

The Wise Brain Bulletin

News and Tools for Happiness, Love, and Wisdom
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Featured Article:

Peace of Mind:

The Limbic System, Equanimity, and Breaking the Chain of Suffering

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Evolutionary Perspectives

Daily life is full of emotions, from the pleasures of happiness and love to the pains of worry, frustration, sorrow, and anger.

While we may take them for granted, our feelings are actually an extraordinary evolutionary achievement, as remarkable in their own way as language and logic.

Animals have emotions, too, as Darwin observed in his book, *The Expression of Emotions in Man and Animals*, in

1872. But consider the apparent emotions in a spectrum of animals, from – say – snakes and lizards, to squirrels, dogs, and monkeys, and then to human beings. There is a direct correlation between the complexity of social life of a species and the range and depth of the emotions of its members. Because our relationships are so layered, nuanced, enduring, and plain messy, humans have the greatest emotional range of any animal.

In our species, emotions serve many functions. They arouse our interest and tell us what to pay attention to. They motivate approach strategies through pleasant

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Greetings

The Wise Brain Bulletin offers skillful means from brain science and contemplative practice – to nurture your brain for the benefit of yourself and everyone you touch.

The Bulletin is offered freely, and you are welcome to share it with others. Past issues are archived at www.WiseBrain.org.

Rick Hanson, PhD and Richard Mendius, MD edit the Bulletin, and it's designed and laid out by Laurel Hanson. To subscribe, please contact Rick at drh@comcast.net.

feelings and motivate avoidance or attack strategies through unpleasant ones. They enable us to share states of mind with other members of our family, tribe, or nation – and to signal or detect important states of mind such as fear, disgust, anger, or erotic interest. They bond children and parents, lovers and friends.

Emotions join us in common cause with other people, whether it's chatting companionably while gathering nuts and berries on the African savannah 100,000

years ago or it's circling with spears around a woolly mammoth in Siberia 80,000 years later – or it's cheering our football team to victory . . . or it's exulting, alas, while watching our nation's missiles strike an enemy target.

More subtly, emotions make us known to ourselves. Flowing through the field of awareness – perhaps arising, actually, as a modification of awareness – emotions signal the deeper underlying movements of mental activity.

Which reflects, of course, the underlying movements of neurological activity.

Emotion in the Brain

The major brain regions that support emotional processing include the limbic system – particularly the hippocampus, amygdala, and hypothalamus – and the prefrontal cortex, anterior cingulate cortex (ACC), nucleus accumbens, and insula. Technical note: there are two hippocampi, one in each hemisphere of the brain;

the same for the two amygdalae, ACCs, and insulae. Following common practice, we'll mainly use the singular form.

By the way, as an interesting evolutionary detail, the limbic system seems to have evolved from the olfactory (scent) neural circuitry in the brain developed by our ancient mammal ancestors, living around 180 million years ago. They seem to have used their advanced sense of smell to hunt at night, while those cold-blooded reptiles were snoozing – and easier prey.

The conscious experience of emotion is just the top story – the penthouse floor – resting on many layers of neurological activity, both the firing of very complex and intertwining neural circuits and the tidal flows of neurotransmitters and hormones such as dopamine, serotonin, and oxytocin. Here's a brief summary of each of these brain regions and its apparent role in emotion:

- **Hippocampus** – This vaguely sea-horse shaped region helps store the contexts, especially visual-spatial ones, for important experiences, such as the smell of a predator . . . or the look of an angry parent. This region is necessary for forming personal memories of events, and is unfortunately damaged over time by the cortisol released by chronic stress (especially, high or even traumatic levels of stress).

- **Amygdala** – Connected to the hippocampus by the neural equivalent of a four-lane superhighway, this small, almond-shaped region is particularly involved in the processing of information about threats. The subjective awareness of threat comes from the feeling tone of experience when it is unpleasant (distinct from pleasant or neutral). When it perceives a threat – whether an external stimulus like a car running a red light or an internal one, such as suddenly recalling an impending deadline – the amygdala sends a jolt of alarm to the hypothalamus and other brain regions. It also triggers the ventral tegmentum, in the brain stem, to send dopamine to the nucleus accumbens (and other brain regions) in order to sensitize them all to the “red alert” information now streaming through the brain as a whole.

• Hypothalamus – This is a major switchboard of the brain, involved in the regulation of basic bodily drives such as thirst and hunger. When it gets a “Yikes!” signal from the amygdala, it tells the pituitary gland to tell the adrenals to start release epinephrine and other stress hormones, to get the body ready for immediate fight-or-flight action. But keep in mind that this activation occurs not just when a lion jumps out of the bushes, but chronically, in rush-hour traffic and multi-tasking, and in response to internal mental events such as pain or anger. (For more on the stress response – and what you can do about it – see the Wise Brain Bulletins, Volume 1, #5 and #6.)

• Prefrontal cortex (PFC) – If you whack yourself on the forehead, the mini-shock waves reverberate through the PFC, which is “pre” because it is in front of the frontal cortex. The PFC is centrally involved in

anticipating things, making plans, organizing action, monitoring results, changing plans, and settling conflicts between different goals: these are called the “executive functions,” and if the brain is one big village, the PFC is its mayor.

The PFC helps foresee the emotional rewards (or penalties) of different courses of action. The PFC also inhibits emotional reactions; many more nerve fibers head down from the PFC to the limbic circuitry than in the other direction. The left PFC plays a special role in controlling negative affect and aggression: stroke victims whose left PFC is damaged tend to become more irritable, distraught, and hostile (the same happened for the unfortunate and famous Phineas Gage, the engineer who suffered an iron bar through his forehead in a mining explosion). On the other hand, differential activation of the left PFC is associated with positive emotions – and years of meditation practice!

Train Your Brain

This course teaches practical, down-to-earth ways to activate the brain states that promote: Steady Awareness, Wholesome Feelings, Good Intentions, Caring Heart, and Wise Action. It is taught in a 24-month cycle which you can enter at any time. Talks and materials from past class sessions are archived at www.WiseBrain.org.

The class meets on the 2nd Tuesday of every month, 7 – 9:15 pm, at the Unitarian Universalist church in Terra Linda (San Rafael), at 240 Channing Way. The atmosphere is warm, informal, and focused. The suggested fee for each month of the program is \$20 - \$40, but no one will be turned away for lack of funds. Please arrive ten to fifteen minutes early so you will have ample time to register for the class.

Upcoming dates and topics:

• 6/10/08 – Empathy

Attunement: synchronizing two brains. Mirror neurons. Deepening tolerance of being with another. Giving attention over; “the bodily sacrifice of attention.” Looking beneath the surface. Accepting complexity, ambivalence, and conflict in others – and yourself.

• 7/8/08 – Feeling felt

Tolerating closeness. Dealing with past feelings of invasion, violation, intrusive control, “Trojan horses” of manipulative seductions, etc. HeartMath methods for calming and opening the heart, literally and figuratively. Feeling strong enough to rely on others.

