General Introduction

- Do the lessons in order
- Take your time
  - Perhaps you might look at them all then do for an overview, then do them again slowly.
  - Unit 2 will be at least a year later
- Don’t skip lessons because you think you know them
  - E.g. Procedure, Quadriune Brain, Gunas
- For questions go onto your exclusive PaRama forum at www.bodytalksystem.com

Lesson 1  00:30

General Introduction

- All notes and references are in the manual
- All charts and illustrations used are also in manuals.
- Changes and improvements will be posted on the PaRama web site
- Extra video footage of answers to common questions will also be posted there.
- Try watching VCDs with fellow PaRama students and then discussing.

Lesson 1  06:22
General Introduction
Certification

- Elective online exams will be set up
- Covers PaRama units and all modules – section by section.
- Completion of exams on adv modules, Parama unit 1, and attendance at a PaRama College practical course, will lead to Adv CBP.
- Completion of all PaRama Units and practicals will lead to Diploma of BodyTalk.

PaRama College

- Advanced BodyTalk audio/visual courses
- PaRama BodyTalk workshops
- Instructor/coordinator practical workshops
- PaRama Philosophy audio/visual courses
- PaRama Philosophy workshops
- Mindscape and Breakthrough workshops
- On campus college (future)
The BodyTalk System

- What is Innate - Definition

Innate is the self-regulating impulse of manifestation.
It encompasses the natural tendency towards self-repair, regulation, and dynamic balance.

Lesson 1 21:51

Levels of innate activation

- Reptilian – reflex/instinctive
- Neocortical categorization and labeling
- Limbic intuitive
- Neocortical/limbic combination
- Heart Brain universal awareness
- Prefrontal Cortex

Lesson 1
Reptilian – reflexive/instinctive

- Basic reaction/response to stimuli
- Signals of pain, bleeding, nausea
- Changes in heart rate, metabolism.
- Fight/flight response (Masculine)
- Tend and befriend (Feminine)

Neocortical categorization/labeling

- Higher brain activity
  - Categorizing symptoms
  - Labeling and diagnosing
- Neuromuscular and bioenergetic feedback
  - Innate is utilized to categorize
  - Treatment is still given based on findings, assumptions, and agenda
- Considered “Left brain” function
**Limbic intuitive**

- Intuitive knowledge the patient has on what is wrong
- Intuitive knowledge the practitioner has on what is wrong
- In both cases, the treatment is usually based on a derived diagnosis and applied technique
- Considered “right brain” function

**Neocortical/limbic combination**

- Combination of “left” and “right” brain functions
- Applies intuition to structured categories
- Used by BodyTalk agenda sessions
- Protocol (left brain) is consulted through “right brain” procedure
- The emphasis is on the total wellbeing of the client as an individual – now, and in the future
Heart Brain universal awareness

- Universal intelligence being utilized to address the “big picture”
- Here the client is addressed as one part of a universal unfolding
- Non agenda session addressing the balance of the moment

Prefrontal Cortex

- Not utilized by any “system”
- The presence of Supreme intelligence is the treatment in its own right
The BodyTalk System

- Levels of practice
  - General Agenda
  - Focused Agenda
  - Health
  - Non agenda
  - Presence

Three Agendas

- Ego Agenda (not used in BodyTalk)
  - Based on assumptions
  - Involves diagnosis based on case information
- BodyTalk Agenda
  - Based on case history and observation
  - No assumptions are made
  - The agenda is purely determining the focus of awareness that innate will address.
- No agenda
General Agenda

- Case history
  - addressing the immediate needs of client
  - creating a conscious awareness of the clients obvious imbalances
- Preventative maintenance
  - Addressing conditions before they manifest as symptoms
  - Maintaining optimum balance on a regular basis
  - Innate is addressed at neo-cortical/limbic level

Focused Agenda

- Sports medicine
- Specific problems
- Complex Matrixes
  - Within clubs, interest groups, sports teams, etc.
  - Within corporations, governments, etc.
  - Within families and groups within a household
  - Within cultures
- Innate is consulted either at cortical or neo-cortical/limbic levels
Health

- With assumptions
  - Used with agenda sessions
  - Relative assumption that health is attainable
- Without assumptions
  - Used with non agenda sessions
  - Addresses the state of the current moment

Lesson 2  24:27

Health Definition

- With assumptions
  - “State of optimum adaptation to intrinsic and extrinsic factors at all levels.”
- Without assumptions
  - “The total absence of assumptions on life, dynamically living in the moment.”

Lesson 2  24:58
Health – practical application

- BodyTalk “health” chart
- Health sciences
- PaRama Philosophy

BodyTalk “health” chart

- Establishing the “factors” of health
- Realigning the client to health as opposed to treating disease
- Linking and strengthening the health factors of the body to “edge out” the disease
Health sciences

- Reflection (meditation)
- Diet and exercise
- Emotional and mental balancing
  - Mindscape
  - Breakthrough
- Life sciences

PaRama Philosophy

- Becoming totally human
- Dharma – right living
- Quadriune Brain
- Heart Brain
- Levels of consciousness
- Empathy
- Guidelines to healthy boundaries
- Self honesty
- Practical applications
Non-agenda session

- Being present to the moment for the session
- No knowledge of client or perceived needs
- The “big picture” is being addressed
- Innate is consulted at the “Heart Brain” level
PaRama College

Levels of Mind

Levels of Mind

- Conscious
- Subconscious
- Sub-subconscious
- Sub-superconscious
- Superconscious
Conscious Mind

• Relates primarily to the neo-cortex
• Performs our daily routines
• Orientation is externalized
• Utilizes memories from past experiences, learning, and from other external sources such as newspapers, magazines, TV, and our emotions.
• Average person lives 99% of the time in the conscious mind between sleep periods.

Conscious Mind (cont’d)

• 10% of the total mind function. Yet we give it credence for the bulk of our understanding and activity.
• We are not normally conscious of the other 90% of the mind.
• The object is to get the conscious mind into perspective (gnani yoga) so that we can become consciously conscious.
• The conscious mind totally relies on the five physical senses for its communication with the outer world.
• It is seduced by and, usually, dominated by them.
Conscious Mind (cont’d)

• The conscious mind makes up the external world via the energy of the five physical senses. The external world is (an extension of) the conscious mind.
• The conscious mind glorifies in adding to itself – this process is the intellect functioning.
• Many are taught to think that the external world or the senses is the only world that exists. To them, the inner worlds do not exist!

Conscious Mind (cont’d)

• The conscious mind is never satisfied.
• It is driven by the instinctive mind to constantly want to create new things to make the world it is creating more satisfying. Hence, the “more” generation.
• The conscious mind can only know the past (memories stored in the subconscious mind). Therefore it fears the future and the unknown.
• The fear of the conscious mind shuts off the functioning of the superconscious mind.
Conscious Mind (cont’d)

• Out of fear we get anger. Anger and fear are the motivating energies of the conscious mind.
• Living in the conscious mind means that we have to build an ego shell (“me’ concept) around us to protect us.
• Gods of the conscious mind: memory and time

Conscious Mind (cont’d)

• The ruler of the conscious mind is reason which says:
• If we can’t measure it, it doesn’t exist
• If it is not reasonable, it is not acceptable

The basic nature of the conscious mind is insanity. It is kept sane by the actions of the sub-superconscious mind and by trained conditioning. When the conscious mind gets too involved with the external world and absorbed by adharma, the insanity is the result.
Subconscious Mind

- Relates primarily to the limbic and reptilian brains
- Storehouse and computer of mankind—passive plus active memory
- Registers thoughts and feelings that pass through the conscious state whether correct or incorrect; positive or negative.
- The information stored includes genetic, hereditary DNA information as well as karmic experiences from other lives.

Subconscious Mind (cont'd)

- Acts or reacts according to the information stored.
- It is the factor that “shakes” the emotional body causing emotions to become involved and harmful. This shaking comes from the active memory stored there.
- Functions according to the way the conscious mind has programmed it.
- It then functions as our “right brain” concept to enable us to do learned activities without conscious mind involvement. For example, typing, driving, languages.
Subconscious Mind (cont’d)

- Problems are best solved when the conscious mind is not longer focusing on the subconscious mind. When we “sleep on something” or let our (conscious) mind rest, then the superconscious mind acts through the subconscious mind and the sub-superconscious mind gives us the answer.

Subconscious Mind (cont’d)

- The subconscious mind is also insane by nature.
- It is kept sane by intuitively being aware of, and acknowledging the superconscious mind. If it ceases to do this, and the conscious mind is adharmic, then total insanity of the mind results.
- The “will” of the subconscious mind is the desire to create.
- This creativity anchors the subconscious mind.
- When the creativity is damaged through lower emotional excesses, the “will” is destroyed, and the mind falls into insanity, neurosis, nervousness, depression, and despair.
Subconscious Mind (cont'd)

- **Comments**

  - Once the subconscious mind has been programmed by the conscious mind, then the conscious mind is best to leave it alone. In this way the activity can occur spontaneously.

Subconscious Mind (cont'd)

- This spontaneous activity without input from the conscious mind will enable the superconscious mind to kick in and, by acting through the subconscious mind (right brain) will engage the sub-superconscious mind – the world of "zoning" and "Innate"

- Your final obstacle to realization will be found in the subconscious mind wrapped up in charged emotional memories that have been pushed deep to keep them away from conscious scrutiny.
Sub–Subconscious Mind

- Conglomeration of actions and reactions experienced in daily life
- Two or more experiences which share a vibrationary theme and combine to make a third vibration which becomes a hybrid stored in the sub-subconscious.
- A long time delay can occur between the experiences.
- This hybrid is complex and beyond the comprehension of the conscious mind, so it is stored in the sub-subconscious mind.
- This can be:

Sub–Subconscious Mind (cont'd)

**Positive**

- The collective experience paves the way for incredible “coincidences” to occur in our lives and for things to “go right” in extraordinary ways.
- The subconscious mind has collected two or more positive experiences (ah-hah experiences) and made a hybrid of them that is unfathomable to the conscious mind.
- It is then stored in the sub-subconscious mind to act at the deepest level of (right brain) action.
- This explains the “Midas” touch that some people have. Extraordinary things happen without them even thinking about it. This can also include spontaneous healing.
Sub–Subconscious Mind (cont'd)

**Negative**
- The hybrid of two or more negative experiences is also unfathomable by the conscious mind so it is stored in the sub-subconscious mind.
- This will then give rise to behavior patterns and mental or emotional traits that cannot be addressed by conventional therapies because the conscious mind is unable to register the experiences in a logical way.
- The hybrid will turn into feelings of the lower, instinctive nature and cause the external conscious mind to react in ways it would not normally do.

Sub–Subconscious Mind (cont'd)

- Strong positive thoughts melded together in meditation or deep, honest reflection, can often lead to an even more positive hybrid pattern being placed in the sub-subconscious mind.
- The contents of the sub-subconscious mind will also attract situations that express its contents. It will also create situations by orchestrating changes though the subconscious mind over which it has control.
Sub–Subconscious Mind (cont’d)

- The hybrid experience will often not look at all like the two or more experiences it came from.
- Blue is a color. Yellow is a color. Blue and yellow combine to give you green, which has entirely different properties and effects.
- Add oxygen to hydrogen and you get water.
- This is why a few simple positive spiritual experiences can induce a well functioning subconscious mind to make a hybrid of them that could give rise to a profound spiritual experience.
- In BodyTalk, we believe that the most effective way to address negative (and positive) hybrid experiences lodged in the sub-subconscious is to clear them using kundalini energy, sound, color, breathing.

Sub–Subconscious Mind (cont’d)

- The body will try to correct these problems in strong dreams.
- This is when the sub-subconscious mind is able to draw upon the superconscious mind to sort things out. You tend to know this is happening at the sub-subconscious level when you have a series of significant reoccurring dreams.
Sub–Subconscious Mind (cont’d)

- What is important is that you don’t analyze “significant” dreams otherwise this will reinforce them in the sub-subconscious.
- As soon as you wake up you should engage in physical activity and not think about your dreams. Let dreams work in the sleeping state to resolve inner conflicts.
- Another danger is that by bringing a strong sub-subconscious hybrid into the conscious mind, the conscious mind will naturally want to externalize it. This could result in a major negative event in the person’s life—such as a car accident.

Sub–Subconscious Mind (cont’d)

- The sub-subconscious, if blocked, will inhibit the flow of the superconscious mind.
- Unexplained depression in seekers commonly involves this situation. When the seeker is trying to activate the superconscious mind and it knocks up against a congested sub-subconscious mind, then deep depression and feelings of total hopelessness will arise. Intense unusual emotional reactions will occur.
- When the hybrid in the sub-subconscious mind encounters a situation involving one of its contributing experiences, the reaction of the person will be extreme and out of character. This leads to serious neurosis and psychological disturbances.
Sub–Subconscious Mind (cont'd)

- Conversely, a series of positive experience that have occurred can become a sub-subconscious hybrid that will give enormous reserves of strength and wisdom at a later crisis point that would normally have ‘defeated’ the person.
- The subsubconscious mind has strong natural magnetism which attracts so-called temptations and unhappy conditions.

Sub–Subconscious Mind (cont'd)

- The weak conscious mind will then have a conflict between:
  - the magnetic draw of the sub-subconscious mind,
  - the curiosity and fascination of the intellect of the conscious mind, and
  - the “knowing” of the superconscious mind.
- This conflict leads to guilt, pride, and anguish.
Sub-superconscious Mind

- Relates primarily to the mind of the “heart”
- A deep, refined, and powerful filter.
- It also contains the “subconscious” memories of all the lives of the soul residing in the heart.
- Hence it has many experiences to draw upon for insight and intuition.

Sub-superconscious Mind (cont’d)

- It is considered to reside primarily in the spine. It could be considered to include the Shushumna - (the central flow of the kundalini which unites us with the superconscious mind—then, ultimately, Brahman.)
Sub-superconscious Mind (cont’d)

• It is often argued that the conscious, subconscious and sub-conscious refer to the mind of the bodymind of the individual we call “me”

• While the sub-superconscious and superconscious refer to the subconscious and conscious of the Soul (located in the heart) residing in the bodymind.

• Once developed, the superconscious primarily acts through the pre frontal cortex.

Sub-superconscious Mind (cont’d)

• Commonly called our:
  - Perception
  - insight
  - Intuition
  - or sixth sense

• It filters intuitive flashes from the superconscious through the information grid of the subconscious.
Sub-superconscious Mind (cont'd)

- When you want a clear answer about yourself, the conscious mind is usually cut off from the Superconscious mind.
- The subconscious mind registers the questions from the conscious mind and, like a well programmed computer, it searches for the answer in the superconscious mind.

Sub-superconscious Mind (cont'd)

- The sub-superconscious takes the answer from the superconscious mind and filters it though the subconscious gridwork of accumulated information and releases it to the conscious mind.
- The sub-superconscious mind is that aspect of the superconscious mind functioning through established subconscious patterns.
Sub-superconscious Mind (cont’d)

• When the sub-subconscious mind is under control or clear, then the conscious mind can interact healthily with the sub-superconscious mind.
• When not under control, it gets caught up in the cross-section between the conscious mind and the sub-superconscious knowing, resulting in superstition, fanaticism, ideology, and an argumentative nature.

Sub-superconscious Mind (cont’d)

• From the sub-superconscious we derive what we often refer to in western cultures as “our conscience.”
• It is our deep, intuitive ability to discern right from wrong relative to a life situation, and our instinctive practice of Dharma (right living) — ethics and integrity.
Sub-superconscious Mind (cont'd)

- Ultimately, it is possible to live a life residing in the sub-superconscious mind as a natural state.
- This would be a life and deep intuitive awareness at all time.
- Life would appear to flow and timing would always appear perfect.
- There would be constant inner stability and security and the feeling of being totally centered within the realms of the thinking mind.

