraordinary challenges. We each have imbedded in the neural matrix of our first and second brains a hard-wired imperative to accept and respond to the created images as if they were real and whole. Hundreds of millions of years underpin these physical and social survival patterns. Clearly the first and second brains cannot question themselves. The third brain has that capacity, if it applies reasoning, logical analysis, comparison, etc..

The awareness that all are images and not reality is however, a very tenuous state and one that we can drop quickly, especially when highly evocative images are presented by the first or second brain. (For instance, when we get a disturbing phone call or are cut off on a highway while driving 70 miles an hour.) In such instances the immediacy of the image as being real is both appropriate (in survival terms) and potent. Because of the way in which our first and second brains function we are equally vulnerable to the facial expression or tone of voice of the boss, and to mistaking a tree root for a snake. A moment later, when the brain has processed additional data the image is perceived as non-threatening. We may feel foolish but our heart and breathing rate, muscle tension, and circulation of adrenalin betray that our first and second brain is continuing to react to the *imaged* threat.

As difficult as it is to sustain our impartiality to first- and second-brain images it is more difficult yet with regard to third-brain images. The *sense of I* naturally created by the neural imaging of the third brain brings a potent sense of singularity that is both *real* and *imaginary*: *real* because of our physical and subjective feelings that we are a separate individual; *imaginary* in that this image artificially separates us from everything. It also creates a subjective "specialness" that is the germ of a false and intrinsically malevolent egoism. It is this *false I* that creates monsters like Idi Amin, Pol Pot, and Hitler, as well as abusive parents and arrogant corporate CEOs.

Is it possible to go beyond the three images of the outside, *the* inner *and* I*?*
There have been many approaches to this question over the past five thousand years. In our time, however, the challenge has been made considerably greater because of the extraordinary and positive insights of modern science and the unparalleled negative impact of technology. There is overwhelming evidence which shows that the third brain's use of technology (radio, TV, computer) has confused and greatly diminished the attention needed to go beyond our absorption in the image to the true "I." It has fractured our personal relationships and community life, and now seriously threatens the continuity of life. The origin of this gross imbalance is not *out there* in the outside world. It is *inside*, in the images created by the third brain of each of us. All of that represents a great obstacle in discovering what may lie beyond the image—the *Real I*. We must go beyond the limited images of the three brains, for this is the key to achieving a balance in nature and in childhood. It is why I have unmeasured respect and value for Gurdjieff, Bohm and many others who explore the path beyond *image*.

Interview conducted summer 2007 by Michael Mendizza an educational and documentary filmmaker; writer, photographer and co-founder of Touch the Future.