• 8/12/08 – Benevolent interdependence

The enlightened self-interest of non-harming, of “giving no one cause to fear you.” Practices of compassion, loving-kindness, and sympathetic joy. Turning ill will to good will. Healthy assertiveness.

- Anterior cingulate cortex (ACC) – This sits in the middle of the brain, centrally located for communication with the PFC and the limbic system. It monitors conflicts between different objects of attention – Should I notice the bananas in this tree or that snake slithering toward me? Should I listen to my partner or focus on this TV show? – and flags those for resolution by the frontal lobes. Therefore, it lights up when we attend to emotionally relevant stimuli, or sustain our attention to important feelings – inside ourselves and other people – in the face of competing stimuli (e.g., trying to get a sense for what’s really bugging a family member underneath a rambling story and other verbiage).

- Nucleus accumbens – In conditions of emotional arousal – especially fear-related – the accumbens receives a major wake-up call of dopamine from the tegmentum, which sensitizes it to information coming from the amygdala and other regions. Consequently, the accumbens sends more intense signals to the pallidum, a relay station for the motor systems, which results in heightened behavioral activity. This system works for both negative and positive feelings. For example, the accumbens lights up when a person with an addiction sees the object of his or her craving.

- Insula – Deeply involved in interoception – the sensing of the internal state of the body (e.g., gut feelings, internal sensations of breathing, nausea) – the insula lets you know about the deeper layers of your emotional life. And it is key to sensing the primary emotions in others, such as fear of pain, or disgust.

The Machinery of Upset

(Emotional) life is great when we feel enthusiastic, contented, peaceful, happy, interested, loving, etc. But when we’re upset, or aroused to go looking for trouble, life ain’t so great.

To address this problem, let’s turn to a strategy used

widely in science (and Buddhism, interestingly): analyze things into their fundamental elements, such as the quarks and other subatomic particles that form an atom or the Five Aggregates in Buddhism of form, feeling (the “hedonic tone” of experience as pleasant-neutral-unpleasant), perception, volitional formations, and consciousness.

We’ll apply that strategy to the machinery of getting upset. Here is a summary of the eight major “gears” of that machine – somewhat based on how they unfold in time, though they actually often happen in circular or simultaneous ways, intertwining with and co-determining each other.

The point of this close analysis, this deconstruction, is not intellectual understanding or theory, but increasing your own mindfulness into your experience, and creating more points of intervention within it to reduce the suffering you cause for yourself – and other people.

This will be more real for you if you first imagine a recent upset or two, and replay it in your mind in slow motion.

Appraisals

- What do we focus on, what do we pick out of the larger mosaic?
- What meaning do we give the event? How do we frame it?
- How significant do we make it? (Is it a 2 on the Ugh scale . . . Or a 10?)
- What intentions do we attribute to others?
- What are the embedded beliefs about other people? The world? The past? The future?
- In sum, what views are we attached to?

-> Mainly frontal lobe and language circuits of left temporal lobe

Self-Referencing

- Upsets arise within the perspective of “I.”
- What is the sense of “I” that is running at the time?

Strong? Weak? Mistreated?

- Are you taking things personally?
- How does the sense of self change over the course of the upset (often intensifying)?

-> Circuits of “self” are distributed throughout the brain.

Vulnerabilities

- We all have vulnerabilities, which challenges penetrate through and/or get amplified by (moderated by inner and outer resources).
- Physiological: Pain, fatigue, hunger, lack of sleep, biochemical imbalances, illness
- Temperamental: Anxious, rigid, angry, melancholic, spirited/ADHD
- Psychological: Personality, culture, effects of gender, race, sexual orientation, etc.

-> Depending on its nature, a vulnerability can be embodied or represented in many ways

Memory

- Stimuli are interpreted in terms of episodic memories of similar experiences.
- And in terms of implicit, emotional memories or other,

unconscious associations. (Especially trauma)

- These shade, distort, and amplify stimuli, packaging them with “spin” and sending them off to the rest of the brain.

-> Hippocampus, with other memory circuits

Aversion

- The feeling tone of “unpleasant” is in full swing at this point, though present in the previous “gears” of survival reactivity.
- In primitive organisms - and thus the primitive circuits of our own brain - the unpleasant/ aversion circuit is more primary than the pleasant/approach circuit since aversion often calls for all the animal’s resources and approaching does not.
- Aversion can also be a temperamental tendency.
- The Buddha paid much attention to aversion - such as to ill will - in his teachings, because it is so fundamental, and such a source of suffering.

-> Involves the limbic system, especially the amygdala

Bodily Activation

- The body energizes to respond; getting upset activates the stress machinery just like getting chased by a lion.



- Sympathetic nervous system (fight-or-flight)
- Hypothalamus-pituitary-adrenal (HPA) axis
- All this triggers blood to the large muscles (hit or run), dilates pupils (see better in darkness), cascades cortisol and adrenaline, increases heart rate, etc.
- These systems activate quickly, but their effects fade away slowly.
- There is much collateral damage in the body and mind from chronically “going to war.”

Negative Emotions

- Emotions are a fantastic evolutionary achievement for promoting grandchildren.
- Both the prosocial bonding emotions of caring,

compassion, love, sympathetic joy . . .

- And the fight-or-flight emotions of fear, anger, sorrow, shame
- Emotions organize, mobilize the whole brain.
- They also shade our perceptions and thoughts in self-reinforcing ways.

Loss of Executive Control

- The survival machine is designed to make you identify yourself with your body and your emotional reactions. That identification is highly motivating for keeping yourself alive!
- So, in an upset, there is typically a loss of “observing ego” detachment, and instead a kind of emotional

hijacking - all facilitated by neural circuits in which amygdala-shaped information gets fast-tracked throughout the brain, ahead of slower frontal lobe interpretations.

- With maturation (sometimes into the mid-twenties) and with experience, the frontal (especially prefrontal) cortices can comment on and direct emotional reactions more effectively.

Grateful Wonder

A great way to calm down and put things in perspective is to step back and consider the enormity of the universe, your own tiny part in it, and how so many of the causes manifesting as momentary conditions in your life have been set in motion years, centuries, even eons ago.

- So for starters, here’s a collection of super, highly detailed photos of and from the space station:

www.texasjim.com/NASApix/NASA%20pix.htm

- Next, how about this sideways view of a galaxy 35 million light-years away. Check out the faint swirl of light to the left of it: that’s millions of stars pulled away by other galaxies nearby. Imagine beings living on the planets of some of those stars, seeing an enormous galaxy filling the heavens each night above their “heads.” What thoughts might those beings have about the universe and their place within it?

<http://antwrp.gsfc.nasa.gov/apod/astropix.html>

- Zooming further out, really taking in the big picture, here is an entertaining video of the universe from Australia:

<http://dingo.caremail.com/cards/flash/5409/galaxy.swf>

Another important way to help settle troubled waters in your mind is to consider the difficult lives of other people, and the ways that you could be more fortunate. For that reason, and many others, here’s a video for the people of Tibet:

<http://www.for-the-people-of-tibet.net/>

Emotional Hijacking

In light of this machinery of survival-based, emotional reactivity, let’s look more narrowly at what Daniel Goleman has called “emotional hijacking.”