Superconscious Mind

- Relates to the “conscious mind of the soul” residing in the heart. Although when developed, it functions through the pre frontal cortex.
- It exists in the inner worlds of worlds within worlds.
- All mystical phenomena and deep religious experiences come from the superconscious mind.
- The mind of light, beauty, bliss.
- It is vast pure intelligence.
- The energy of the superconscious mind is the Shushumna, which flows up the spinal cord and is the primary channel of the kundalini channel.
The superconscious mind is incredibly vast.
There are seven main subtle layers of the superconscious mind that can be experienced by the person living from the perspective of the superconscious mind:

- Experiencing the consciousness of the eternity of the moment, as if the world was revolving around you.
- Experiencing a cosmic energy, a divine force, flowing through your external mind which is more real to you than the external mind itself.
Superconscious Mind (cont’d)

- Experiencing hearing voices singing, music playing while in meditation or in the morning just before waking up.
- Experiencing seeing the faces of gods, divas, or sages, while looking into your own face while in meditation, or in the morning just before waking up.
- Experiencing Satchidananda
- Experiencing the body of the soul, as it comes into conscious union with the body.
- Experiencing being on the brink of the Absolute, the void, having lost consciousness of the physical body and of being any of the five states of mind.

Superconscious Mind (cont’d)

- The superconscious mind is the essential you.
- You do not have to get to be superconscious.
- The superconscious mind will gradually be revealed as your natural mind state as you remove the coverings of ignorance.
Superconscious Mind (cont’d)

- It is considered the source of the natural creative energy of the body—Mana.
- When Mana is clearly directed into thought forms, the creation will occur.

Superconscious Mind (cont’d)

- For example, the concept of visualization and manifestation comes from this.
- It is considered that if you can visualize (using the sub-superconscious) something clearly enough—it will happen.
- The catch here is the words “clearly enough.”
- Any obstruction along the path between the superconscious mind and the conscious mind will interfere with this process.
Superconscious Mind (cont’d)

- Thoughts emanate from the sub-superconscious mind.
- They then have to run the gauntlet of filters of:
  - the sub-superconscious mind (subconscious of the Soul)
  - the sub-subconscious (very deep programmed experiences)
  - the subconscious (more deep filters with all the active memories contained within the five senses)

before the thought appears in the conscious mind.
- This is why our thoughts can be so unreliable until all the filters have been cleared.

Superconscious Mind (cont’d)

- The sub-superconscious and superconscious mind operate through the celestial nervous system.
- However, if the conscious mind has been drawn out into the external world sufficiently, then they are “disconnected” from the celestial nervous system and all five levels of the mind start functioning through the physical nervous system.
The Mind – General Comments

• The unaware person often has access to each of the five consciousness states.
• However, if the awareness to differentiate them is not there, then their functions are compromised.
• The person is incapable of taking full advantage of, for example, a flash of true inspired intuition, because he/she is unable to clearly determine its source;
  - i.e. Conscious mind (learned intellectual concepts and opinions learned through the external world)
  - Subconscious mind (repository of habits and patterns and turbulent memories)
  - superconscious mind (true intuitive inspired thought).

The Mind – General Comments

• The total mind can only be truly understood by the sub-superconscious and superconscious aspects of the mind.
• The way our mind works and the level of mind that dominates our thinking can be strongly influenced by our environment.
The Mind – General Comments

• If we live around people dominated by the deep patterns of subconscious conditioning or conscious opinionated knowledge, this will keep those areas of our own minds more active.
• Being around someone living more in the sub-superconscious and superconscious minds will help us to function there as well. That is one of the benefits of satsang.

Lesson 6  52:29

The Mind – General Comments

• Meditation helps to train the mind towards the sub-superconscious and superconscious minds.
• The worlds of argument, endless discussion and resistance to knowledge are the worlds of the subconscious and conscious minds.
• Engaging in these activities locks us within that range of mental processes.

Lesson 6  54:20
Introduction

- In theory, each part of the quadriune brain should work in harmony and synchronicity. However, the reality is that they are in constant conflict because of the major conflicts in the agendas of each part of the brain.
- Glynda-Lee Hoffmann says:
  - “Driven by ancient power plays and lusts, modern yearnings for love and justice, as well as deep needs for affection and intimacy, the brain struggles with its own conflicting agendas, often disastrously. The result is all too apparent in the headlines, and often closer to home in our own confusing lives, where divorce, addiction and depression may wreak havoc.”
"The brain embodies the pattern of wholeness, an integration of two opposites. In terms of not only cosmological, but also neural and psychological development, the two opposites are:

- **continuity and disruption**, or
- **certainties and possibilities**.

Certainties and continuities help us survive.

But the disruptions of new possibilities help us grow and change, igniting the new brain with new fertility and fecundity.

The Qabalists had great concern for brains that could become too rigid, subjected to the influence of too much continuity and not enough disruption.

Such a brain is inflexible; instead of allowing growth and change, it uses its vast powers to maintain the status quo, guarding its hoard of information like a medieval dragon.”
The Reptilian brain is often considered the primitive brain however, when we study the common functions associated with the Reptilian brain we see that it is used extensively in modern day behavior.

Twenty-four basic reptilian traits found in lizards which most humans would have to admit are common human behaviors.

- Selecting and preparing a home site (looking for a place to live, to go to school, and to work)
- Establishing territory (buying or renting a home, moving into the dorm room)
- Making trails (following favorite routes to favorite places such as stores or "watering holes")
- Marking territory (building a fence or putting posters and pictures on the walls)
- Showing place preferences (sitting in routine seats at the breakfast or dinner table, parking in favorite parking places)
- Patrolling territory (installing security lights, auto alarms, and house alarm systems; hiring security guards or calling the police)
- Ritualistically displaying in defense of territory (using colors and adornments, such as flags, door numbers, and door signs)
- Fighting formalized, intraspecies battles in defense of territory (playing football, fighting in gangs, fighting wars)
Reptillian Brain

- Triumphant displaying a successful defense
  (dancing after a touchdown, teammates on a winning baseball team pouring champagne on each other)
- Assuming distinctive postures and coloration in signaling surrender (displaying a white flag, sending an apology note along, with flowers)
- Foraging (shopping, berry picking, going to the farmer’s market)
- Hunting (stalking, doing research, crime detecting)
- Homing (heading home after the hunt or after a long day at work)

Reptillian Brain

- Hoarding (collecting art, coins, Beanie Babies, food, rubber bands, money, cars ...)
- Using defecation posts (creating foul-mouthed graffiti on walls, in books, on desks)
- Forming social groups (organizing and joining teams, luncheons, staff meetings, church committees)
- Establishing a social hierarchy through ritualistic display and other means (holding elections, inaugurations, coronations, awards ceremonies)
- Greeting (saluting, waving, nodding head)
Reptilian Brain

- Grooming (needs no explanation)
- Engaging in courtship, with displays using coloration and adornments (giving or wearing corsages, dressing fashionably or attractively)
- Mating (needs no explanation)
- Breeding and, in isolated cases, attending offspring (needs no explanation)
- Flocking (attending a rock concert, shopping at a store’s liquidation sale)
- Migrating and subsequent colonizing (moving to a new city and establishing a neighborhood, moving to a new neighborhood and “gentrifying” it)

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Reptilian Brain (or R-system)

- Left Hemisphere (masculine principle)
- Initiates in first trimester
- GOVERNS SENSORY-MOTOR FUNCTION (reflexive subjectivity - “fight or flight”)
- (reflexive) AWARENESS OF OUTER SENSORY WORLD
- CAN TAKE OVER LEARNED SKILLS - e.g. typing, driving a car - which frees other areas of brain up to improve on/perfect performance)
Reptilian Brain (or R-system)

- **SKILLED IN THE ART OF DECEPTION**
  - a) Eluding predators.
  - b) Self-deception and deception of others
    - (allows us to become two-faced and, when we feel particularly threatened, to adopt multiple personality masks).

Reptilian Brain (or R-system)

- **SURVIVAL STRATEGIES** - The neocortex uses the reptilian brain’s deceptive skills in two ways.
  - When the reptilian brain is in the service of the neocortex, survival strategies are used in constructive ways, e.g. in bona fide threatening situations such as warfare.
  - When the reptilian brain is insufficiently developed, the situation is reversed and the neocortex serves the reptilian brain, (e.g. in the realm of politics, high business, competitive relationships) as a means of self-promotion.
  - Not only do we become adept at deceiving others, the habit of self-deception deepens progressively.
Reptilian Brain (or R-system)

- REFLEXIVE/DEFENSIVE ALERT SYSTEM - alerts interpreter-mode in neocortex to (seeming) emergencies that require rapid decision-making. If this information is channeled directly to the neocortex (intellect), and particularly if the reptilian brain is underdeveloped, decisions can be irrational and even violent. If the R-system’s information is relayed through the limbic system as well as the neocortex, the decision has the potential of being more creative and measured. Behavior is more intelligent, reflective and flexible when R-system information is channeled via the limbic system.

- REGISTERS PRESENT TENSE ONLY

Reptilian Brain (or R-system)

- PRIMITIVE VISION (takes in only what is necessary for survival purposes)
- SEXUAL DRIVE AND APPETITES

Note:
- When the reptilian brain remains underdeveloped the neocortex cannot modify its behavior.
- In such cases there is a predilection towards irrational, deceptive behavior and/or violence and excessive defensiveness or victim-consciousness.
Limbic Brain

- Right Hemisphere (feminine principle)
- Initiates in second trimester
- EMOTIONAL-COGNITIVE
  - In comparison to R-system’s sensory reflex, the limbic system provides a more objective evaluation of feelings about the surrounding world.

Limbic Brain

- NURTURING/CARE FOR WELL-BEING
  Generated by limbic system in conjunction with the heart. Capacity to relate intelligently.
- SENSES OF SMELL AND HEARING
- AWARENESS OF INTERIOR SUBJECTIVE WORLD – Seeing “outside the box”
Limbic Brain

- FEELINGS TOWARD OUTER OBJECTIVE WORLD
- (NEUROLOGICAL) SYNTHESIS (through self-examination/reevaluation/jnana)
- REGISTERS PAST AND PRESENT ONLY
- LEARNING/MEMORY
  - The AMYGDALA records survival memories from first three years of life.
  - The HIPPOCAMPUS controls subsequent memories.

Limbic Brain

- ASSOCIATIVE THINKING - Relies on the neocortex for dissemination of what is registered.
- MONITORING OF HORMONAL SYSTEM/IMMUNE SYSTEM

Note:
What we learn from specific events creates neural imprints or a “structure of knowledge”
During the encoding of these memory patterns, if a particularly strong emotion is experienced, a flood of emotion-specific hormones are released which become part and parcel of the learned pattern or “state-specific learning”.

Lesson 8 44:26

Lesson 8 48:19
Limbic Brain

- MEDIATOR/MODERATOR BETWEEN R-SYSTEM AND NEOCORTEX

giving rise to:

- ASSOCIATIVE/LATERAL THOUGHT - Expressed via the neocortex while being (constructively) disruptive to it.
- NURTURING/EMOTIONAL BRAIN (The basis of relating)
- Offers “tend and befriend” option to R-system’s “fight or flight” reflex

Note

The cingulate gyrus is believed to be the bridge between the limbic system and the neocortex. Because it appears to enable associative thought and practical decision making, the cingulate gyrus might also be the brain-link enabling a rudimentary registering and expression of dharma or right living.

“What we call rational grounds for our beliefs are often extremely irrational attempts to justify our instincts”

Thomas Henry Huxley
Neocortex

- Left Hemisphere (masculine principle)
- Initiates in third trimester
- VERBAL/INTELLECTUAL
  - Language
  - Interpretation of feelings/reflexes
  - External input.
  - Function is not necessarily intelligence.

Neocortex

- Interpreter of inner and outer world
  - This lobe is concerned primarily with the outer world and our identity within it.
  - If the R-system is underdeveloped, it relays subjective cues directly to the intellect which then serves it by justifying the R-system’s “knee jerk” reactions.
  - In contrast, the more evolved R-system serves the intellect by relaying its cues via the limbic system before they reach the neocortex.

- Ego-intellect
  - Its capacity to “tune out” to the emotional-cognitive brain and heart and to go into narrow-minded interpreter-mode gives rise to disregard for personal and interpersonal well-being and balance.
  - Degrees of insensitive behavior and “heartless” disregard for one’s own and/or others’ feelings is the hallmark of the intellect’s “tune out” mode.
Neocortex

- AUTONOMY (compartmentalization)
  - The corpus callosum, (a neural band connecting the left and right hemispheres) enables the intellect to retrieve right hemisphere information and dissect it in isolation - a capacity unavailable to the emotional-cognitive brain.
  - The negative aspect of this quality is its propensity towards blind assumptions.
- REGISTERS PAST, PRESENT AND FUTURE - The capacity to register the future gives rise to doubt and anxiety.

Neocortex

- CURIOSITY - Arises from the capacity to register the future and think “what if?” Fuels our drive toward expansive consciousness - prefrontal cortex orientation - but also our capacity do doubt, i.e. R-system orientation.
- CREATIVE IMAGINATION (Rt. hemisphere of neocortex) - This ability is due, in part, to registration of the future. The neocortical connection to the prefrontal cortex provides the ability to respond to the unknown and new intelligently.
- ORGANIZED THOUGHT - Goes hand in hand with the capacity to compartmentalize.
- CERTAINTY/CONTINUITY – The hallmark of the compartmentalized intellect is resistance to the unknown. Breakthrough usually requires some form of “dark night.”
Neocortex

- ANALYTICAL LOGIC/INTELLECTUAL STRENGTHS
- CONTROL OVER LEARNED PATTERNS AND ROUTINES
- PROCESSES OUTER WORLD INFORMATION

Note
Evolution of each aspect of the triune (or old) brain during our first three years of life appears to determine whether or not our orientation will tend towards adventurous or defensive; trusting or controlling.
The more poorly evolved the triune brain, the easier it is for the intellect to avoid input from the heart complex.
This is because the neocortex is still enslaved to the lower, Reptilian brain to some degree or another.

Prefrontal Cortex

- Feminine principle
- Initiated in first year of life

“When the higher incorporates the lower into its service, it transforms the lower into the nature of the higher” - Meister Eckhart
Prefrontal Cortex

- **REGULATOR or GOVERNOR OF TRIUNE BRAIN/NEURAL INTEGRATION**
  - The degree to which the prefrontal cortex regulates emotions, impulses and reflexes is determined, in part, by the evolution and orientation of the triune brain during the first three years of life.
  - The prefrontal cortex’ regulatory capacity determines the dynamics of child development, particularly in adolescence when a secondary prefrontal growth-spurt takes place. (The first growth-spurt takes place at beginning of toddler stage).

- **LANGUAGE/LINGUISTIC SELF-EXPRESSION**
  - Possibly via its link to the right temporal lobe of neocortex (which is concerned with sound) and via the left temporal lobe (which assists in evolution of abstract semantics).
  - **EXPERIENCE-DEPENDENT**
    - Shaped by childhood environment and mental/emotional state of caregiver and their capacity to nurture, protect and set healthy behavioral examples.
Prefrontal Cortex

- **CAPACITY TO RELATE**
  - Control of R-system reflexes (survival, sex drive, boundaries/defenses, etc.) and mental prowess (intellect—v—intelligence) determine a person’s ability to have a healthy relationship with the world.
  - This ability relies on prefrontal link to the emotional-cognitive brain; the orbito-frontal link or orbito-frontal loop. The quality of “state-specific learning,” just before the toddler stage, is pivotal to the quality of the orbito-frontal loop; our mind-set and our paradigm.