The emotional circuits of your brain – which are relatively primitive from an evolutionary standpoint, originally developed when dinosaurs ruled the earth – exert great influence over the more modern layers of the brain in the cerebral cortex. They do this in large part by continually “packaging” incoming sensory information in two hugely influential ways:

- Labeling it with a subjective feeling tone: pleasant, unpleasant, or neutral. This is primarily accomplished by the amygdala, in close concert with the hippocampus; this circuit

is probably the specific structure of the brain responsible for the feeling aggregate in Buddhism (and one of the Four Foundations of Mindfulness).

- Ordering a fundamental behavioral response: approach, avoid, or ignore.

The amygdala-hippocampus duo keep answering the two questions an organism - you and I - continually faces in its environment: Is it OK or not? And what should I do?

Meanwhile, the frontal lobes have also been receiving and processing sensory information. But much of it went through the amygdala first, especially if it was emotionally charged, including linked to past memories of threat or pain or trauma. Studies have shown that differences in amygdala activation probably account for much of the variation, among people, in emotional temperaments and reactions to negative information.

The amygdala sends its interpretations of stimuli - with its own “spin” added - throughout the brain, including to the frontal lobes. In particular, it sends its signals directly to the brain stem without processing by the frontal lobes - to trigger autonomic (fight or flight) and behavioral responses. And those patterns of activation in turn ripple back up to the frontal lobes, also affecting its interpretations of events and its plans for what to do.

It’s like there is a poorly controlled, emotionally reactive, not very bright, paranoid, and trigger-happy lieutenant in the control room of a missile silo watching radar screens and judging what he sees. Headquarters is a hundred miles away, also seeing the same screens -- but (A) it gets its information after the lieutenant does, (B) the lieutenant’s judgments affect what shows up on the screens at headquarters, and (C) his instructions to “launch” get to the missiles seconds before headquarters can signal “stand down!”

Suffering and More Suffering

The “spin” or “packaging” added by the amygdala and

its partners may be great for survival – “jump first, ask questions later” – and probably why, in the order of the aggregates in Buddhism, the feeling aggregate comes before the perception aggregate: in evolution, it’s more important to sense whether there’s a threat than to know what it is.

But this primal circuitry is a major source of the “second dart” of life: the secondary cascade of uncomfortable emotions, action plans, views, etc. that follows the bare sensory data of the first dart of elemental physical or emotional pain.

In other words, we are continually having reactions as result of being alive, and they have an inherent tone of being pleasant, unpleasant, or neutral.

The usual state is one in which we react to those reactions – by reaching after what’s pleasant, grasping after it . . . or resisting or trying to get away from what’s unpleasant, averse to it . . . or wanting what’s neutral to hurry up and turn into something pleasant!

These understandable reactions to our reactions have just one small problem:

They are a key link in the chain of suffering.

You can see for yourself: your reactions to the initial reaction of pleasant, unpleasant, or neutral very, very often make you or others suffer. Pure and simple. No way around it. Like gravity.

And then those reactions to reactions . . . become the basis for more reactions which lead to suffering.

This is, of course, depressing.

Cutting the Chain of Suffering

But it’s also incredibly hopeful.

The link between (A) our initial, primary reaction – of pleasant, unpleasant, or neutral – and (C) suffering and harms to ourselves and others . . . is (B) our secondary reactions of grasping and aversion.

If we just block those reactions, then whoosh, we've snipped the chain. Nipped it in the bud! And equanimity is the scissors. It stops reactions developing to that initial, primary feeling tone. And that makes all the difference in the world.

In essence, calm is when you aren't having reactions, while equanimity is when you're not reacting to your reactions. (Indifference – let alone apathy - are near enemies of equanimity. Often there is anger – i.e., aversion – buried in indifference and apathy.)

In a state of equanimity, we haven't yet permanently broken the chain of suffering, since there are other factors at work generating suffering that still need to be addressed. And our relief from suffering is contingent, dependent, lasting only as long as our equanimity does, and thus not utterly reliable – in the “heartwood” sense of complete liberation and freedom.

Nonetheless, even a momentary relief from suffering is great. And in the space of clarity and non-disturbance that equanimity provides, we are also able to have more insight into our own minds – into the factors that promote the welfare of ourselves and others, and those that do not – and able to cultivate wholesome qualities, such as patience, investigation, and compassion.

Changing the Machinery of Upset

So let's consider ways to cultivate more peace of mind – and even its consummation in profound equanimity – by working with the eight gears of the machine of suffering we explored above. (There are other methods, too, that are more specifically Buddhist, and you might like to explore the Access to Insight website for more information.)

This list is by no means exclusive: it just points to how many great tools are available these days for managing our emotional reactions.

Methods for Appraisals

- Stay mindful of the whole.
- Be mindful of the meanings, the framings, we give things.
- Challenge the significance the mind gives something. Is it really an 8 on the 10-point Ugh scale? If it's really a 2, why is my anger an 8?
- Challenge the intentions we attribute to others; realize we are usually a bit player in their drama.
- What beliefs are implicit about others, world? Try cognitive therapy methods for challenging inaccurate, negative beliefs.

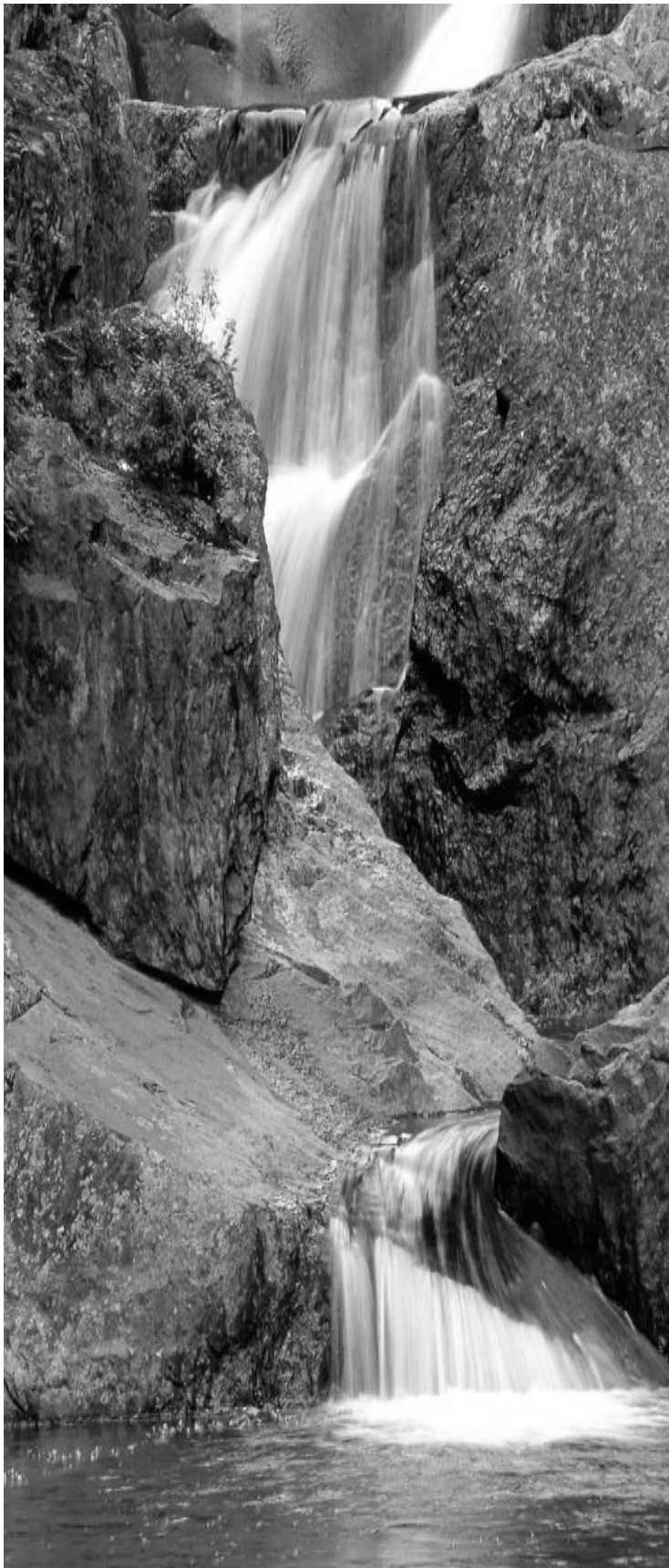
Methods for Self-Referencing

- Recognize the suffering that comes from selfing.
- Practice mindfulness of the sense of “I”
- What are the implicit representations of self: Strong? Weak? Mistreated? How does this underlying framing affect your experience of situations?
- How much are we taking things personally? (“Negative grandiosity,” I'm so important that they're deliberately hassling me.)
- How does getting upset intensify or shade self?
- See the interconnectedness of things in the situation, including yourself.
- Identify legitimate rights and needs, and take care of them.

Methods for Vulnerabilities

- Hold a frame of compassion for yourself and self-acceptance
- Do an honest self-appraisal of physiology/health, temperament, and psychology: Weak spots? Hot buttons?
- Protect vulnerabilities in situations: e.g., eat before talking about what upset you; ask people to slow down if you tend to be rigid; push through possible inhibitions in assertiveness due to culture, gender.
- Shore up vulnerabilities over time: e.g., medical care,

vitamins, 5-HTP, antidepressants; build up greater control over your attention; take in positive experiences that slowly fill the hole in your heart.



Methods for Memory

- Be aware of the “pre-amp” turbo-charging of memory and sensitization.
- Increase positive emotional memories by “taking in the good.”
 - Shift emotional memories in positive directions over time by recalling old painful experiences while simultaneously bringing positive thoughts and feelings prominently to mind.
 - With a therapist, consider other methods for painful experiences or traumas (e.g., EMDR)

Methods for Aversion

- Understand the central place in psychology and in spiritual growth of working with aversion; use that to motivate yourself to not act aversively.
- Meditate on the Second Foundation of Mindfulness (feeling).
- Focus on neutral feeling tones.
- Dwell on the conditioned, compounded, and impermanent nature of the unpleasant.
- Find compassion for people who are aversive to you.
- See “21 Ways to Turn Ill Will into Good Will” in the Articles section of www.WiseBrain.org.

Methods for Bodily Activation

- Understand the mechanical, animal nature of activation.
- Regard stressful activation as an affliction (as the health consequences of chronic stress)
- Use one of the many methods for stimulating the parasympathetic nervous system to down-regulate the SNS.
- Get in the habit of rapidly activating a damping cascade when the body activates.
- Regard bodily activation as just another compounded, “meaningless,” and impermanent phenomenon.

Methods for Negative Emotions

- Practice mindfulness of how thoughts shape emotions . . . and emotions shape thoughts.

The Heartwood Institute For Neuroscience and Contemplative Wisdom

The Institute is a 501c3 non-profit corporation, and it publishes the Wise Brain Bulletin. The Institute gathers, organizes, and freely offers information and methods – supported by brain science and the contemplative disciplines – for greater happiness, love, effectiveness, and wisdom. For more information about the Institute, please go to www.WiseBrain.org/Heartwood.html.

- Explore the many practices for letting go of negative emotions (e.g., visualize them leaving the body through valves in the tips of the fingers and the toes).
- Cultivate rapture and joy – and the dopaminergic neurological benefits of those states, including for steadying the mind.

Methods for Loss of Executive Control

- Slow down; buy yourself time.
- Cultivate steadiness of mind.
- Describe your experiences in words (noting).
- Actively enlist internal resources, e.g., the felt sense of others who love you, recollection of what happened the last time you lost your temper.
- Enlist external resources, e.g., call a friend, do therapy, go to a meditation group.
- Stay embodied, which helps dampen runaway emotional-visual reactions.

A Meditation on Equanimity

If you like, you might explore the meditation just below. You could read it slowly, entering a meditative frame of mind . . . or record your own voice reading it and then listen . . . or ask someone else to read it to you.

Here we go:

Starting by getting comfortable, perhaps focusing on your breath for a few minutes.

Forming an intention for this meditation, perhaps in words, perhaps simply a feeling . . . Relaxing . . . Feeling as safe as you can . . . Finding, evoking happiness . . . Sensing that the benefits of this meditation are sinking into you . . .

Being mindful of the changing sense of pleasant, unpleasant, or neutral in your experience.

Perhaps a lot of pleasant and neutral right now.

Whatever is present, be aware of your reactions to it.

See if you can sustain a sense of equanimity toward whatever qualities your experience has.

Impartial, accepting, and at peace with it if it is pleasant.

Impartial, accepting, and at peace with it if it is unpleasant.

Impartial, accepting, and at peace with it if it is neutral.

The mind remaining steady, quiet, and collected . . .

Seeing that any pleasant, unpleasant, or neutral tones come and go, caused by preceding conditions.

They are interdependent with the world and constantly changing.

And thus not fit to be depended on as a basis for happiness.

Feeling tones coming and going . . . without an owner. Without a self needed.

In the pleasant, there is merely the pleasant.

In the unpleasant, there is merely the unpleasant.

In the neutral, there is merely the neutral.

No owner of the pleasant, unpleasant, or neutral.
Nothing to identify with.

Just states flowing through awareness. Mingled with
breathing and happiness.

Finding a sense of freedom in the non-reactivity.

A joy, perhaps, in the freedom. In this equanimity.

Impartial to whatever arises. A kind of ease with it. A
kind of relaxed indifference.

Not preferring anything else. A sense of fullness already,
of being alright as it all is. A profound acceptance of

whatever arises. Allowing it to come and go without
grasping or aversion.

Abiding as equanimity. Breath after breath after breath.
At ease. Settling into deeper and deeper layers of
equanimity. Whatever is present is alright.

A vast and thoroughgoing equanimity

Where there is no disturbance. No struggle with what is
the case. No struggles at all. Even the subtlest ones.

Resting in equanimity.

Like a Buddha.