Prefrontal Cortex

- **CATALYZES INTUITIVE ACTION**
  - Going against rationale
- **CATALYZES REFINEMENT OF ANIMAL INSTINCTS**
  - Neural integration
- **INTENTIONALITY/POTENTIALITY/FORESIGHT**
  - Transcendence of rationale.
  - The desire for wholeness possibly gives rise to the neurochemicals necessary for neural integration of “old” and new brain.
Prefrontal Cortex

INSIGHT/INTUITION and THE CAPACITY TO SEE POTENTIAL
- During the various stages of childhood development, the child’s attention shifts to each new “window of opportunity” for evolution.
- Environment and caregiver input (life-examples) during these stages plays a key role in determining the capacity to trust in and be guided by one’s insights.

CONSTRUCTION OF SYSTEMS OF AWARENESS
- Re-education of the intellect happens, perhaps, by means of prefrontal lobe focus towards transcendence.

Note
Prefrontal neural growth and development can be dramatically compromised minus the appropriate environmental stimuli during early childhood.
Recent scientific research points to a secondary growth-spurt in the prefrontal region around age fifteen. The triune brain’s evolution completes and stabilizes at this age.
Coinciding with and inherent to the process of this prefrontal growth-spurt is the outpouring of neurochemicals that assist in development of new neural pathways.
When there is an excess of detrimental externally sourced chemicals coming into the system from poor diet, alcohol, tobacco, drugs, etc., the body reduces production of the naturally produced neurochemicals.
Prefrontal Cortex

This inhibits development of the prefrontal cortex. It appears that one’s predilection towards violence or the potential for transcendence is largely determined by the dynamics of (prefrontal development in) adolescence.

The Heart/Brain Connection

- The electromagnetic output (or EM field) of the heart is up to sixty times stronger than that of the brain.
- In-utero the embryo is already encompassed by the heart’s EM field which, in turn, is encompassed by, and begins to resonate with, that of the mother.
- Once the child is born, the EM field continues to encompass and extend out beyond the body.
The Heart/Brain Connection

- Unlike barely discernible, unstable brain waves, the heart’s EM field is not only very stable but appears to be self-generating once established.
- The heart’s EM field or energy arc appears to be holographic in that its frequencies are uniformly reflected throughout. I.e. the minutest part or cell within the body/brain reflects the heart’s entire frequency spectrum.
- This is why it is very important to be conscious of this function when we “imprint” changes on the heart complex with BodyTalk tapping out.

The Heart/Brain Connection

- From an autonomous standpoint, the electromagnetic makeup and energetic dynamics of the heart complex appear to be universal.
- However, genetic history, and personal (historical and present) circumstances contribute to the unique, individualistic imprinting of the neural system within each body/brain.
The Heart/Brain Connection

- The heart’s selection and translation of information from the various surrounding/interactive EM fields to the brain determines our unique, personalized experience of the world.
- These experiences are then relayed back into the reality we experience and from which we glean our experience of individuality (self in relation to “others”).

The Heart/Brain Connection

- The degree and manner whereby we draw on the limbic brain determines the heart’s EM field selection process (and the body/brain’s resulting “resonance” or “clash” with this neural input). The heart seems to provide intelligent mediation between the individual, diversified self and the universal/unified Self. Unfortunately, the intellect’s capacity to “stonewall” the heart and other cerebral cortices doesn’t make for intelligent living.
**The Heart/Brain Connection**

- **FREQUENCY GENERATOR**
  - via which the brain receives information about the world
  - gauges our reflexes/emotions/thoughts about our environment and relays them outward.
  - The heart’s EM field extends at least 12 feet from the body.
  - It is so powerful that you can take an electrocardiogram reading three feet from the heart.

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**The Heart/Brain Connection**

- **MODIFIES TRIUNE BRAIN FUNCTION**
  - The atrium produces the ANF hormone (Atrial Neuriatric Factor) which brings about modifications in limbic function.
  - Consequently, ANF has simultaneous impact on the parasympathetic nervous system’s caretaker function.
  - In turn, ANF serves as a synergistic medium within the dynamics of the parasympathetic and sympathetic nervous system (with its protective quality) by synergizing its caretaker function with the sympathetic nervous system’s protective mechanism.
The Heart/Brain Connection

- 60 to 65% of the Heart’s cells are actually neural cells.
- Quite literally, the heart is an independent brain and a major seat of intelligence in the body.
- Half the neural cells are involved with translating information sent from all the body so that it can harmonize the body.

The Heart/Brain Connection

- The other half of the cell maintain an ongoing 24 hr a day communication with the Limbic brain.
- The brain registers all the input it receives and sends the information to the heart for it to decide the appropriate response (in a healthy brain!)
- The degree of unconditional love experienced by the child in the first three years will profoundly affect the functioning of the heart for life.
Heart and Genetic Code

- The heart is the first organ formed in the body.
- It is now linked to the maintenance of, and changes to, the RNA/DNA.
- It appears that the heart profoundly influences the genetic development of the fetus.
- The emotional state of the mother and her environment will affect the heart and determine the degree to development of each component of the triune brain.

Therefore, genetic development and the form it takes continues well after conception.

- The repair of the brain and its development is constant.
- At age 11 and 12, just before the next growth spurt of puberty, the brain, under direction of the heart undergoes a spring cleaning of useless neural connections.
Heart and Genetic Code

- The old survival brain and the new intellectual brain are at odds here.
- If the child feels unsafe and unloved, the brain will focus on retaining survival information.
- If the child feels safe, nurtured, and loved, the brain will focus on new growth and new possibilities.
- This then sets things up for the next growth spurt of the prefrontal cortex at age 15yrs.

Heart and behavior

- The healthy heart provides the child with an abundant inner world. It stimulates imagination and creative solutions.
- Swedish studies have shown that these children are able to find non-violent solutions to their problems.
- Unhealthy hearts cause the brain to rely on the outer world of television and games to inspire them. They then resort to the typical solutions of violence.
Heart and behavior

- Excess television forces outer world development and dramatically slows down development of the new brain and destroys neural tissue.
- Violent programming (even cartoons) constantly stimulate the reptilian response of fight/flight which becomes a constant stress factors and ensures that the heart cannot continue laying down new neural pathways for the prefrontal cortex.

Heart/physiology breakdown

- The German Psychology Institute surveyed 4000 kids who watch 5000 - 6000 hrs of TV by age 6.
- 20 yrs ago the average child could distinguish between 360 different shadings of a single color like red or blue.
- These children could distinguish about 130.
- This has ramifications throughout the sensory system.
The Three Gunas

- **Sattva**
  - “Perfection of being”
  - The qualities of goodness, purity, higher consciousness.

- **Rajasic**
  - “Passion and activity”
  - The quality of movement, emotions, and elemental activity.

- **Tamas**
  - “The force of inertia”
  - Has the quality of denseness, inertia, contraction, resistance, and dissolution
The Three Gunas

- In the unmanifest Universe, energy has three qualities, known as Gunas, that exist together in equilibrium:
  - Sattva (purity)
  - Rajas (activity, passion, the process of change)
  - Tamas (darkness, inertia)
- Once energy takes form, one quality of the three predominates. Thus on an apple tree, some of the fruit is
  - ripe (sattvic),
  - some ripening (rajasic)
  - some overripe (tamasic).

The Three Gunas

- No matter which quality prevails, an element of each of the other two will always be present as well.
- Most of an individual apple will be ripe, but part will be rotten, even if the naked eye cannot see it, and part will be in the process of changing from one state to the other.
- The three Gunas encompass all existence, all actions.
- If a man commits a robbery, the action is basically rajasic but the decision to rob and the motive may be predominantly tamasic, rajasic or sattvic, according to the situation.
The Three Gunas

- In all people one of the three Gunas has superior strength and is reflected in all they do and think. Only in enlightenment are the Gunas completely transcended.
- The Gunas can be found in all beings and objects surrounding us. The yoga aspirant always exerts to increase Sattva in his/her lifestyle. One of the most dramatic changes that can be made is adjusting our diet.

The Three Gunas

The Yogic system of nutrition recognizes three types of food:

**Sattvic Food**
- This is the purest diet, the most suitable one for any serious student of yoga.
- It nourishes the body and maintains it in a peaceful state.
- It calms and purifies the mind, enabling it to function at its maximum potential.
- A sattvic diet thus leads to true health: a peaceful mind in control of a fit body, with a balanced flow of energy between them.

- Sattvic foods include:
  - cereals, whole meal bread, fresh fruit and vegetables, pure fruit juices, milk, butter and cheese, legumes, nuts, seeds, sprouted seeds, honey, and herb teas.
The Three Gunas

- **Rajasic Food**
  - Foods that are very hot, bitter, sour, dry, or salty are rajasic.
  - They destroy the mind-body equilibrium, feeding the body at the expense of the mind.
  - Too much rajasic food will over stimulate the body and excite the passions, making the mind restless and uncontrollable.
  - Rajasic foods include:
    - hot substances, such as sharp spices or strong herbs, stimulants, like coffee and tea, fish, eggs, salt and chocolate.
    - Eating in a hurry is also considered rajasic.

- **Tamasic Food**
  - A tamasic diet benefits neither the mind nor the body.
  - Prana, or energy, is withdrawn, powers of reasoning become clouded and a sense of inertia sets in.
  - The body’s resistance to disease is destroyed and the mind filled with dark emotions, such as anger and greed.
  - Tamasic items include:
    - meat, alcohol, tobacco, onions, garlic, fermented foods, such as vinegar, and stale or overripe substances. Overeating is also regarded as tamasic.
The Three Gunas

**Gunas and the mind**

- **Tamas**
  - Is the state of mind dominated by density and inertia.
  - An imbalance of Tamas causes apathy, lethargy, delusion, and drowsiness.
  - In severe instances, these can turn to hate, vindictiveness, addiction, perversion, and other forms of self-destruction.

- **Rajas**
  - Represents the world of action, movement from the darkness of Tamas into the light.
  - But the mind in Rajas is easily fooled by illusion, and those suffering from an imbalance of Rajas often succumb to ambition, greed, lust, materialism, and a desire to control and dominate.
  - Our society is overwhelmed by the Rajas mindset.
The Three Gunas

- **Sattva**
  - Manifests itself as lightness of being, clarity of mind and purpose, perception of wisdom, and acquisition of knowledge.
  - Pleasure, understanding and detachment are also qualities.
  - Sattvika individuals are spiritual leaders, teachers, and healers.
  - Noble, spiritual, and wise, the Sattva mind represents the culmination of human evolution.
  - It is the mind illumined by the spirit.

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Guna category summary

<table>
<thead>
<tr>
<th>Sattva</th>
<th>Raja</th>
<th>Tamas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truth</td>
<td>Activity</td>
<td>Inertia</td>
</tr>
<tr>
<td>Light / illumination</td>
<td>Passion / desire</td>
<td>Darkness</td>
</tr>
<tr>
<td>Essence</td>
<td>Energy</td>
<td>Mass / matter</td>
</tr>
<tr>
<td>Intelligence</td>
<td>Movement</td>
<td>Sloth / dullness</td>
</tr>
<tr>
<td>Is the ruling trait when the light of knowledge shines forth.</td>
<td>Is the ruling trait when greed, excessive projects, cravings and restlessness arise.</td>
<td>Is the ruling trait when darkness, dullness, stagnation, indolence, confusion, torpor, and inertia appear.</td>
</tr>
</tbody>
</table>

Lesson 11  36:16

Lesson 11  38:36
Balancing the Gunas

- Everyone has a different balance of the three gunas in general, as well as specific balances in specific parts of the body.
- Innate will determine whether the gunas need balancing within an area.
- As with everything else in energy medicine, each property contains the property within it. Within each of the Gunas, lie the three Gunas.
Balancing the Gunas

- In any particular area we may need to balance the Gunas, or shift the area of Guna focus.
  - First example, an organ such as the liver may be far to “stuck” in tamasic qualities from too much tamasic food such as meat and alcohol.
  - This will cause it to harden and become lazy.
  - You will now need to raise the energy of the liver to a more rajasic state so that the work and movement can occur to enable the liver to perform its biochemical duties.
  - Second example, a too rajasic liver needs to be raised to a more sattvic quality in order for the consciousness aspect of organization to occur.

Balancing the Gunas

- First scenario
  - You would be in the liver and balancing tamas to rajas, focusing on that, and tapping it out.

- Second scenario you would be tapping out rajas to sattva in the liver.

- Things can get more specific. You may need to balance within a Guna.
  - For example, rajas to sattva within the tamas of the liver.
Balancing the Gunas

- Another scenario
  - When you use the Guna like a state of consciousness.
  - Instead of balancing between the gunas, you simply raise the consciousness of a particular Guna within the body part or concept.
  - Here, the tapping would be to “consciousness of Tamas to Rajas” within the Liver.
- At other times the Gunas will be used like astrological Houses to set the tone of a session.
Categories

● Several functions

○ 1. Works like houses in Mod 6
  ● Defines scope of session or part of session
  ● Restricts or expands the influence of the formula
    • E.g. Time

○ 2. Can link within themselves
  ● E.g. Guna to Guna; subconscious to conscious mind

○ 3. Can be linked to
  ● Sattva of Rajas (knowledge of hormone targets) of Pituitary to Prefrontal cortex
<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gunas</td>
<td>Tamas</td>
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<tr>
<td></td>
<td>Rajas</td>
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<tr>
<td></td>
<td>Sattva</td>
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<tr>
<td>Mind Level</td>
<td>Conscious</td>
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<td>Subconscious</td>
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<td></td>
<td>Sub-Subconscious</td>
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<td>Sub-Superconscious</td>
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<tr>
<td></td>
<td>Superconscious</td>
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<tr>
<td>Brain function</td>
<td>Reptilian</td>
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<tr>
<td></td>
<td>Limbic</td>
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<td></td>
<td>Neo-cortex</td>
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<td></td>
<td>Prefrontal-cortex</td>
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<tr>
<td>Time Function</td>
<td>Heart brain</td>
</tr>
<tr>
<td></td>
<td>Expansion</td>
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<tr>
<td></td>
<td>Contraction</td>
</tr>
<tr>
<td></td>
<td>House</td>
</tr>
</tbody>
</table>
### Procedure chart

### Introduction

- Listen to the whole procedures lessons first as an overview
- Don’t be fazed by them - it is easy!
- Then redo them slowly and learn them as you go
- Cells - 20% of activity is chemically induced - the rest is energy based
- More precision in the Formula simply means better results!!
- The chart must be second nature so that you will draw upon it spontaneously
- Apply advanced left brain curiosity at every level and every turn!
Commencement

- Permission
- Agenda
- Destination
- Strategies
- Category
- Variables
- Health Network
- Other Systems

- Covered in Mod 1
- Covered in First 2 lessons
- Item
- Parcel - Package

Lesson 13  20:50
Destination

- **Item**
  - Details
  - Link
  - Implementation
- Parcel - Package
  - Details
  - Linking
    - To item
    - As/to parcel
    - As/to package
  - Implementation

- **Item**
  - Physical body part
  - Belief system
  - Energy formation
    - Chakra
    - Mind crystal
    - Meridian
    - Matrix
    - Emotion
    - Element
    - Environmental factor
      - Climates
      - 8th Chakra factor

Lesson 13  21:45

Destination

- **Item**
  - Details
  - Link
  - Implementation
- Parcel - Package
  - Details
  - Linking
    - To item
    - As/to parcel
    - As/to package
  - Implementation

- **More specific**
  - Anatomy/Concept
  - Membrane Network
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- Subsession

Lesson 13  36:28
Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- Subsession

- Anatomy
  - Heart; muscles; arteries; cells; nucleus; etc.
- Concept
  - Belief - to refined version. E.g. “Safe to love” - “Safe to love my husband”

Lesson 13  36:52

Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- Subsession

- Covered in PaRama Unit 2
  E.g. the regulatory effect of cell membranes. Also relates to “boundaries” in life within the body and to the environment.