*Pleasant feeling is impermanent, conditioned,
dependently arisen, having the nature of wasting,
vanishing, fading, and ceasing.*

*The painful feeling and the neutral feeling, too,
are impermanent, conditioned, dependently arisen,
having the nature of wasting, vanishing, fading and
ceasing.*

*When a well-taught person perceives this, he
or she becomes dispassionate toward pleasant
feelings, dispassionate toward painful feelings and
dispassionate toward neutral feelings.*

*Being dispassionate, his or her lust fades away, and
with the fading away of lust, he or she is liberated.*

*When liberated, there comes to him or her the
knowledge that he or she is liberated. He or she now
knows, "Birth is exhausted, the holy life has been
lived, done is what was to be done, there is no more
of this to come."*

The Buddha,
Majjhima Nikaya 146
(trans. Bhikkho Bodhi)

Words of Wisdom:

Equanimity: Equally Near to All Things

*The brain may devise laws for the blood;
but a hot temper leaps over a cold decree.*

Shakespeare

*The deepest possible state of well-being ensues
when the fires of both delighting in and being distressed
by experience are quenched.*

Andy Olendzki

*In our world, things are always getting broken, and mended
and broken again, and there is also something never breaks.
Everything rises and falls, and yet in exactly the same moment
things are eternal and go nowhere at all. How do we see with
a kind of binocular vision, one eye aware of how things are
coming and going all the time, the other aware of how they've
never moved at all? How do we experience this not as two
separate ways of seeing, but as one seamless vision?*

Joan Sutherland

*Indeed, the sage who's fully quenched
Rests at ease in every way;
No sense desire adheres to him or her
Whose fires have cooled, deprived of fuel.*

*All attachments have been severed,
The heart's been led away from pain;
Tranquil, he or she rests with utmost ease.
The mind has found its way to peace.*

The Buddha

*Not being reactive is not being passive. It's not a kind of
stupidity, holding back or being uninterested, removing
oneself from the world. Real equanimity isn't indifference. It's
the capacity to be present with your whole being
and not add any fuel to the fire.*

Jack Kornfield



We are experts at escalation, adding more kerosene to the fire. To de-escalate the cycle of suffering takes courage, because the urge to do what you always do -- scream, cry, hit, whatever -- is like a magnet. It's pulling you down like the undertow. To hold your ground and be non-aggressive takes courage.

Pema Chodren

Whoever can see through all fear will always be safe.

Tao Te Ching

Great beings maintain their mental balance by giving preference to the welfare of others, working to alleviate the suffering of others, feeling joy for the successes of others, and treating all beings equally.

Maha Ghosananda

It seems that so long as we expect life to be other than how it is, then we experience suffering. That simple turning around, embracing, investigating and receiving life as it is, however it is, is the key to freedom. Really, it's a very immediate practice.

Ajahn Anandabodhi

What meets the eye is the Way.

Shitou Xiqian

One may wonder how an enlightened being can function without emotion. It seems to be the wrong question, since destructive emotions are precisely what prevent one from seeing things as they are, and so functioning properly. Obscuring emotions get in the way of a correct ascertainment of the nature of reality and of the nature of one's mind. When one sees things as they are, it becomes easier to rid oneself of negative emotion and to develop positive emotions, which are grounded in sound reason—including a much more spontaneous and natural compassion.

Everything must be based on direct experience.

Otherwise it would be like someone building a beautiful castle on the frozen surface of a lake; it is bound to sink when the ice melts. As the Buddha said, 'I have shown you the path. It is up to you to travel the path.' It's not something that comes

easily. Experience requires perseverance, diligence, and constant effort. As the great Tibetan hermit Milarepa said, 'In the beginning nothing comes, in the middle nothing stays, in the end nothing goes.' So it takes time. But what is encouraging is that if you progress to the best of your capacity, you can definitely check that it works.

The Dalai Lama

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We know that emotions last for seconds, that moods last for, say, a day, and that temperament is something that is forged over the years. So if we want to change, obviously we need to first act on the emotions, and this will help to change our moods, which will eventually stabilize as a modified temperament. In other words, we must start by working with the instantaneous events that take place in our mind. As we say, if we take care of the minutes, the hours will take care of themselves.

Matthieu Ricard

i
Very early on my path, thirty-five years ago in Calcutta, I asked one of my teachers, Nani Barua, whom most of us know as Dipa Ma, the sort of question that can only occur to a beginner: "When you become awakened, doesn't everything become sort of grey and blah? If you've eliminated strong feelings, sense desire, and all the rest, where's the chutzpa, where's the juice?" Instead of answering, she broke out laughing. She laughed and laughed.

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Eventually she said that staggering under the burden of grasping after self is what is so bland and repetitive and boring. When you put that rock down, when you relinquish your hold on all the baggage of self-attachment, every moment is new and vividly alive. As I came to know her and spend time with her, I saw this aliveness and zest in everything she did. Everything. It was so obvious. No answer she could have given would have been as convincing as her laughter and delight to my question.

Jack Engler

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y
The most terrible things in my life never actually happened.

Oscar Wilde

The Consciousness of Beauty

© Sophia Isajiw and Lisa Kaftori, 2008

*Beauty is the mystery of life.
It is not in the eye, it is in the mind.*

Agnes Martin

What is Beauty?

Beauty in our daily existence can manifest in so many powerful ways. It may present itself to us in the beatific smile of a newborn, or the simple gift of another's thoughtful gesture. It may unfold through an unexpected glimpse into the true essence of something, or as an illuminating realization of a well-conceived idea. It might manifest as a moment of deep understanding, an opening of awareness while apprehending an object, or a moment of pure grace descending upon us while listening to a beautiful melody or looking at a sunset. In each case, such beauty opens up space in our hearts, minds and perceptions. It creates connections between beings, between thoughts and being, and between the present and the timeless. It brings one more fully into an awareness of how alive the immediate moment actually is.

We "know" beauty by the deep sense of aliveness we feel when we experience it. Often, we respond with a rushing smile of recognition. But beauty can just as easily be provocative, compelling us to explore, question, analyze, remember, empathize, and even act in socially responsible ways.

What is it that attracts us so to beauty? Apprehending

beauty is really the recognition of a deeper realization, or truth. It is the awareness that beneath the surface reality around us we are connected to a universal whole, an order and consciousness that is itself awesome in its beauty. The sacredness we sense when gazing at a captivating flower, or walking quietly in a forest, or in communion with a beloved pet, is that same Consciousness that unites all living beings. Beauty is a vehicle that brings us into alignment with this conscious awareness, our divine "home."

Beauty is truth, truth beauty.

That is all ye know on earth, and all ye need to know.

John Keats, "Ode on a Grecian Urn"

The Buddha's Flower and the Beautiful Tarantula

When exploring the concepts of truth and beauty, Buddhist teachers may recount the story of the Buddha's sermon on the flower:

One day the Buddha quietly held up a flower in front of a group of followers for all to see. He stood silently for a long time. His followers seemed to be thinking hard, trying to understand the meaning behind the Buddha's gesture. Suddenly, a single member of the audience, the monk Mahakasyapa, smiled intuitively in complete understanding of the Buddha's gesture; the Buddha smiled in return.

Because Mahakasyapa was able to awaken consciously to the present moment, he recognized that the beauty that was in the flower was also in his own innermost being. Truth manifests when all of the senses awaken fully to the present moment, when consciousness shifts from the cacophony of thoughts in the mind, to mindful stillness. A sense of wholeness and unity flows from this awareness, and this feels beautiful to us.

In the story, the form, or vehicle used to transport us to that awareness is a flower—an object of natural beauty that, when apprehended by the senses, reveals an essential truth. Form is thus used to reveal the formless/timeless dimension of the core self. The monk's core self encounters the flower and smiles in beautiful shared recognition. But, what if the Buddha had held up a tarantula instead of a beautiful flower? Would that form have elicited the same smile?

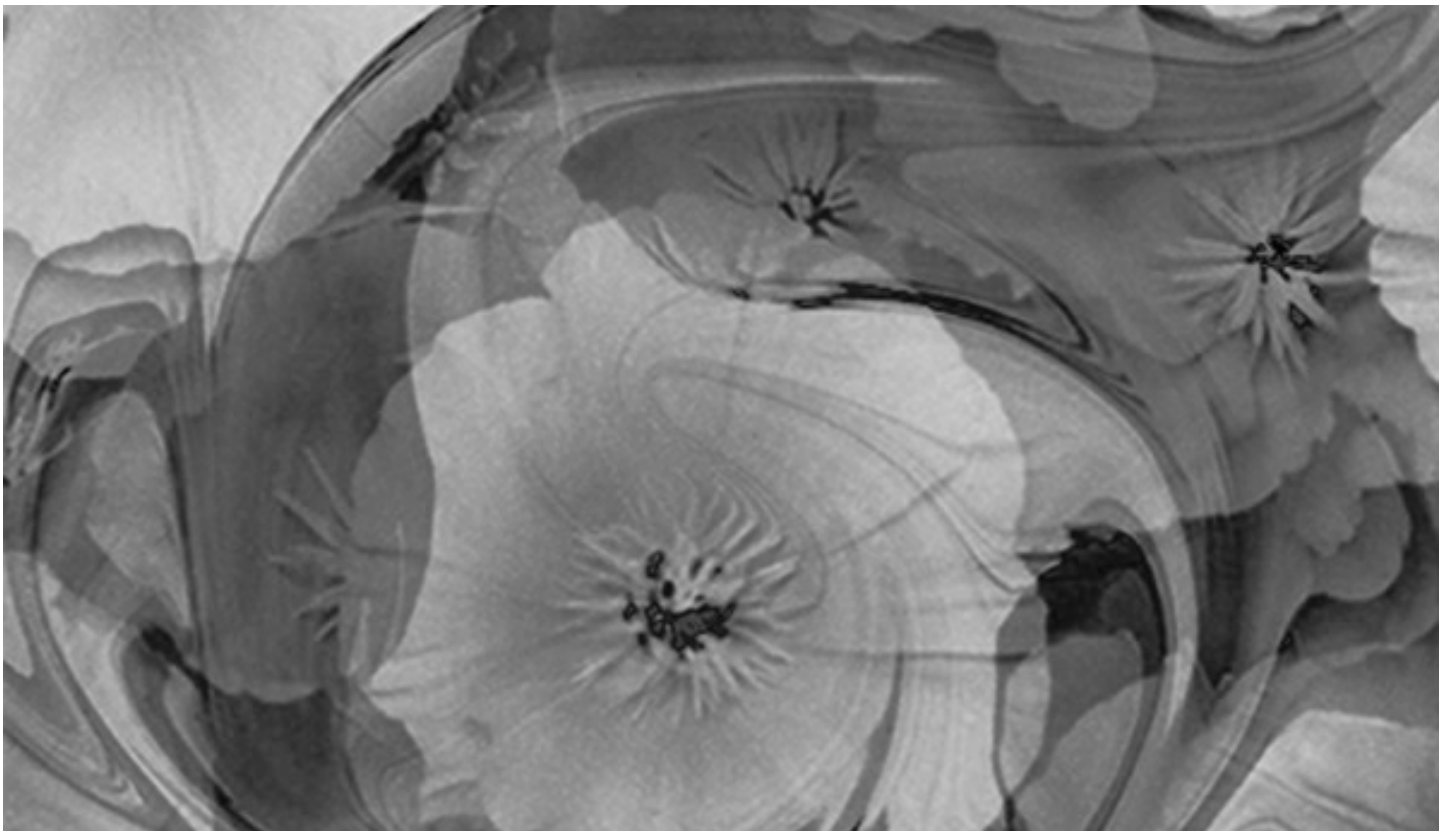
The history of art is simply a history of getting rid of the ugly by entering into it and using it. After all, the notion of something outside of us being ugly is not outside of us but

inside of us. We are working with our minds – trying to get them open so that we don't see things as being ugly, or beautiful, but we see them just as they are.

John Cage

Can one apprehend beauty within ugliness? Practicing mindfulness gifts us with the ability to perceive true beauty or divinity in everything. Ask an artist practiced in life drawing if there is such a thing as an ugly face or body and they will almost unanimously say “no.” Close, mindful observation alters permanently the way we see and apprehend the world. Once the brain expands to apprehend a new thought, we don't easily return to the old, we are transformed. In a manner similar to the way mindful breathing and other forms of meditation help us transcend internal discord, artists, creating consciously, can transcend conventional notions of ugliness, in all of its forms, and in turn challenge or provoke viewers to do the same. Some have termed this radical beauty.

The first question I ask myself when something doesn't seem to be beautiful is why do I think it's not beautiful. And very



shortly you discover there is no reason.

John Cage

Seeing the tarantula's beauty requires us to look beyond cultural conditioning that tells us spiders are ugly, scary, threatening creatures to recognizing the truth and the beauty of their divinity. When someone holds up a tarantula he wants you to really see the tarantula and smile in mutual recognition. Ultimately, all beauty is a manifestation of the divine. It connects us to our own divinity and to the divinity inherent in all things. (The word divinity may be used interchangeably with spirit or consciousness or the sacred or being).

Art does not represent the visual world, it makes things visible.

Paul Klee

Beauty in Art

In the realm of traditional art forms, Beauty consists of mastering visual principles such as movement, balance, unity, perspective, composition, color theory and ultimately, order and harmony. But technical proficiency with these principles alone does not account for the deep apprehension of beauty one experiences in communion with a truly great work of art. Our understanding of beauty, in the conventional sense, is predominantly cultural. In fine art, artists are taught skills and techniques based on the laws of physics, the properties of light waves, and the mathematical golden ratio (also called the "divine section"). These aesthetic principles are based on the neurobiology of the visual brain's wiring. Artists are taught how to implement them in various ways to create harmonious images and forms, and artists and others are conditioned to recognize aesthetic value

in the confluence of basic artistic elements resolved skillfully into extraordinary works of art.