Lesson 13  37:31
Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
    - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- Subsession

Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
    - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- Subsession

- Time
- Person
- Place
- Object
- Activity
- Emotion
- Event
- Animal
- Plant
- Work
- Money

PaRama BodyTalk 1
Discussed in lecture on sub-subconscious mind.

Lesson 13 44:20
### Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
  - Mind Crystal
- **Strategies**
  - Variables
  - Definition
  - Category
  - Subsession
- Environments
  - Gunas
  - Consciousness
  - Networks
  - Matrixes
  - Five Senses
  - Five Elements
  - First Aid
  - Quantum Mechanics
  - Kundalini
  - Repair Systems

### Strategies

- **Environment**
  - Gunas
  - Consciousness
  - Networks
  - Matrixes
  - Five Senses
  - Five Elements
  - First Aid
  - Quantum Mechanics
  - Kundalini
  - Repair Systems
- 
- **Orientation**
- Wei Qi
- Vivaxis
- Life cycles
- 8th Chakra

Covered in Mod 1 & 2
Strategies

- Environment
- **Gunas**
- Consciousness
- Networks
- Matrixes
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- Kundalini
- Repair Systems

Gunas

- **Sattva** - Intellect
  - Brahma - Mind
  - Knowledge
  - Universal law
  - Dharma
- Rajas - Physiology
  - Vishnu
  - Vibration
  - Distribution
  - Harmony
  - Circulation
- Tamas - Anatomy
  - Shiva - Body
  - Form
  - Substance
  - Inertia
  - Grounding  Lesson 13  49:15

Lesson 13  50:43
Gunas

- **Rajas** - Physiology
  - Vishnu
  - Vibration
  - Distribution
  - Harmony
  - Circulation

- **Sattva**
  - Intent/Knowledge of Function/Target

- **Rajas**
  - Distribution of Hormones/Chemicals

- **Tamas**
  - Formation of hormones
  - Chemical formation

Lesson 13  53:17

---

Gunas

- **Tamas** - Anatomy
  - Shiva - Body
  - Form
  - Substance
  - Inertia
  - Grounding

- **Sattva**
  - Intent/Knowledge of Cell function

- **Rajas**
  - Cell function
  - Autopoiesis

- **Tamas**
  - Cell Structure
  - Maintenance

Lesson 14  04:56
Strategies

- Environment
- Gunas
- **Consciousness**
- Networks
- Matrixes
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- Kundalini
- Repair Systems

- General
- Pathological
- Natural

Strategies

- Environment
- Gunas
- Consciousness
- **Networks**
- Matrixes
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- Kundalini
- Repair Systems

- Type
  - Disease
  - Parcel/Package
  - Location
  - Matrix
  - Mind Crystal

- Style
  - Single Thread
  - Multi Thread
  - Complex
Networks - Introduction

- Dynamic energy systems that are networked because of some common factor
- The whole network is addressed like an Item or Package
- The key is to trace the etiology of the network as far as Innate wants to cast the net
- The etiology is traced through threads that retrace factors throughout the client’s life

Networks

- Type
  - Disease
  - Parcel/Package
  - Location
  - Matrix
  - Mind Crystal
- Style
  - Single Thread
  - Multi Thread
  - Complex

- Major disease archetypes such as:
  - Migraine
  - Asthma
  - Hereditary
  - Autism
  - Microbes
  - Fibromyalgia
  - Mental challenges
  - Etc.
**Networks**

- **Type**
  - Disease
  - **Parcel/Package**
  - Location
  - Matrix
  - Mind Crystal

- **Style**
  - Single Thread
  - Multi Thread
  - Complex

- **Common parcel/package formulas that can be address as a “disease”**.

- These are often seen as “trends” in the clients life or family

- **Simple example**:
  - {{Liv - Pan} worry about organization - {Kid - GB} fear of decisions} - Heart [consc of peace]

---

**Networks**

- **Type**
  - Disease
  - **Parcel/Package**
  - **Location**
  - Matrix
  - Mind Crystal

- **Style**
  - Single Thread
  - Multi Thread
  - Complex

- **Addressing a specific anatomical item (Heart, Pineal, Cell, etc.)**

- **Anatomical system** (Nervous, Lymphatic, Digestive, Muscular, etc.)

- **Physiological system** (Immune, Endocrine, Cellular, etc.)

- **Energy system** (Chakras, Meridians, Kundalini, etc.)

- **Environmental (Family Member, Job, etc.)**
Networks

- **Type**
  - Disease
  - Parcel/Package
  - Location
  - **Matrix**
  - Mind Crystal

- **Style**
  - Single Thread
  - Multi Thread
  - Complex

In this case, the thread style of the matrix has to be addressed before the tentacles.

Remember this also applies to Complex Matrices such as clubs that have a thread history of problems.

Thread - Club Matrix
Networks

- Type
  - Disease
  - Parcel/Package
  - Location
  - Matrix
  - Mind Crystal
- Style
  - Single Thread
  - Multi Thread
  - Complex

- Found in the Category of sub-subconscious
- Their location can be anywhere in the bodymind complex
- The thread will need to be addressed before the Kundalini technique of PaRama BT is applied

A single “line” of causative factors tracing back to childhood or beyond
- Each ‘knot’ in the thread represents a major factor contributing to the pathological network
- Each ‘knot’ is addressed with its own BT formula
- Often become Mind Crystals
**Single Thread**

- Type
  - Disease
  - Parcel/Package
  - Location
  - Matrix
  - Mind Crystal
- Style
  - Single Thread
  - Multi Thread
  - Complex

One thread develops one or more branches (roots) at one or more of the ‘knots’

The branch threads indicate a different history that is fused with the main thread at that significant point in time

The event brings together many experiences and re-enforces them. (E.g. A thread of physical violence fuses with a thread of emotional sexual inferences during a rape.)
Multi Thread

A complex Network Type can end up with multiple Single and/or Multi Threads
They usually become Mind Crystals
A Complex Network can also be made up of several Mind Crystals and Threads

Networks

- **Type**
  - Disease
  - Parcel/Package
  - Location
  - Matrix
  - Mind Crystal

- **Style**
  - Single Thread
  - Multi Thread
  - **Complex**
Networks - comments

- Networks are based upon the concepts of Dynamical Systems Theory.
- They often combine and form greater, more complex networks.
- They enable us to conceptualize trends and patterns. We can then form energy focuses that enable us to “tap them out”
- They are the basis of all eco systems from the human body to the environmental factors addressed in EarthTalk.
- Many networks are healthy and provide the framework for healthy co-existence.
Strategies

- Environment
- Gunas
- Consciousness
- Networks
- **Matrixes**
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- Kundalini
- Repair Systems

- **Primary**
  - Masculine
  - Feminine
- **Secondary**
  - General
  - Entity
- **Fragmented**
- **Complex**
  - Family
  - Groups
  
  [Covered in Mod 9 and in detail in PaRama Unit 2]

Lesson 15 12:03

---

Strategies

- Environment
- Gunas
- Consciousness
- Networks
- **Matrixes**
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- Kundalini
- Repair Systems

- **Physical or Subtle forms**
  - Hearing
  - Sight
  - Smell
  - Taste
  - Touch

  [Covered in Advanced Modules and in detail in PaRama Unit 2]

Lesson 15 12:52
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[Relates to the “Chinese” Five Elements taught in Mod 4/7. Will be covered in more detail in PaRama Unit 2]

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<td>- 4. Area to reciprocal</td>
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<td>- 5. Area to other link</td>
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Quantum Mechanics

- Spin
- Orientation
- Resonance

- These factors profoundly influence the function, structure, and consciousness of an atom and, therefore, a molecule and cell
- They have to be addressed in PaRama Unit 2
Strategies

- Environment
- Gunas
- Consciousness
- Networks
- Matrixes
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- **Kundalini**
- Repair Systems

Strategies

- Environment
- Gunas
- Consciousness
- Networks
- Matrixes
- Five Senses
- Five Elements
- First Aid
- Quantum Mechanics
- **Kundalini**
- Repair Systems

- Mind crystal
  - Channel
    - GV
    - CV
    - Ida
    - Pingala
    - Other
  - Microcosmic Orbit

[Covered in PaRama BT workshops]

Lesson 15  21:20
Repair Systems

- Genetics
- Brain
- BodyGenics
- Performance
- Rehabilitation
- MuSk Protocol

- RNA/DNA
- I Ching
- Molecular Motor
- Vedic
- Conventional

Genetics

- RNA/DNA
- I Ching
- Molecular Motor
- Vedic
- Conventional

As taught in Mod 2
Particularly effective for Vaccines and Cellular damage caused during lifetime from toxins, poisons, etc.
### Genetics

- RNA/DNA
- I Ching
- Molecular Motor
- Vedic
- Conventional

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<th>The Chinese hexagram approach to genetics</th>
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<td>Covered on Cellular biology in PaRama Unit 2</td>
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- Found in cells
- Has a profound influence on all cellular and RNA/DNA activity
- Corresponds to universal energy systems (Vishnu)
- Covered in detail in cellular biology in PaRama Unit 2
Genetics

- RNA/DNA
- I Ching
- Molecular Motor
- **Vedic**
- Conventional

- The Vedic approach to cellular and genetic metabolism and function
- Covered in PaRama Unit 2 - cellular biology

Lesson 15 28:36

---

**Genetics**

- RNA/DNA
- I Ching
- Molecular Motor
- Vedic
- **Conventional**

- BodyTalk approach to using conventional viewpoints of genetic function/dysfunction
- Covered in Cellular biology in PaRama Unit 2

Lesson 15 29:01
**Repair Systems**

- Genetics
- **Brain**
- BodyGenics
- Performance
- Rehabilitation
- MuSk Protocol

- Circulation
- Ion/Ventricle discharge
- Life periods
- Projections
- Variables
- Communication

---

**Brain**

- **Circulation**
- Ion/Ventricle discharge
- Life periods
- Projections
- Variables
- Communication

- Blood
- Lymph
- CSF (Ventricles)
- Energy
  - Meridian
  - Kundalini
  - Charka (Nadis)
- Nervous
The ventricles of the brain in Vedic tradition correspond to the universal Heart sound - AUM.

The Heart relationship means that the ventricles are involved in harmony, neutralization, and energizing (Vishnu factor).

A link from a part of the brain to the nearest ventricle will help to neutralize the harmful ion build up in the brain.

Research shows that the ventricles also receive toxins from the brain for discharge.

Periods of specific growth spurts in life cycle

Addressed:
- During the period
- Before the period in preparation
- Retrospectively to repair the damaged caused by Adharma and environment
Life Periods

- 1. 1st Trimester
- 2. 2nd Trimester
- 3. 3rd Trimester
- 4. 1st Nine months
- 5. First 4 years
- 6. Age 11-12 yrs
- 7. Puberty
- 8. 16-17 yrs
- 9. 21-23 yrs

1. Reptilian Brain
2. Limbic brain
3. Cortexes
4. Prefrontal cortexes and sensory development
5. Whole brain - communication and systems development

- 6. Deletion of unnecessary early childhood programming
  - Based on environmental attitude trend
    - Supportive - eliminates excessive fight/flight response and encourages the joy of learning and interacting
    - Non supportive - retains fight/flight reactive mode and ensures learning continues to be difficult punishment/reward based system
  - Prepares for pubescent growth spurt
Life Periods

- 1. 1st Trimester
- 2. 2nd Trimester
- 3. 3rd Trimester
- 4. 1st Nine months
- 5. First 4 years
- 6. Age 11-12 yrs
- 7. Puberty
- 8. 16-17 yrs
- 9. 21-23 yrs

- Kidney (reproductive energy) kicks in and stimulates rapid whole brain growth and development.
- The “Brain is the flower of the Kidneys” in Chinese medicine
- The Kundalini energy becomes more active and increases sex drive, creativity, neuronal formation and development
- Precipitates fear (kidneys), and anger (Reptilian activation)

Life Periods

- 1. 1st Trimester
- 2. 2nd Trimester
- 3. 3rd Trimester
- 4. 1st Nine months
- 5. First 4 years
- 6. Age 11-12 yrs
- 7. Puberty
- 8. 16-17 yrs
- 9. 21-23 yrs

- Major Pre-Frontal Cortex development
- Enables
  - self awareness
  - awareness of the world
  - Creative and “turbo-charged” thinking
  - Major conflicts between higher “intellect” and emotions
- Profoundly inhibited by drugs, alcohol, and Adharmic lifestyle
Life Periods

- 1. 1st Trimester
- 2. 2nd Trimester
- 3. 3rd Trimester
- 4. 1st Nine months
- 5. First 4 years
- 6. Age 11-12 yrs
- 7. Puberty
- 8. 16-17 yrs
- **9. 21-23 yrs**

Further Pre-Frontal Cortex growth spurt

- Enables
  - Higher levels of discernment
  - Greater awareness of consequences of action
  - Spiritual awareness beyond emotional or learned security systems

- Profoundly inhibited by Adharmic lifestyles (relative to that age)

Brain

- Circulation
- Ion/Ventricle discharge
- Life periods
- **Projections**
- Variables
- Communication

- The mind/intellect’s projections into the world arising from the false sense of separateness
- Determine the way in which we experience and interact with the world
- Result in the concept of “mirroring” and the subsequent pain and suffering of life
- Covered in Advanced Breakthrough and PaRama Unit 2/3
- Advanced Breakthrough is a prerequisite for PaRama Unit 2
Brain

- Circulation
- Ion/Ventricle discharge
- Life periods
- Projections
- Variables
- Communication

The section on Variables is discussed later.
The Time and Dimension factors come up frequently and specifically in relation to repairing Brain function and so are given extra mention here.
Note: “Further Exploring - Brain” often involves most of the aspects listed under Brain with Time/Dimension variables interwoven.

Brain

- Circulation
- Ion/Ventricle discharge
- Life periods
- Projections
- Variables
- **Communication**

- Nervous
  - **Neurons**
  - **Synapses**
  - **Frequency distribution**

[Primarily relates to the Biochemistry of the Brain covered in PaRama Unit 2]

- Brain to heart brain
- Between Brain Functions
- Between Mind Levels
Repair Systems

- Genetics
- Brain
- **BodyGenics**
- Performance
- Rehabilitation
- MuSk Protocol

- Diaphragm
- Breathing Cycle
- Emotional Release

The variables section (done later) comes into play strongly here because of the Time, Scope/Parameter, variables that affect performance issues profoundly.

The agenda and Time release components are taught in Mod 4/7. The PaRama BT advanced sports modules will address advanced concepts of performance.
Repair Systems

- Genetics
- Brain
- BodyGenics
- Performance
- Rehabilitation
- MuSk Protocol

Covered in the PaRama BT advanced Sports Workshops

Covered in Mod 4/7
Details

- More specific
  - Anatomy/Concept
  - Membrane Network
  - Orientation
  - Mind Crystal

- Strategies
- Variables
- Definition
- Category
- Subsession

- Time
  - Fixed
  - Variable
  - Recursive
    - Immediate
    - Delayed
- Scope/Parameters
- Dimensions
  - 3D
  - Time
- Time Function
  - Expansion
  - Contraction

Variables

- Time
  - Fixed
  - Variable
  - Recursive
    - Immediate
    - Delayed
- Scope/Parameters
- Dimensions
  - 3D
  - Time/Space
- Time Function
  - Expansion
  - Contraction

- Chaos theory
  - All apparently chaotic systems do in fact have order if observed long enough (E.g. weather - 40 yrs)
  - The human body takes 3 seconds to solve an equation

- Complex formulas often need to be broken into time sections.
Variables

- **Time**
  - **Fixed**
  - Variable
  - Recursive
    - Immediate
    - Delayed
- Scope/Parameters
- Dimensions
  - 3D
  - Time/Space
- Time Function
  - Expansion
  - Contraction

- Fixed time segments are 3 sec intervals
- One parcel is solved, then 3 sec later another parcel kicks in
- Several parcels or satellites can be on the same time delay
- Intervals develop at 3 sec modules - 3, 6, 9, 12, etc.