In philosophical terms, Plato called beauty appearing in color, sound, and form sensuous beauty. From an understanding of physical forms of beauty we ascend to truth, to goodness, and ultimately to Absolute Beauty (although Plato himself did not yet refer to art in his metaphysics of beauty, Aristotle did so soon after). For a discussion of philosophical understandings of beauty as they developed throughout



San Rafael Meditation Group

Open to beginners and experienced practitioners, we meet on Wednesday evenings at the A Sante day spa in downtown San Rafael at the corner of Brooks and 3rd. "Early-bird" meditation starts at 6:45 with formal instruction at 7:00; meditation ends at 7:30, followed by a brief break, and then a dharma talk and discussion, ending at 8:30. It is led by Rick Hanson, and for more information, check out www.WiseBrain.org/sanrafaelmeditation.html. Newcomers are always welcome!

various periods of human history, visit the Dictionary of the History of Ideas at:

<http://etext.virginia.edu/cgi-local/DHI/dhi.cgi?id=dv1-28>

But, we know that a great artist, or master in any field, is more than just a great technician. In fact, many artists considered to be great are not even good technicians. It is often said that a craftsperson knows how to avoid accidents while an artist knows how to use them. Inspiration comes from the realm that is deeper than thought. The creative process occurs in a constant flow between experimenting and execution, play and mistakes. The best creative ideas seldom come from thinking or technical skill, which are only a small aspect of the totality of consciousness. Rather, they arise when the artist is profoundly present in the creative moment itself.

For many artists the creative process is a form of contemplative practice — the artwork evolves from a place of pure awareness, a connection with the deeper truths inside themselves. Works of art rooted in such awareness can connect viewers in an intuitive way to a higher place of consciousness. Such art can transform the way people interact with each other and perceive the world.

Because this type of art speaks directly to consciousness, it encourages shifts in awareness, creating spaciousness in the mind and heart. When an artist creates from this place inside his or herself, the heart of a receptive view-

er instantly recognizes it. We call the work of art "beautiful" but most often it is the mutual recognition, through an art form, of unity between beings in a highly fluid and receptive state that we consider so beautiful. When we see a well-executed triple play in a baseball game, or apprehend the workings of the universe in the proof of a great mathematical theorem, we recognize the aesthetic significance of their inherent harmony and attribute beauty to them in the same way. Essential or transformative beauty of all kinds can open up awareness, and create a sense of greater inner spaciousness (which can manifest as greater creativity, inspiration, and deeper connection to the divine), and lead us to places of new possibility.

Beauty, in all of its potential awakenings, is truly in the eye, the wise mind and the clear awareness of the beholder...

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Sophia Isajiw is an interdisciplinary artist, writer, curator, and university professor whose hybrid conceptual works use print media, drawing, audio/video, and handmade objects in site-specific installations and social action performances. Her research explores perceptions of time, space, yearning, memory, interconnections and continuums, as they kiss or collide in a given location. She currently resides in Toronto, Canada.

Lisa Kaftori is an installation and performance artist and a social sculptor, interested in the contexts in which aesthetic experience is created and framed. Her work often explores the relationship of history, memory and place to identity and contemporary culture. She is concerned with creating artwork that emphasizes a sense of understanding and connectedness between human beings and a respectful, symbiotic relationship with the natural world. She currently resides in Israel.

Affect Regulation in Intimate Relationships

© Francine Lapides, 2008

“Affect regulation” is a fancy term for keeping our emotions in balance. In this article, I’ll apply neurological principles to being in romantic or intimate partnerships, especially those characterized by chronic conflict or destabilizing unhappiness.

Cultural change has dramatically out-run the development of our biology – leaving us housed in bodies with nervous systems that have not evolved as rapidly as we have advanced culturally. We operate daily under conditions of speed, complexity and an overwhelming input of stimuli that challenge our capacity to keep up, and which can leave us chronically stressed and overtaxed. This makes it more important than ever that we find support. But where?

Attachment Experiences and Neural Regulation

As creatures of attachment, born with a deep need for intimate connection and community, we turn instinctively for comfort to other human beings. But here’s the irony; one of the greatest sources of stress lies in the challenges and failures of these efforts to get close.

As humans, we are born with immature nervous systems whose wiring is shaped quite profoundly by our first attachment relationships during our early years. The closer and more secure those relationships, the more

efficient and flexible our neural circuitry. But whatever its quality may come to be, we end up ‘wired into’ one another with a powerful predisposition to react automatically. If those predispositions are positive, that’s wonderful; emotionally attuned relationships have the capacity to calm and nurture us. But neglecting or rejecting relationships in our formative years have equal power – just in the opposite direction.

All of us have suffered upset and difficulty in our childhood and adult relationships ranging from being “bounced around” inside interpersonally to extremes of trauma, which can leave us feeling like victims in our own relationships. We can find ourselves working overtime to change the other people in their lives, partly out of that reflex to blame when we experience pain. “This isn’t working,” we say unconsciously; “you figure out how to be different so we can get along.” But a good deal of our relatively futile, and mostly unwelcome attempts to “modify” our closest relationships, comes from a lack of knowing how to shift our own neurology.

As you know if you’ve been following the articles in this publication, every subjective emotional state has a physical correlate in our nervous system. What we observe and experience is paralleled by shifting processes in our brains. The advent of “functional scanning” has allowed us to investigate what our brains are doing as we carry out various tasks, but the brain is terribly and wonderfully complex and research studies using sophisticated

scanning technology can ask only one small question at a time. Thus our attempts to understand what happens where in the brain, while growing exponentially, are tentative at best.

In that humble context, it is generally agreed that neural integration, the “working together” of functionally distinct parts, is a key component of mental health. One way to simplify the incredible interconnectedness – and thus integration – of the brain is to consider that integration along two axes:

- Vertical – Between Cortical and sub-cortical centers in each hemisphere
- Horizontal – Between the two hemispheres

Emotional Problems in Couples

A lack of smooth cooperation among the many circuits of the brain leaves us imbalanced neurologically, leading to physical and emotional symptoms, and to interpersonal discord.

Intrapersonally (alone inside our own bodies), neural dysregulation can present as anxiety ranging from mild

worry to episodes of panic that shake us to our core. It can emerge as sadness ranging from a little moodiness to depressions so deep we cannot leave our beds. We may experience a little difficulty falling asleep or relentless insomnia that leaves us stumbling through our days. We can experience a tinge of loss or grief so deep we feel inconsolable. And the neurological aftershocks of trauma (the simultaneous experience of assault and helplessness) can leave us overwhelmed with intrusive emotions or numbed out and unable to feel.

Interpersonally (between ourselves and others), we may experience this dysregulation of the nervous system as frustrations, irritations, hurt, or feelings of rejection. If our temperaments are “hot,” we may erupt into anger, and scream or rage. Our relationships can deteriorate into aggressive stand-offs or shattering betrayals when we or our partner turn for comfort to someone else.

Angry and defensive arguments – between partners who are unable to repair ruptured closeness with calmer and more thoughtful listening, understanding, and ‘working through’ of the issues that triggered them – gradually erode the intimacy that once delighted them and brought them into partnership.



The Neurally Integrated Couple

A paradigm shift in our thinking reframes “two individuals in conflict” as a single system with intertwined, hypersensitive, mutually arousing neural circuitry. Allan Schore has pioneered a synthesis of neurological, attachment, and trauma research that emphasizes the right brain aspects of non-verbal, implicit communication in the creation and maintenance of healthy human functioning. According to Dr. Schore:

Rather than viewing the couple as two separate people, the contemporary picture is of a single, emotionally-fused system whose coupled chemistry tunes the brains and minds of each. Just as a caretaker's precise responses tune the brain and mind of the newborn infant, so too do the dynamics of the couple . . . set the stage either for well-regulated or dysregulated emotion within individuals.

The working hypothesis, then, is that intimates can regulate one another's autonomic nervous systems (for better or for worse), and that this dependency has its roots deep in the parent-infant attachment system.

Dysregulated emotional reactivity – reflecting a presumed lack of neural integration – causes suffering, disrupts the ability to communicate, erodes, and can eventually destroy, the closeness of our intimate relationships. The neo-cortex is complex and powerful, but it's relatively slow. Buried beneath its cortical folds lie more primitive neural centers like the amygdala, which

Perspectives on Self-Care

Be careful with all self-help methods (including those presented in this Bulletin), which are no substitute for working with a licensed healthcare practitioner. People vary, and what works for someone else may not be a good fit for you. When you try something, start slowly and carefully, and stop immediately if it feels bad or makes things worse.

trauma researcher Bessel van der Kolk calls the “smoke alarm of the brain,” a tiny almond shaped structure in the temporal lobe that is critical in detecting danger at flash quick speed, and is charged with keeping us alive (for more information, please see the first article in this issue of the Bulletin on Equanimity).

As a result, when intimates are fighting, they may begin frontal lobe to frontal lobe. But as emotions heat up, the emotion circuits of the limbic system, guided by the amygdala's labeling of ALARM, partners can flash eruptions of anger, blame, and defensiveness at lightening speed – especially at a partner who just tromped on some old unhealed wound (often inadvertently).

It is this kind of blind reactivity that we need to know how to work on in ourselves.

A Couple in Balance

The antidote is the integration of our complex neurology in which disparate neural centers within us function in a smooth and coordinated way, creating coherency, which allows us to more easily regulate our emotional states.

People who have grown up securely attached, or who have worked through their attachment issues and other disruptions of neural integration, tend to form emotionally balanced, mutually attuned and supportive, and healthy relationships. The partners can regulate (calm and nurture) one other naturally. They do so with empathy, humor and reassurances. Their great advantage is that their own nervous systems have become well “wired up,” so they can internally regulate themselves more successfully.

The problem is that many of us grew up insecurely attached and therefore not so skilled. But that's just where we start: not inherently a problem. We

can learn to think consciously about what regulates or dysregulates us in relationships, and learn to function as a regulatory team in our dealings with other human beings, balancing each other's functioning.

Self-Regulation

Emotional balance in a moment of conflict with another human being requires the ability to not react impulsively even when we have strong feelings; to set our self temporarily aside to listen consciously to what the other has to say.

The key is "holding on" long enough to get back into our own higher regulatory centers like the Orbitofrontal Cortex (a center that lights up when we are attuning to another human being or to ourselves in a self-witnessing or self-observing state).

The OFC is one of most important neural regulating centers of the entire brain because of its location. It's in the prefrontal lobe right behind the forehead and back behind and above our eyes. It's like a central switchboard which sends neurons into all three major layers of the brain: the cortex, limbic system, and brain stem, helping to integrate them into a functional whole.

When the OFC is activated, it allows us to hold on, without erupting or interrupting, long enough for our arousal in response to what our partner has just said to be experienced and calmed down. Our bodies know how to do this if we can ease our own arousal states by breathing, holding still and focusing mindfully on listening while staying calm.

Co-Regulation

Because it is our nature to experience empathy and to seek soothing and closeness with fellow human beings,

co-regulation can be powerful. It does, however, requires that at least one partner at a time be able to self-regulate.

The next time a moment of conflict begins to escalate, and you find the intention to calm down, track your own non-verbal signaling, the tension in the muscles of your face, your vocal prosody (the tone, pitch, warmth and volume of your voice) and your ability to hold your partner's eyes. The amygdala fires more quickly when we glance and look away than when we sustain a mutual gaze. If we're relatively calm and able to look more closely we're likely to see the fear, vulnerability and pain that underlies their, and our, defensiveness.

Instead of focusing exclusively on the verbal content, try shifting to non-verbal messages as a way of stimulating the empathy circuits inside your head. That will give your partner more sense of "feeling felt," which will help calm things down.

Conclusion

You may like to share these strategies with your partner ahead of time so you can both be on the team. And if the emotions still run away repeatedly, consider more formal learning experiences, such a workshop in "interpersonal mindfulness" or Nonviolent Communication, or even some therapy.

These skills of intra- and inter-personal affect regulation are enormously important in helping ourselves and others suffer less and love more. They are worth working at to develop.

* * *

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Offerings

Rick Hanson, PhD, and Rick Mendius, MD

1. At Spirit Rock, in 2008, these daylongs with Rick Hanson and Rick Mendius are scheduled:

- The Neurology of Awakening, on Saturday, September 6. We'll cover how to nurture the brain states that foster the steadiness of mind leading to the deepest and most liberating insights. This is our foundational workshop, with solid neurology and practical tools for activating, step-by-step, the brain states of the Buddha's progressive process of contemplative illumination.

- The Hard Things That Open the Mind and Heart: Practicing with Difficult Conditions, led with James Baraz, on Sunday, November 2. This is for people grappling with difficult conditions – both internal and external – and for caregivers and friends who support those individuals. These include challenges with the body, mind, and life circumstances. We'll cover Buddhist perspectives and practices for difficult conditions; lovingkindness for oneself and for any being who suffers; brain-savvy ways to strengthen your capacity to be with the hard stuff; and methods from the intersection of the dharma and neuroscience for lifting mood and cultivating joy

- Resting in Emptiness: The Evolution of Awareness and the Transcendence of the Self, on Sunday, November 30. This workshop will address the thorny and fundamental question of . . . “me, myself, and I.” The self

– with its tendencies to grasp after possessions and take things personally – is perhaps the premier engine of suffering. We'll explore the evolution of the apparent self in the animal kingdom, and the ways in which the self is real and is also not real at all, coming to rest more and more in the underlying spacious awareness in which self appears and disappears.

2. On Saturday, May 31, in Marin County, Terry Patten will be teaching the Big Mind experience as a benefit for the Heartwood Institute for Neuroscience and Contemplative Wisdom.

3. On Sunday June 29, at New York Insight, Drs. Hanson and Mendius will be teaching their workshop: The Neurology of Awakening.

4. At the Sati Center in Redwood City, California, on Saturday, October 4, we will be presenting the Resting in Emptiness daylong.

5. At Claremont Graduate University, during October 19 – 21, we will be discussants at a conference on using neuropsychology to help illuminate the common ground – and differences – among the contemplative practices of different faith traditions.

Fare Well.

May you and all beings be happy, loving, and wise.