**Time - Fixed**

Lesson 17  35:23

Lesson 17  36:03

104
Variables

- Time
  - Fixed
  - **Variable**
  - Recursive
    - Immediate
    - Delayed
- Scope/Parameters
- Dimensions
  - 3D
  - Time/Space
- Time Function
  - Expansion
  - Contraction

- The parcel or satellite has to kick in at a time delay different to the 3 sec set module
- Using variable allows the formula to draw upon that link with an appropriate time delay

Time - Variable
### Variables

- **Time**
  - Fixed
  - Variable
  - **Recursive**
    - Immediate
    - Delayed

- **Scope/Parameters**

- **Dimensions**
  - 3D
  - Time/Space

- **Time Function**
  - Expansion
  - Contraction

- Extremely important in Fractal mathematics
- Drawings of nature involve resolving the equation repetitively until the complete, detailed image builds up
- For complete resolution of a BT formula, the "shift" has to recur several times.
- Each recurrence causes further changes and the progressive breakdown of the habits of the imbalance
- The recursive factor may involve the whole formula of parts of the formula.

---

### Variables

- **Time**
  - Fixed
  - Variable
  - **Recursive**
    - **Immediate**
    - Delayed

- **Scope/Parameters**

- **Dimensions**
  - 3D
  - Time/Space

- **Time Function**
  - Expansion
  - Contraction

- Programmed to take place immediately
- **May be:**
  - Fixed - 3 sec recurring solving of formula
  - Variable - recurring solving of formula at variable time lapses

Note: the Fixed (3 sec) time tends to have more impact because it is simpler for the brain to do.
**Variables**

- **Time**
  - Fixed
  - Variable
  - Recursive
    - Immediate
    - **Delayed**

- **Scope/Parameters**

- **Dimensions**
  - 3D
  - Time/Space

- **Time Function**
  - Expansion
  - Contraction

- **Programmed to take place after the client has gone home**

- **May be:**
  - **Fixed** - recurring solving of formula - e.g. every half hour for 3 hours
  - **Variable** - recurring solving of formula at variable time lapses

**Notes:**
The Fixed time tends to have more impact because it is simpler for the brain to do. The delay allows time for physiological changes to be completed before reapplication of the formula. This is different to time delayed performance sessions.

---

**Time - Recursive**
Variables

- **Time**
  - Fixed
  - Variable
  - Recursive
    - Immediate
    - Delayed

- **Scope/Parameters**
- Dimensions
  - 3D
  - Time/Space
- Time Function
  - Expansion
  - Contraction

- Limits formula to range of influence
- The brain has a tendency to try to do too much
- This technique will ensure that the Brain only addresses what innate determines
- Has particular application in physiology (biochem.) and energetic work.
- Most useful in Categories - E.g. Guna levels

---

Scope/Parameters
We must be constantly mindful that the bodymind is three dimensional in all aspects - body, energy, and consciousness.

- Relates strongly to Body Vivaxis; Reciprocals; Body Parts; Emotions; Chakras; Physiology, etc.
- There are many more dimensions. We deal with four at this level.

The Bodymind structure, function, and consciousness are all three dimensional.

- We must get out of the habit of visualizing in two dimension like we see in a book or on a blackboard.
- Only by working in 3D can we link all the factors of a concept.
- Otherwise we limit our links to the focus of our knowledge or intent.
- This strongly ties into Body Vivaxis work, which needs to be incorporated into everything we do in BodyTalk.
The speed of light is fixed
- Time and space have to be flexible in order to make the world sync with the fixed state of light
- Space gives us the concept of separation
- Time gives us the concept of associations (within the bodymind or externally to the environment)
- Light represents the continuum of the absolute (Brahman) and the total awareness of the fully enlightened individual
- Time/Space (sound/vibration - God) (Associations/Separation) represent the ignorance of the intellect and the relative restrictions of life.
- Utilizing this knowledge will be covered in Unit 2
Variables

- Time
  - Fixed
  - Variable
  - Recursive
    - Immediate
    - Delayed
- Scope/Parameters
- Dimensions
  - 3D
  - Time/Space
- Time Function
  - Expansion
  - Contraction

![The Bodymind that feels contracted will not solve formulas well in BodyTalk or in life](image1)

- An over expanded concept will often lead to sloppy formula solving
- Balancing expansion and contraction occurs in areas of the Brain depending upon the general balance of the client. Common areas:
  - Hippocampus
  - Prefrontal cortex
  - Hypothalamus
  - Anywhere else innate takes you.

- Technique
  - Locate area of brain and determine whether to expand or contract
  - Establish sphere of influence (space) E.g.
    - Local part of Brain
    - Brain
    - Bodymind
    - Matrix (family; work; team; etc)
    - Home, etc.
  - Determine length of time of expansion or contraction
    - Usually in milliseconds (10; 20; 30, etc.)
  - Tap out when appropriate to Formula
### Details

- More specific
  - Anatomy/Concept
  - **Membrane Network**
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- **Definition**
- Category
- Subsession

- Consciousness
- Physiology/Biochem
- Other Systems
- 5 Elements
- 5 Senses
- Emotions

Covered in Adv Modules

---

### Details

- More specific
  - Anatomy/Concept
  - **Membrane Network**
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- **Definition**
- Category
- Subsession

- Gunas
- Mind level
- Brain Function
- Context

Lesson 20  00:28

Lesson 20  03:49
**Category - Comments**

- Categories are used to set the overall environment of a session; Formula; or part of a Formula (E.g. Package)
- The concept was introduced in Mod 6 with Houses. The House dictated the nature of the session - E.g. 10th House - career
- Through categories we can restrict the scope of a session and focus it to a particular sphere of influence E.g. Tamasic Guna; Subconscious Mind; Neo-cortex; House; Life period; etc
- Sometimes we will use Scope/Parameter to limit a session between two categories. E.g. Sub-superconscious and Sub-subconscious

**Category**

- **Gunas**
  - Mind level
  - Brain Function
  - Context

- **Tamas**
- **Rajas**
- **Sattva**

Lesson 20  04:08

Lesson 20  06:57
Remember that the Brain Functions are generalized terms to illustrate relationships within the bodymind. They are not exact physical locations in the brain. Their influence is found throughout the body in every structure. Hence, you can be addressing the Reptilian Brain function within a cell of the liver.
### Category

- Gunas
- Mind level
- Brain Function
- **Context**

- House
- Life Style
- Life periods
- Culture

---

### Context

- **House**
- Life Style
- Life periods
- Culture

- Working under the influence of one of the 12 houses of astrology covered in Mod 6
- This is how you get to this level.
The different general lifestyles of clients give different relative needs of the bodymind.
- E.g. Farmer; office worker; heavy laborer; Sports person, etc.
- When a client also switches from one lifestyle to another regularly, their bodies have to adapt strongly. Sometimes we need to do a session geared specifically for the particular lifestyle section of the client’s life.
  - E.g. Office work v’s competitive sport.

This can include:
- Generalized periods of development
  - The lifecycles - Early childhood; puberty; teens; mid life; etc
- Major life periods particular to the client
  - A Relationship, marriage, etc
  - A period in a particular job or occupation
  - A major period of illness or stress.
- Each of theses periods may then set the Category under which a formula may be built.
**Context**

- House
- Life Style
- Life periods
- Culture

- Particular cultures hold matrixes of energy dynamics that will profoundly influence the client either:
  - Living in them and adapting
  - Trying to move out of them into another culture
  - Living or working with a person(s) from another culture
  - This will particularly influence the practitioner’s choice of consciousness pathologies with regards Dharma, Masculine - Feminine balance, etc.

**Details**

- More specific
  - Anatomy/Concept
  - **Membrane Network**
  - Orientation
  - Mind Crystal
- Strategies
- Variables
- Definition
- Category
- **Subsession**

- Covered in Advanced Procedures
- Remember that a Subsession can be done on:
  - Item - a specific as you can go.
  - Concept - such as a belief system
  - Parcel/package
  - A Formula
Now we go all the way back to Destination

Destination

- Item
  - Details
  - Link
  - Implementation
- Parcel - Package
  - Details
  - Linking
    - To item
    - As/to parcel
    - As/to package
  - Implementation

- Here we ask whether we have to now find a LINK to another:
  - Item
  - Parcel/Package
  - Satellite, etc.
Destination

- Item
  - Details
  - Link
    - **Implementation**
- Parcel - Package
  - Details
  - Linking
    - To item
    - As/to parcel
    - As/to package
  - Implementation

**Implementation**

- **Tap out**
- Satellite
- Parallel Session
- Hand Position
- Specific Tapping
- Breathing

- The basic tapping out on the head and heart until a shift occurs
- The duration will vary according to all the other variables established in the formula
- For example, multiple shifts will occur in time sequenced or recurring formulas
Implementation

- Tap out
- **Satellite**
- Parallel Session
- Hand Position
- Specific Tapping
- Breathing

- Fixed
- Roving
- Alternative
- Resource

Satellite

- **Fixed**
- Roving
- Alternative
- Resources

- The position is fixed in relationship to:
  - The part of the formula addressed
  - The 3D angle it is attached
- What can vary is the time delay it may engage
Satellite

- Fixed
- **Roving**
- Alternative
- Resources

| The satellite is kept free to be able to engage in any position, or level of the formula |
| It can be utilized several times at different stages of solving the formula |
| Its time delay is usually kept variable |
| E.g. In a very sluggish, unmotivated client, you may need to have the planet Mars (strong masculine energy) roving in the formula to inject vitality into various sections as they come up |

---

Satellite

- Fixed
- Roving
- **Alternative**
- Resources

| Sometimes a formula will not know what links it needs to make to complete itself until it has already solved some of the equation |
| The Alternative Satellite concept enables us to place two or more satellites in place that may or may not all be utilized. |
| E.g. The main Package may revolve around fear elements |
  | You can then have several fear related items or parcels that relate to the client as Alternative Satellites |
  | Innate will then select the appropriate link once it has partly solved the equation. |
Satellite

- Fixed
- Roving
- Alternative
- **Resources**

- An extremely important development
- Many body parts simply do not know (or remember) the healthy state of form, function, or consciousness
- We need to provide the bodymind with satellite resources that it can selectively utilize as “models” for health
- Cont’d

Resources

- **Health Matrix**
- Genetic Blueprint
- Environment
- Consciousness
- Prior to “story”

  This section will be developed much further in the next Units

- This incorporates knowledge from the Health Network section to be discussed later and covered in Unit 2
- Primarily it will be concerned with linking to the underlying Universal Health Matrixes according to their locations and structures.
Resources

- Health Matrix
- Genetic Blueprint
- Environment
- Consciousness
- Prior to “story”

Similar to Health Matrix
- Linking to the location of the stored universal healthy genetic code for particular cell functions
- At this stage I assume them to be in the Sacrum and accessed via the Molecular Motors of the cells.

This involves resourcing factors found outside of the bodymind that profoundly influence or maintain its health
- May include:
  - Grid lines
  - Healthy people
  - Patterns of nature
    - Plants
    - Minerals
    - Animals, etc.
  - Sacred geometry
  - Matrixes of influence
  - Spiritual factors, Etc.
### Resources

- Health Matrix
- Genetic Blueprint
- Environment
- **Consciousness**
- Prior to “story”

- Involves linking to healthy consciousness states
- The concept of “Natural Consciousness” as per Mod 3 may arise
- Otherwise, in these cases the practitioner will need to have an excellent knowledge of Natural Law, Dharma, and the makeup of Consciousness in order to know what to resource for the client.

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**Lesson 21  34:09**

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<td>- Health Matrix</td>
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<td>- Consciousness</td>
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<tr>
<td>- Prior to “story”</td>
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</table>

- Involves linking to a satellite that represents the “state of being” on any or all levels (Form, Function, Consciousness) prior to the story
- The “story” refers to the pathological changes that have occurred and can include:
  - Illness - physical/mental
  - Major accident or trauma
  - Life style change
  - Attitude shifts, etc
- The “story” can also be a much bigger picture philosophically and refer to the “story” of the accumulation of the masks of ignorance giving rise to the pathology of experiencing separateness

---

**Lesson 21  36:20**
Implementation

- Tap out
- Satellite
- Parallel Session
- Hand Position
- Specific Tapping
- Breathing

- A separate complete formula not apparently directly linked to the first formula.
- It needs to be solved in a similar time frame and will influence the overall outcome of the session.
- Often enables short cuts such as tapping out several related but separate functions at once
  - E.g. Circ to liver; Circ from Liver; Circ within Liver; all tapped out at the same time.

---

Implementation

- Tap out
- Satellite
- Parallel Session
- **Hand Position**
- Specific Tapping
- Breathing

- With complex Formulas Hand Positions are less important
- Usually, the Hand Position relates to the first links
- Sometimes innate will want a specific positioning for a particular Formula
- This will usually be one of the more complex preset positioning techniques in the formula. E.g. RNA/DNA; BodyChem; Active Memory; Mind Crystals, etc.
Implementation

- Tap out
- Satellite
- Parallel Session
- Hand Position
- Specific Tapping
- Breathing

- Specific tapping over Body Parts that are being addressed in a BodyTalk Formula can facilitate resolution within that part
- Specific tapping over a bone can help the storage of the structural changes being made in all the muscles connected to that bone

- Having the client breath deeper will:
  - Increase the Brain’s monitoring of changes being made
  - Bring the consciousness of the Intellect down to the Heart Brain - wisdom. This will better enable the Formula to be fully synthesized
  - Increases the EMFs from the Heart Brain, which will improve distribution of the knowledge of the changes to all the cells.
Now we go all the way back to Destination

Destination

- Item
  - Details
  - Link
  - Implementation

- **Parcel - Package**
  - Details
  - Linking
    - To item
    - As/to parcel
    - As/to package
  - Implementation

- The terms Parcel and Package are considered interchangeable.
  - Usually, a Parcel contains two or more items
  - A Package contains Items, Parcels, and even other Packages.
Now we go all the way back to Commencement

Commencement

- Permission
- Agenda
- Destination
- **Strategies**
- **Category**
- **Variables**
- Health Network
- Other Systems

- These have already been covered under Details
- Remember that they can all be used under Details or in more general concepts like the whole bodymind complex, under Commencement
Commencement

• Permission
• Agenda
• Destination
• Strategies
• Category
• Variables
• **Health Network**
• Other Systems

Health Network

• Environmental
• Systems
• Cellular
• Energic
• Physical

• Covered in PaRama
College Unit 2
• Relates to developing
a system of addressing
health directly once
the body is “healthy”
enough
Commencement

- Permission
- Agenda
- Destination
- Strategies
- Category
- Variables
- Health Network
- Other Systems

Can be to:
- Apply the BodyTalk Procedure to another system
  - Health Care
  - AnimalTalk
  - PlantTalk
  - MineralTalk
  - EarthTalk
  - Other systems
- Utilize another health care system in its own right

Further Exploring

- This is on the chart to remind you that now matter which box you are in, you need to be mindful that you should exhaust (explore) all possibilities within that box before moving on.
These areas to be filled in Units 2 and 3
PaRama Unit 1

Theoretical Case Studies

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PaRama Unit 1

- Case study A
  - Stroke victim - affecting left hand
Lesson 23  35:31

Lesson 23  40:43
PaRama Unit 1

- Case Study B
  - Irregular heart beat
PaRama Unit 1

- Case Study C
  - Stomach ulcers

Stomach Ulcers

- Strategy
  - Network
    - Type - Disease - Ulcers
    - Establish basic links of Network
    - Style - Multi Thread Network

- Category
  - Context - Life style
    - Type A - high stress work and home
This is now the basis for the Multi Thread Network
Introduction

- Only meant to be a general neuroanatomy lesson
- Main focus is getting an overview and understanding of key relationships.
- Emphasis is on tying in images for right brain
- Remember - the knowledge is only just developing
- All the references are given in notes - they don’t all agree!
Introduction

- Quadriune brain
  - Taught as biological and functional metaphor of relationships
  - There is many areas of disagreement on content of each section
  - Use the quadriune brain for “Categories” to underscore a metaphorical and functional relationship.

Lesson 25  03:56

Introduction

- ALLOW INNATE TO DETERMINE THE LINKS -
  - YOU ARE ONLY LEARNING ENOUGH TO ENABLE INNATE TO GO THERE

- The more you understand, the more powerful the links. However, don’t be disgruntled if there are plenty of things you don’t understand. Science doesn’t know it either!

Lesson 25  06:32
Introduction

- Remember that the transmission of information in the brain and body involves three levels
  - Tamas - Nerve structure
  - Rajas - Nerve transmission and biochemical reaction
  - Sattva - Conscious/awareness - movement via transmission
- We must address all levels for innate to have a choice of approach combinations

Lesson 25  11:11

Introduction

- What we are about to learn are strong trends of function based on repetition of use of the brain by people in similar circumstances.
- However, the brain is adaptable. We see many differences in the brains of people from radically different environmental situations.
- Also, each part of the brain is still holographic and can take on different functions if forced to
- Never forget that the brain, by nature of function, has sattvic domination.
  - This means that all function is most strongly influenced by consciousness/attitude/belief!

Lesson 25  14:03
Basal Ganglia

- The basal ganglia is roughly defined as the areas in the brain that, if damaged, would disrupt motor abilities.
- The most common definition includes the following areas:
  - caudate nucleus, globus pallidus, putamen, and the substantia nigra.
- All inputs to the basal ganglia come from the cerebral cortex and enter at the striatum. [Spiny neurons with axons that form radial fibers (resulting in a striated, or striped, appearance) constitute striatal neurons].

Basal Ganglia

- The basal ganglia are thought to be important when movements are learned by repetition rather than by insight.
- Many striatum neurons are most active when responding to a stimulus linked to memories of significant events, which has led to the suggestion that the basal ganglia link adds motivation to the execution of movements.
Patients with carbon monoxide damage to the globus pallidus and putamen show a loss of initiative and a tendency to engage in repetitive activities, even when there is no evident loss of intellectual capacity. These patients often use ritualized phrases in association with certain behaviors, and frequently count to themselves and/or snap their fingers. One patient could spend 15 minutes flipping a light-switch on and off, whereas another would not utter a sentence until she was certain that the number of words was a multiple of 3.

The high carbon monoxide content of tobacco smoke may contribute to the smoking habit by basal ganglia damage leading to ritualized puffing and lighting of cigarettes.
The basal ganglia and cerebellum are large collections of nuclei that modify movement on a minute-to-minute basis.

Motor cortex sends information to both, and both structures send information right back to cortex via the thalamus. (Remember, to get to cortex you must go through thalamus.)

The output of the cerebellum is excitatory, while the basal ganglia are inhibitory.

The balance between these two systems allows for smooth, coordinated movement, and a disturbance in either system will show up as movement disorders.

Although there are many different neurotransmitters used within the basal ganglia (principally ACh, GABA, and dopamine), the overall effect on thalamus is inhibitory.

The function of the basal ganglia is often described in terms of a "brake hypothesis".

To sit still, you must put the brakes on all movements except those reflexes that maintain an upright posture.

To move, you must apply a brake to some postural reflexes, and release the brake on voluntary movement.
Basal Ganglia

- In such a complicated system, it is apparent that small disturbances can throw the whole system out of whack, often in unpredictable ways.
- The deficits tend to fall into one of two categories:
  - the presence of extraneous unwanted movements (Huntington's Chorea) or
  - an absence or difficulty with intended movements. (Parkinson's Disease)

Basal Ganglia relationships

- The basal Ganglia comprise
  - caudate nucleus
  - globus pallidus
  - putamen
  - substantia nigra
- They are, however, intimately linked to
  - thalamus
  - hypothalamus
  - amygdala
  - subthalamus
Basal Ganglia relationships

- This link was first documented in the Vedas thousands of years ago!
- These components of the brain are a major dynamic of character and personality and are reflected in the universe by being associated with the archetypes of the planets.
Basal Ganglia relationships

- By understanding the basic archetypal characteristics of the planets we get an insight into the sattva function of each of these brain parts.
- Our Natal astrology chart therefore shows the trend of brain function.
  - For example - a moon - sun conflict at birth means that the client will have an ongoing relationship problem between the hypothalamus and thalamus!

Thalamus

- The thalamus is a mass of nerve cells centrally located in the brain just below the cerebrum and resembling a large egg in size and shape.
- The thalamus is a routing station for all incoming sensory impulses except those of smell, transmitting them to higher (cerebral) nerve centers.
- In addition, it connects various brain centers with others.
- Thus the thalamus is a major integrative complex, enabling sensory stimuli to evoke appropriate physical reactions as well as to affect emotions.
Thalamus

- With the hypothalamus, the thalamus establishes levels of sleep and wakefulness.
- It is also vital to the neural feedback system controlling brain wave rhythms
- The thalamus is the major site for Mind Crystals
- The following breakdown of the thalamus comes from:
  - *Human physiology - Expression of Veda and the Vedic literature* by Professor Tony Nader MD ISBN 81-7523-017-7
Thalamus - 1. Pulvinar

- 4 Divisions
  - 1. Pars inferior (Perception)
  - 2. Pars lateralis (Inference)
  - 3. Pars oralis (Comparison)
  - 4. Medial pulvinar (Verbal testimony)

- Sattvic function
  - Means of valid knowledge

- Rajasic function
  - Integration of sensory information, visual attention, and conscious awareness

Sources of input (links)
- 1. Pars inferior - Sup. Colliculus
- 2. Pars lateralis - Sup. Colliculus & Temporal cortex
- 3. Pars oralis - Parietal cortex
- 4. Medial pulvinar Temporal cortex

Output sites (links)
- Temporal, Parietal, and occipital lobes
Thalamus - 2. Lat. Geniculate body

- Sattvic function
  - Object of valid knowledge
- Rajasic function
  - Vision
- Input source
  - Retinal ganglion cells through optic nerve
- Output site
  - Visual cortex

Thalamus - 3. Lat. Dorsal

- Sattvic function
  - Doubt
- Rajasic function
  - Emotional Expression
- Input source
  - Cingulate Gyrus
- Output site
  - Cingulate Gyrus - supralimbic cortex of parietal lobe
**Thalamus - 4. Ventral anterior**

- **Sattvic function**
  - Purpose, goal setting

- **Rajasic function**
  - Higher order control
  - Planning and execution of complex strategies

- **Input source**
  - Globus pallidus

- **Output site**
  - Pre motor and frontal cortices (erratic movement affected by unclear purpose)

**Thalamus - 5. Anterior Nuclear group**

- **Sattvic function**
  - Learning by example
    (associating memory with behavioral patterns, thought processes, customs, and traditions)

- **Rajasic function**
  - Limbic - memory storage

- **Input source**
  - Mammillary body of hypothalamus

- **Output site**
  - Cingulate Gyrus - entorhinal cortex
**Thalamus - 6. Medial Geniculate**

- **Sattvic function**
  - Established principle [the verbal (sound based) principles of manifestation]
- **Rajasic function**
  - Hearing
- **Input source**
  - Inferior Colliculus
- **Output site**
  - Auditory cortex of temporal lobe

**Thalamus - 7. Centromedian**

- **Sattvic function**
  - Parts of logical argument; practice of Dharma (natural law); dictates evolution by reason.
- **Rajasic function**
  - Cognitive functions and motor control (lesions lead to absent-mindedness, clumsiness, speech disturbance, deterioration of cognitive function.)
Thalamus - 7. Centromedian

- **Input source**
  - Globus pallidus and cortical areas (wide catchment area to bring in all the elements needed for logical argument)

- **Output site**
  - Most cortical areas, frontal lobe, caudate, and putamen

Lesson 26  56:21

Thalamus - 8. Recticular

- **Sattvic function**
  - Process of reasoning, organizing, and integrating

- **Rajasic function**
  - Sample, integrate, and ‘gate’ activity of thalamic neurons. (The conductor for thalamic nuclei)

- **Input source**
  - Cerebral cortex, thalamic nuclei, and brain stem

- **Output site**
  - Thalamic nuclei (no cortical projection - it organizes and ‘conducts’ within the thalamus)

Lesson 27  00:18
Thalamus - 9. Intralaminar nuclear group

- Sattvic function
  - Art of drawing conclusions (analyzing, synthesizing, pondering, considering)
- Rajasic function
  - Sensory-motor thalamic pace-maker controlling electrocortical activity
- Input source
  - Reticular formation, spinothalamic tract
- Output site
  - Basal Ganglia and cortex

Thalamus - 10. Lateral posterior

- Sattvic function
  - Discussion; seeing things from different angles.
- Rajasic function
  - Integration of polymodal sensory inputs
- Input source
  - Parietal lobe
- Output site
  - Parietal lobe
Thalamus - 11. Ventral lateral

- Sattvic function
  - Polemics (powerful and effective argument with controversy)

- Rajasic function
  - Motor steadiness; lack of coordination. (lesions cause tremor)

- Input source
  - Dentate nucleus of cerebellum

- Output site
  - Motor and premotor cortices

Thalamus - 12. Ventral postero-medial

- Sattvic function
  - Cavil (to make objections about something on small and unimportant points); diminishing the dignity of another; condescension; insulting.

- Rajasic function
  - Somatic sensation (face) including touch, pain, and temperature (slapping of the face)

- Input source
  - Trigeminal nerve

- Output site
  - Somatic sensory cortex of parietal lobe.
Thalamus - 13. Midline nuclei

- Five sections
  - 1. Paraventricular
  - 2. Central nuclear complex
  - 3. Nucleus reunions
  - 4. Small nuclear group 1
  - 5. Small nuclear group 2

- Sattvic function
  - 1. The inconclusive
  - 2. The contradictory
  - 3. The equivalent to the question
  - 4. The unproved
  - 5. The belated

- Rajasic function
  - Limbic - emotions, diffuse function

Input source
- Reticular formation and hypothalamus, amygdaloid complex

Output site
- Basal forebrain (amygdaloid complex) - cingulate gyrus, hypothalamus
Thalamus - 14. Medial dorsal

- Three sections
  - 1. Parvicellular portion
  - 2. Magnocellular portion
  - 3. Paralaminar portion
- Sattvic function
  - 1. Verbal
  - 2. Generalizing
  - 3. Figurative
  - These are all involved with imagination, anticipation, intuition, and speculation
- Rajasic function
  - Limbic -
    - 1. Speech, motor, language
    - 2. General feelings, emotions, memory
    - 3. Vision

Thalamus - 14. Medial dorsal

- Input source
  - Amygdaloid complex, olfactory, and hypothalamus
    - 1. Frontal cortex
    - 2. Amygdala, temporal cortex, orbito-frontal cortex
    - 3. Area 8 (frontal eye field), Substancia nigra
- Output site
  - Prefrontal cortex
    - 1. Frontal cortex (feedback loop for language and speech)
    - 2. Amygdala, temporal cortex, orbito-frontal cortex
    - 3. Area 8 (frontal eye field), Substancia nigra
**Thalamus - 15. Ventral postero-lateral**

- Sattvic function
  - Futile argument
- Rajasic function
  - Somatic sensation (body) including touch, pain, and temperature
- Input source
  - Spino-thalamic pathways; Dorsal column of the medial lemniscal pathways
- Output site
  - Somatic sensory cortex of parietal lobe.

**Thalamus - 16. Ventral intermedial**

- Sattvic function
  - Disagreement on first principles
- Rajasic function
  - Not understood
- Input source
  - Not understood
- Output site
  - Somatic sensory

Lesson 27 26:44
Lesson 27 29:20

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PaRama College

Seven States of Consciousness

Introduction

Seven states consciousness

• Whether consciousness or matter predominates in the awareness depends on the state of consciousness of the observer. Maharishi’s Vedic Science defines seven states of consciousness:
  • 1. Sleeping
  • 2. Dreaming
  • 3. Waking
  • 4. Transcendental Consciousness
  • 5. Cosmic Consciousness
  • 6. God Consciousness
  • 7. Unity Consciousness
Thalamus in consciousness

- The thalamus is considered the main player in the function of consciousness
- Consciousness is registered in the cortexes - higher levels of consciousness in the Heart brain - then the neo-cortex.
- However, for any of that to really occur, the Thalamus must be functioning correctly
- The Thalamus is referred to as the “light at the gate” of consciousness.
- All the previous breakdowns of function of the thalamus would point to this

Thalamus in consciousness

- The Thalamus is a meeting point of external input (environmental) from the senses - and - internal input via all the nerve tracts coming from the body and other parts of the brain.
- Hence, it is the meeting point of ‘outer’ and ‘inner’ worlds and the primary source of confusion as to their APPARENT separateness.
- The gradual onset of clarity in the Thalamus on this issue traces the evolution of “awareness” in seven stages.
Sleeping

• If the thalamus gates are shut off or if the thalamus is in a `sleeping mode'- i.e. the lamp at the door is not lit - then there will be no perception at all.
• This is the state of sleep.

Dreaming

• The state of dreaming is similar to sleep except that during dreaming the awareness is processing stored impressions, giving them an illusory reality.
• It is as if the lamp is not lit, but one is absorbed in an imaginary reality.
Waking

- In the waking but not enlightened state of consciousness, a sensory stimulus allows the perception of an object, but it overshadows the experience of the Atmam.
- It is as if the lamp is lit outside but not inside.
- Perception in this case seems to give a reliable experience of the object.
- This is, however, taking place on the basis of an `overshadowed' and `confused' `screen' of consciousness.
- The perception of the object is, therefore, only a `colored' and `prejudiced' assessment.
- The more stress in the nervous system (i.e. the `darker' it is inside), the farther the perception is from reality.

Transcendental Consciousness

- If absolute WHOLENESS is maintained without the perception of any specific value, then one is in a transcendental state of consciousness - beyond sensory experience and beyond thought.
- It is as if the lamp is lit inside but not outside.
Cosmic Consciousness

- When the lamp is perfectly placed at the door, both the inside and outside are perceived.
- In the cosmic state of consciousness, the inner and the outer are seen as separate values
  - one non-changing (the inner, the Self) and the other
  - changing (the outer, the non-Self).
- This is the state of enlightenment that is held in the Heart Brain - hence the balance.

God Consciousness

- On the basis of a clear and unperturbed inner screen of consciousness, outer perception becomes more and more refined and sharp.
- It is as if one has secured the inner strength and stability needed to allow a nonfearful, bold, and clear exploration of the outer values without hesitation, apprehension, or doubt.
- Here, the neo-cortex is allowing the sub-superconscious to give insight
God Consciousness

• When this reaches its highest possible level of clarity and perfection, the outer is perceived in its full relative glory as a perfect dynamic expression of the absolute inner value.
• This is the state of God Consciousness, also described by Maharishi as a state of glorified Cosmic Consciousness.
• This is the neocortex and is often called “self realization” to brahma

Unity Consciousness

• In the state of full enlightenment—Unity Consciousness—the inner Self, Atmam, the Unified Field of Natural Law becomes the only inner experience.
• Full Realization to Brahman
Unity Consciousness

• This experience of total Unity—infinity—permeates individual awareness under all conditions of perception, thought, speech, and action.

• Yet in this state of consciousness, the thalamus maintains its distinguishing and deciding characteristics.

• It still allows the awareness to detect specific values, but instead of acknowledging them or perceiving them only in terms of ‘small wholenesses’ (such as a flower, an elephant, a mountain, or a galaxy), it always sees Totality—the Unified Field.

Unity Consciousness

• The inner reality is never overshadowed by any outer experience, yet sharpness of perception of all specific qualities is maintained and enhanced.

• This is a state in which fullness of life is lived on all levels—specific and holistic, outer and inner.

• This is the balance between dynamism and silence and between change and non-change—the relative and the Absolute.
Unity Consciousness

• The flower can be seen but the Self is never overtaken—specific values and ‘small wholenesses’ can be appreciated while infinity is never overshadowed.
• This is like the vision of the goldsmith who sees the form, but in every form he sees the gold.
• This is called enlightened vision, which has no darkness at any level—whether on the level of the senses, the mind, the intellect, or the ego.

Note: Each level of consciousness has a unique body chemistry and physiology.
Hypothalamus

- The hypothalamus relates to the Moon
- The hypothalamus is situated under the thalamus
- It is involved with emotions and the physiological response to emotions.
- It is also involved in daily, monthly, and seasonal cycles.
- It controls feeding behavior, body temperature, reproductive behavior, and hormonal cycles of various frequencies (e.g. women’s 28-day cycle)
Hypothalamus

- It is like a mother or a queen. Its function and characteristics are like those described for the moon.
- The hypothalamus functions to regulate:
  - body temperature
  - hunger
  - thirst
  - osmotic pressure
  - sex drive, etc.

Hypothalamus

- The suprachiasmatic nucleus receives fibers emerging from the optic nerve and seems to function in the regulation of circadian rhythms ("day-night cycles")
- Signals from the suprachiasmatic nucleus to the pineal gland results in the production of melatonin from serotonin
- Stimulation of parts of the median forebrain bundle in male monkeys can result in penile erection and emotional display.
Hypothalamus

- Stimulation of the periventricular nucleus leads to fear, escape, or punishment reactions.
- The main function of the hypothalamus is homeostasis, or maintaining the body's status quo.
  - Factors such as blood pressure, body temperature, fluid and electrolyte balance, and body weight are held to a precise value called the set-point. Although this set-point can migrate over time, from day to day it is remarkably fixed.

To achieve this task, the hypothalamus must receive inputs about the state of the body, and must be able to initiate compensatory changes if anything drifts out of whack. The inputs include:

- nucleus of the solitary tract - this nucleus collects all of the visceral sensory information from the vagus and relays it to the hypothalamus and other targets. Information includes blood pressure and gut distension.
- reticular formation - this catchall nucleus in the brainstem receives a variety of inputs from the spinal cord. Among them is information about skin temperature, which is relayed to the hypothalamus.
Hypothalamus

- **retina** - some fibers from the optic nerve go directly to a small nucleus within the hypothalamus called the **suprachiasmatic nucleus**. This nucleus regulates circadian rhythms, and couples the rhythms to the light/dark cycles.

- **circumventricular organs** - these nuclei are located along the ventricles, and are unique in the brain in that they lack a blood-brain barrier. This allows them to monitor substances in the blood that would normally be shielded from neural tissue.
  - Examples are the **OVLT**, which is sensitive to changes in osmolarity,
  - and the **area postrema**, which is sensitive to toxins in the blood and can induce vomiting. Both of these project to the hypothalamus.

**Hypothalamus**

- **limbic and olfactory systems** - structures such as the amygdala, the hippocampus, and the olfactory cortex project to the hypothalamus, and probably help to regulate behaviors such as eating and reproduction.

- The hypothalamus also has some intrinsic receptors, including **thermoreceptors** and **osmoreceptors** to monitor temperature and ionic balance, respectively.
Hypothalamus

- Once the hypothalamus is aware of a problem, how does it fix it?
- Essentially, there are two main outputs:
  - **neural signals to the autonomic system** - the lateral hypothalamus projects to the (lateral) medulla, where the cells that drive the autonomic systems are located. These include the parasympathetic vagal nuclei and a group of cells that descend to the sympathetic system in the spinal cord. With access to these systems, the hypothalamus can control heart rate, vasoconstriction, digestion, sweating, etc.

Hypothalamus

- **endocrine signals to/through the pituitary** - recall that an endocrine signal is a chemical signal sent via the bloodstream.
  - Large hypothalamic cells around the third ventricle send their axons directly to the **posterior pituitary**, where the axon terminals release **oxytocin** and **vasopressin** into the bloodstream.
  - Smaller cells in the same area send their axons only as far as the base of the pituitary, where they empty **releasing factors** into the capillary system of the **anterior pituitary**.
  - These releasing factors induce the anterior pituitary to secrete any one of at least six hormones, including **ACTH** and **thyroid-stimulating hormone (TSH)**.
Hypothalamus

- Ultimately the hypothalamus can control every endocrine gland in the body, and alter blood pressure (through vasopressin and vasoconstriction), body temperature, metabolism (through TSH), and adrenaline levels (through ACTH).

- The Hypothalamus and Emotional Expression
  - The hypothalamus regulates the autonomic discharge of nerve impulses:
    - acceleration of heart rate
    - elevation of blood pressure
    - flushing (or pallor) of the skin, sweating
    - "goose-pimpling" of the skin
    - dryness of the mouth
    - disturbances of the gastrointestinal tract.
The Amygdala
Amygdala

- Situated near the tail of the caudate
- It is related to the planet Mars, with the qualities of aggression, anger, strength and courage.
- Involved in the expression of emotions - In particular fear and rage - associated with the flight/flight mechanisms.
- The amygdale also receive external input from the thalamus and determine if that input poses a threat to the bodymind.
- If it does, then the amygdale sets up the flight/flight reaction sequence.
Amygdala

- First, the stimulation of the amygdala can cause vegetative responses, such as licking and chewing movements.
- Next, the amygdala has been found to process feelings of fear as well as anxiety and is involved in the experience of post-traumatic stress disorder.
  - The amygdala is the nucleus responsible for the lurch you feel in your stomach when you turn around in a dark alley and notice someone following you
- Finally, this structure also plays a role in regulating the changes in heart rate as a result of emotional stimulation.

Amygdala

- Conditions such as autism and depression are also suspected of being linked to the amygdala.
- In relation to psychotic disorders, the amygdala does possibly play a role in psychosis, while it is also most likely involved in the manifestation of mania and depression in individuals.
- This conclusion is first related to the fact that the amygdala has been found to play a role in controlling aggression and produces a "rage" response when stimulated in animals.
- Second, in relation to the manifestation of depression, docility has resulted when the amygdala is removed from the brains of animals.
Amygdala

Inputs:
- The amygdala must get sensory input, and it must be fairly highly processed input to recognize the elements of a scene that signal danger.
- The association areas of visual, auditory, and somatosensory cortices are the main inputs to the amygdala. Most of these inputs come via the Thalamus.

Outputs:
- The amygdala must be able to control the autonomic system, to provoke such an instant sympathetic response.
- The main outputs of the amygdala are to the hypothalamus and brainstem autonomic centers, including the vagal nuclei and the sympathetic neurons.
- The amygdala is also involved with mood and the conscious emotional response to an event, whether positive or negative.
Amygdala

- To this end, the amygdala is also extensively interconnected with **frontal cortex**, the medial striatum, and the mediodorsal thalamus (14- speech, motor, language, feelings, emotions, memory, vision)

- The amygdala is believed to contain memories of associations with danger so that it can trigger the alarm response. Research is showing that most of the memory it has, was accumulated in the first three years and hereditary.

Amygdala

- **Summary**
  - Sattva:
    - Emotional response - especially fear, rage;
    - Ability to recognize fear, rage and potential trouble in the environment.
    - Energy and alertness v’s depressed docility
    - Some authorities say that the Amygdala can play a big role in the capacity to love and show affection (It is often associated with autism)
Amygdala

- Rajas:
  - Fight/flight response including adrenal secretion and placing the whole brain on alert.
  - Increasing heart rate (hypothalamus)
  - Mobilization of emotions
  - Activation of warning signals
    - Stomach lurch
    - Fear/anger

Subthalmic nucleus
**Subthalamic Nucleus**

- The nearest ‘satellite’ to the thalamus. It lies just below the Thalamus.
- It is the closest separate structure to the Thalamus and represents Mercury orbiting the Sun.
- The functions of the sub-thalamic nucleus express the quality of discrimination, which is also a quality assigned to Mercury.
- The sub-thalamic nucleus receives input from the thalamus, other basal ganglia, and the cortex, and is under their influence.
Subthalamic Nucleus

- It can give modulated outputs based on the major influences that it receives (conjunction or aspect), as is also the case of Mercury.
- The output of the Subthalamic nucleus helps to regulate the Globus Pallidus which, in turn, has a powerful influence over the Ventral Lateral region (11) of the Thalamus.
- All this means that it has a powerful role in motor coordination and the fine point discernment involved with that process.

Lesions, usually vascular, result in involuntary movements of a violent nature

- Glutamate is the primary neurotransmitter for the pathways leaving the STN.
- Sattva: Discernment; Intellect
- Rajas: Motor movement; Voluntary v’s Involuntary movement
Basal Ganglia

Globus Pallidus
Globis Pallidus

- In Vedic literature it is called the Guru
- It relates to the planet Jupiter
- It lies second from the outer edge of the basal ganglia, after the putamen.
- It constitutes the major output of the basal ganglia.

Globis Pallidus

- It acts as the major instructor, or teacher, which produces the most balanced, all-embracing instructions to guide action.
- It is involved in higher-order control-planning and execution of complex strategies. (This is not the conservative view of its function. However, research is showing that there is strong cortical input and that the GP is much more than just a relay.)
- The GP is involved in functions related to the limbic system, including maintenance of the inner balance and action in accordance with inner and outer demands (action in tune with Natural Law).
- These values of the globus pallidus associate it to Jupiter.
Globis Pallidus

- The Globus Pallidus can be divided into two parts:
  - Globus Pallidus externa (GPe)
  - Globus Pallidus interna (GPi).
- Both receive input from the caudate and putamen, and both are in communication with the Subthalamic nucleus. (Often linked to Parkinsonism)
- It is the GPi, however, that sends the major inhibitory output from the basal ganglia back to thalamus.
- The GPi also sends a few projections to an area of midbrain, presumably to assist in postural control.

Summary

- Sattva:
  - Teacher, Guru, Higher order control; maintenance of action according to the natural law of inner/outer balance
- Rajas:
  - Coordinates complex activity as part of the basal ganglia complex.
  - A factor in postural control
Basal Ganglia

Substancia Nigra

Figure 45: This figure shows a coronal section of the brain with its internal structures, including the basal ganglia, the thalamus, the hypothalamus, the substantia nigra, etc. and their one-to-one relationship with the 9 planets, or Graha, of the solar system.
Substancia Nigra

- The Substantia Nigra is divided into two parts:
  - Pars compacta
  - Pars reticulate

- Pars compacta
  - Contains pigmented neurons that have an important function in activating and inhibiting the putamen and caudate nuclei.
  - Is involved in the maintenance of steadiness and the precision and smoothness of movement.
  - Its disruption or affliction leads to tremors, rigidity, and difficulties or inabilities in initiating movement (akinesia).

Substancia Nigra

- Pars reticulate
  - A finely reticulated pale structure, similar in structure and function to the globus pallidus, but with a much more limited impact-less global scope and connection.
  - It is associated with the control of action and with the limbic system (related to instincts, emotions, and reproductive behavior).
  - Strongly involved with movements of the head and eyes.
Substancia Nigra

- The Substantia Nigra represents Venus.

Sattva:
- Venus is associated with instincts, emotions, and reproductive behavior.
- It is also associated with art (painting, dance, music, etc.) and comfort.

Rajas:
- These aspects require the ability to have balanced, smooth, and refined movements.
- For this the substantia nigra must be functioning optimally.

Basal Ganglia

Putamen
Putamen

- The farthest ‘satellite’ from the thalamus (Sun) sits at the outer edge of the basal ganglia.
- It represents the planet Saturn
- It is a large structure, which looks dark in sections of the brain.
- Its function is like that of a servant:
  - it receives the major orders and inputs that are transmitted to the basal ganglia.
- The putamen is primarily concerned with motor activity.
Putamen

- It can restrict and obstruct the input to the basal ganglia.
- Its disruption or affliction leads to:
  - progressive disease (see also Head of the Caudate)
  - decreases tone in body
  - dementia
  - chorea (abrupt uncoordinated movements of the limbs and facial muscles)
  - early death.
- Its function and structure make it similar to Saturn.

Putamen

- The putamen receives input for a "sensorimotor loop".
- The caudate receives input for an "association loop".
- And the nucleus accumbens receives input for a "limbic loop".
  - (The looplike character of these circuits undoubtedly accounts for the fact that oscillation is a common feature of basal ganglia damage.)
Putamen

- The **putamen loop** (sensorimotor loop) from the premotor and somatosensory areas of the cortex is deemed responsible for facilitating subconscious execution of learned movements. For example:
  - Cutting paper with scissors,
  - throwing a baseball,
  - hammering a nail
  - writing

- PET scans show putamen activity in the learning of complex motor sequences.
- The circuit evidently facilitates the execution of motor programs stored in the cortex (because monkeys with lesions in the globus pallidus retain their ability to perform motor tasks -- although they do so more slowly).

  - Note:
    - Lesions to the globus pallidus can also lead to spontaneous writhing movements,
    - Lesions to the subthalamus often results in sudden violent flailing of a limb.
    - Lesions in the putamen results in uncoordinated motor movements
Putamen

- Summary:
  - Sattva
    - Coordinated action
    - Service and modification
    - Repetitive learning
    - Long term habits
  - Rajas
    - Learning set tasks in motor coordination
    - Obstruction and degeneration
    - Link between sensory input and motor function

Basal Ganglia

Caudate Nucleus
Caudate Nucleus

- Forms a C-shaped structure divided into the head and tail.
  - Connected at its head with the putamen, and shares the same embryological cells
  - Connected at the tail with the amygdala
  - Curves over all the basal ganglia and thalamus where the seat of the emotions, learning, and memory is located.
Head of the Caudate Nucleus

- The head of the caudate corresponds to the ascending node in astrology which represents growth and development.
- It is intimately connected with the putamen in structure and function.
- It is involved in:
  - The control of saccadic eye movements (the abrupt short shifts of focus in the eyes)
  - Aspects of memory concerned with spatial orientation
  - In the ability to change behavior sets.

Lesson 29  45:38

Head of the Caudate Nucleus

- Its affliction leads to a range of disorders:
  - absent-mindedness
  - irritability
  - depression
  - fidgeting
  - clumsiness
  - sudden falls
  - disturbance of speech
  - grotesque facial expressions.
  - Cognitive functions also deteriorate, and eventually the ability to reason disappears.

Lesson 29  48:09
Head of the Caudate Nucleus

- These disorders are much worse when both putamen and caudate are afflicted.
- This describes the occurrence of the similar anomalies when Saturn and the ascending node are badly afflicted.

Tail of the Caudate Nucleus

- The tail of the caudate represents the descending node which in turn represents Karmic repression and tendencies to restriction growth and development.
- It sits near the amygdale in the temporal lobe, an area of the central nervous system that is closely associated with learning and emotions.
- The function of this area can best be understood from the effects of the disruption of its integrity, i.e. its increase or decrease activity.
Tail of the Caudate Nucleus

- Clients with chronic seizures in that part of the brain experience feelings of
  - unreality and déjà-vu
  - transient visual or auditory hallucinations
- They also experience feelings of
  - depersonalization
  - fear or anger
  - delusions
  - paranoia

Most clients also can be
- intensely emotional
- ardently religious
- extremely moralistic
- lacking in humor
- These symptoms are due to irritative lesions in the temporal lobe, near the tail of the caudate.
Tail of the Caudate Nucleus

- Destructive lesions bring about loss of function, with disturbance in the ability to:
  - comprehend the emotion content of language
  - difficulty in expressing emotions
  - Anxiety disorder (characterized by racing heart and shortness or breath - sometimes accompanied by panic attacks)

Summary:
- The descriptions of the symptoms of the caudate are the best way to determine Sattvic and Rajasic qualities.
Ganesh

Figure 136: The face of Ganesh corresponds to the pons.

Figure 137: The trunk of Ganesh corresponds to the medulla.

Figure 138: In this ventral view of the brain we see the clear correspondence between Ganesh and the pons, medulla, and cerebellum.

Figure 139: The ears of Ganesh correspond to the cerebellum.
Cerebellum

- Located at the base of the skull
- Relates to the ears of Ganesh metaphorically
- Functions
  - Coordination of voluntary movement
  - Balance and equilibrium
  - The ability to walk
  - Some memory for reflex motor acts.

Cerebellum

- Observed Problems
  - Loss of ability to coordinate fine movements.
  - Loss of ability to walk.
  - Inability to reach out and grab objects.
  - Tremors.
  - Dizziness (Vertigo).
  - Slurred Speech (Scanning Speech).
  - Inability to make rapid movements.
The cerebellum is functionally and anatomically divided into three parts:

- **Archicerebellum** (consisting of the physically separated flocculonodular lobe)
- **Paleocerebellum** (anterior lobe)
- **Neocerebellum** (posterior lobe).

Archicerebellum

Is the oldest part from an evolutionary point of view, and it is part of the vestibular system -- concerned with balance and equilibrium.

Paleocerebellum

- Is concerned with regulation of muscle tone.
- It receives inputs from muscle stretch receptors via a distinctive structure in the medulla known as the **inferior olive** (which looks like a crumpled-up bag).
  - The inferior olive also receives inputs from a number of midbrain nuclei such as the superior colliculus and the red nucleus.
  - The inferior olive sends outputs to the cerebellum through the **inferior cerebellar peduncle**.
Cerebellum

- Neocerebellum
  - Is the largest and newest part of the cerebellum
    - It receives inputs from the cerebral cortex via the pontine nuclei in the base of the pons.
    - Axons from the pontine nuclei enter the cerebellum through the middle cerebellar peduncles.
    - The major output tract of the cerebellum is the superior cerebellar peduncle, which primarily sends signals to the motor cortex and the supplementary motor area.

Cerebellum

- Summary of function
  - The cerebellum and its associated brain stem nuclei function to compare the intention of motor movement with actual performance, and to make corrections when there is a mismatch.
  - The cerebellum is particularly important for controlling the balance between antagonistic muscle groups during rapid changes in body position, including such activities as running or playing the piano.
  - The cerebellum has extraordinary computational capabilities with respect to its ability to calculate the anticipated positions of rapidly moving body parts.
  - And the cerebellum can learn from its mistakes when movements do not occur as intended.
Cerebellum

- Relationship between Basal Ganglia and Cerebellum
  - The basal ganglia and cerebellum are large collections of nuclei that modify movement on a minute-to-minute basis.
  - The Motor Cortex sends information to both, and both structures send information right back to cortex via the thalamus. (Remember, to get to cortex you must go through thalamus.)
  - The output of the cerebellum is excitatory, while the basal ganglia are inhibitory.
  - The balance between these two systems allows for smooth, coordinated movement, and a disturbance in either system will show up as movement disorders.
Pons

- Relates to the head of Ganesh
- Lies anterior and between the cerebellum
- Function
  - The pons seems to serve as a relay station carrying signals from various parts of the cerebral cortex to the cerebellum.
  - It also transfer information between the two halves of the cerebellum
  - Sensory nerve impulses coming from the eyes, ears, and touch receptors go through the pons and then are sent on to the cerebellum
Pons

- The pons also participates in the reflexes that regulate:
  - Breathing
  - Taste
  - Sleep
  - the startle reflex.
- New studies show that the pons also influences the blood supply to the brain by affecting vasoconstriction and dilation (with Medulla)
  - This also ties in to migraine where there is marked influences of the senses and changes in blood flow to the brain

Pons

- The trigeminal nerve supplying the face has its point of exit from the pons
  - When you consider that the pons gets all this information from the five senses and the face and then "passes it on" to the other parts such as the cerebellum, it would appear that the pons is more than just a relay station.
**Pons**

- My opinion is that it moderates much of the information that influences our reaction to the external/internal world.
- This ties into the relationship it has a the head of Ganesh – the gateway to consciousness – that has to be passed in order to obtain higher consciousness.
- This also infers that Ganesh (the pons) can block such passage and limit consciousness awareness.
Pons

- Pons and Cerebellum in relation to time
  - These two structures appear to have a major relationship to time and timing – coordination, balances, fine point work, response to senses, etc.
  - The pons particularly is in charge of balancing the two halves of the cerebellum – hence right and left balance – (masculine/feminine)
  - Therefore you will find them come up a lot in the procedures to adjust time factors for them.

Ganesh

Brain Stem, Medulla and Mid Brain
Brain stem

- Relates to the trunk of Ganesh
- The lower part of the brain, adjoining and structurally continuous with the spinal cord.
- The upper segment of the human brain stem is the pons
- The brainstem also contains the
  - medulla oblongata
  - Varolii
  - midbrain, that connects the spinal cord to the forebrain and cerebrum.
Brain stem

- This area of the brain is not only the oldest area, but also is located in the most inner regions of the brain.
- Functions:
  - Breathing
  - Heart Rate
  - Swallowing
  - Reflexes to seeing and hearing (Startle Response).
  - Controls sweating, blood pressure, digestion, temperature (Autonomic Nervous System).
  - Affects level of alertness.
  - Ability to sleep.
  - Sense of balance (Vestibular Function).

Brain stem

- Comes up as section of Reptilian Brain in Mod 2 (especially the Medulla section)
- Observed Problems:
  - Decreased vital capacity in breathing, important for speech.
  - Swallowing food and water (Dysphagia).
  - Difficulty with organization/perception of the environment.
  - Problems with balance and movement.
  - Dizziness and nausea (Vertigo).
  - Sleeping difficulties (Insomnia, sleep apnea).
Medulla

- The medulla oblongata is the lower portion of the brainstem.
- It is inferior to the pons and anterior to the cerebellum.
- It controls autonomic functions and relays nerve signals between the brain and spinal cord.

Medulla

- Function:
  - Crossing of motor tracts - decussation of the pyramids - (hence the right brain controls left body – masculine/feminine)
  - cardiac center – heart beat and blood pressure
  - respiratory center - breathing
  - vasomotor center - nerves having muscular control of the blood vessel walls
  - centers for cough, gag, swallow, vomit,
  - head movements.
  - relays information from the sense organs that comes in from the cranial nerves.
Midbrain

- The dorsal or posterior part has the superior colliculus, which is important for visual system reflexes.
- The inferior colliculus is important for auditory system function.
- The ventral or anterior part has the cerebral peduncle, which is a huge bundle of axons traveling from the cerebral cortex into/through the brainstem; those fibers are important for voluntary motor function.

Midbrain

- Two other structures in the depth of the midbrain that are important for normal motor function are the red nucleus (not visible) and the substantia nigra.
- dopaminergic and hindbrain serotonergic neurons play an important role in the modulation of behavior and are involved in a series of neuropsychiatric disorders.
Corpus Callosum
Corpus Callosum

- The corpus callosum is the largest white matter structure in the brain.
- It consists of mostly of contra lateral axon projections. It appears as a wide, flat region just below the cortex.
- The corpus callosum connects the left and right hemispheres of the cerebrum.
- Most (but certainly not all) communication between regions in different halves of the brain are carried over the corpus callosum
  - Research is also showing that much of the communication is via transmission and not dependant upon neural pathways.
Cingulate Gyrus

- It is located in the medial side of the brain between the cingulate sulcus and the corpus callosum (principal fiber bundle connecting the two cerebral hemispheres).
- Function:
  - Major relay center for the limbic system and interface between the conscious and subconscious.
  - The site where emotions, feelings, attention and working memory flow together.
  - Suppresses feelings of anger and rage.
Cingulate Gyrus

- Frontal part coordinates smells and sights with pleasant memories of previous emotions.
- This region also participates in the emotional reaction to pain and in the regulation of aggressive behavior.
- Wild animals, submitted to the removal of the cingulate gyrus, become totally tamed.
- The cutting of a single bundle of this gyrus reduces pre-existent depression and anxiety levels.

Cingulate Gyrus

- Several functions of the cingulate gyrus involve the regulation of maternal behavior.
- For instance, this structure plays an important role in nursing and play behavior in mammals, as well as the skills of rearing young.
- Also, the cingulate gyrus plays a role in other complex mammalian activities, including the regulation of pain and attention.
Cerebellum (Cortexes)
Cerebrum (cerebral cortex)

- The outermost layer of the cerebral hemisphere which is composed of gray matter.
- Cortices are asymmetrical.
- Both hemispheres are able to analyze sensory data, perform memory functions, learn new information, form thoughts and make decisions.

Cerebrum (Frontal Lobe)

- Frontal Lobe: Most anterior, right under the forehead.
- Functions:
  - How we know what we are doing within our environment (Consciousness).
  - How we initiate activity in response to our environment.
  - Judgments we make about what occurs in our daily activities.
  - Controls our emotional response.
  - Controls our expressive language.
  - Assigns meaning to the words we choose.
  - Involves word associations.
  - Memory for habits and motor activities.
Cerebrum (Frontal Lobe)

- Observed Problems:
  - Loss of simple movement of various body parts (Paralysis).
  - Inability to plan a sequence of complex movements needed to complete multi-stepped tasks, such as making coffee (Sequencing).
  - Loss of spontaneity in interacting with others.
  - Loss of flexibility in thinking.
  - Persistence of a single thought (Perseveration).

Cerebrum (Frontal Lobe)

- Observed Problems cont’d:
  - Inability to focus on task (Attending)
  - Mood changes
  - Changes in social behavior
  - Changes in personality
  - Difficulty with problem solving
  - Inability to express language
Pre-Frontal cortex

- This area comprises the entire non-motor anterior region of the frontal lobe.
- It underwent a great deal of development during the evolution of mammals. And it is still the major center of development in the body in "aware" human beings.
- It is especially large in man and in some species of dolphins. It does not belong to the traditional limbic circuit, but its intense bi-directional connections with thalamus, amygdala and other subcortical structures, account for the important role it plays in the genesis and, especially, in the expression of advanced states of consciousness.

Lesson 31  35:07

Pre-Frontal cortex

- Pathology:
  - When the pre-frontal cortex suffers a lesion, the subject looses his sense of social responsibility as well as the capacity for concentration and abstraction.
  - In some cases, although consciousness and some cognitive functions, like speech, remain intact, the subject can no longer solve problems, even the most elementary ones.

Lesson 31  36:49
Pre-Frontal cortex

- When pre-frontal lobotomy was used for treatment of certain psychiatric disturbances, the patients entered into a stage of "affective buffer", no longer showing any sign of joy, sadness, hope or despair.
- In their words or attitudes, no traces of affection could be detected.

Cerebrum (Parietal Lobe)

- Near the back and top of the head.
- Functions:
  - Location for visual attention.
  - Location for touch perception.
  - Goal directed voluntary movements.
  - Manipulation of objects.
  - Integration of different senses that allows for understanding a single concept.
Cerebrum (Parietal Lobe)

Observed Problems:
- Inability to attend to more than one object at a time.
- Inability to name an object (Anomia).
- Inability to locate the words for writing (Agraphia).
- Problems with reading (Alexia).
- Difficulty with drawing objects.
- Difficulty in distinguishing left from right.

Cerebrum (Parietal Lobe)

- Observed Problems cont’d:
  - Difficulty with doing mathematics (Dyscalculia).
  - Lack of awareness of certain body parts and/or surrounding space (Apraxia) that leads to difficulties in self-care.
  - Inability to focus visual attention.
  - Difficulties with eye and hand coordination.
Cerebrum (Occipital Lobe)

- Most posterior, at the back of the head.
- Functions:
  - Vision
- Observed Problems:
  - Defects in vision (Visual Field Cuts).
  - Difficulty with locating objects in environment.
  - Difficulty with identifying colors (Color Agnosia).
  - Production of hallucinations

Cerebrum (Occipital Lobe)

- Observed Problems cont’d:
  - Visual illusions - inaccurately seeing objects.
  - Word blindness - inability to recognize words.
  - Difficulty in recognizing drawn objects.
  - Inability to recognize the movement of an object (Movement Agnosia).
  - Difficulties with reading and writing.
Cerebrum (Temporal Lobe)

- Side of head above ears.
- Functions:
  - Hearing ability
  - Memory acquisition
  - Some visual perceptions
  - Categorization of objects.

Cerebrum (Temporal Lobe)

- Observed Problems:
  - Difficulty in recognizing faces (Prosopagnosia).
  - Difficulty in understanding spoken words (Wernicke's Aphasia).
  - Disturbance with selective attention to what we see and hear.
  - Difficulty with identification of, and verbalization about objects.
  - Short-term memory loss.
Cerebrum (Temporal Lobe)

- Observed Problems cont’d:
  - Interference with long-term memory
  - Increased or decreased interest in sexual behavior.
  - Inability to categorize objects
  - Right lobe damage can cause persistent talking.
  - Increased aggressive behavior.

Cerebral dominance

- The two cerebral hemispheres are not functionally equivalent. The following functional asymmetries have been well-documented:
  - **Language**
    - In over 95% of right-handers, the left hemisphere is dominant for language.
    - In left handers, either left hemisphere dominance or bilateral language capabilities are the commonest findings; right hemisphere dominance is also described.
  - **Handedness/praxis**
    - Handedness reflects a functional hemispheric asymmetry for fine motor ability.
    - Limb apraxia results from damage to the hemisphere opposite the dominant hand (e.g., the left hemisphere, in right-handers).
Cerebral dominance

- **Attention**
  - Severe unilateral neglect is seen much more often with right than with left hemisphere damage.

- **Visuospatial abilities**
  - Certain visuospatial skills are more highly developed in the right hemisphere.

- **Emotion**
  - While the exact nature of this asymmetry remains to be defined, the emotional effects of left hemisphere damage appear to be different from those of right hemisphere damage.
  - Left frontal lesions are more likely to be associated with depression.
  - Whereas right hemisphere damage is more likely to cause emotional flattening.

Lesson 31  45:03

Hippocampus
Hippocampus

- The hippocampus is a section of the brain located below the cerebral cortex.
- It is a part of the limbic system and plays a part in memory.
- The name derives from the fact that its curved shape resembles that of a sea horse (Greek: hippocampus).
- There is substantial evidence (from animal studies and from patients with brain injury) that the hippocampus is crucial in the conversion of short term memory into long memory, though it is not yet clear how this occurs.
Hippocampus

- Individuals whose hippocampus becomes damaged (e.g., Korsakoff’s syndrome), whilst retaining the ability to access long-term memories from before their injury, become unable to form new ones.
- They can, however, learn new skills (such as playing a musical instrument) but will be totally unable to remember how they gained those skills.

Hippocampus

- There is also evidence, that the hippocampus is involved in storing unique information, as for example locations.
- Without a fully functional hippocampus a person may no more be able remember the places he/she has been to and how to get there.
- London's cabdrivers on the other hand, who are required to learn a large number of places and locations, are well known for developing a big hippocampus.
Hippocampus

- The hippocampus seems to grow when storing more information, as many regions of the brain do. (Although nobody knows whether these cab drivers have trained their hippocampus to this extent, or just a person with large well-developed dorsal hippocampus have more chances to become a taxi-driver.)

- It is because it attacks the hippocampus first that Alzheimer's disease is first discovered by the patient's memory loss.

Hippocampus

- Records memory of objects and events as facts.
- Left hippocampus:
  - symbolic digital processing and auditory short-term memory.
- Right hippocampus:
  - special processing and visual short-term memory.
Hippocampus

- When both hippocampi (right and left) are destroyed, nothing can be retained in the memory.
- The subject quickly forgets any recently received message.
- The intact hippocampus allows the animal to compare the conditions of a present threat with similar past experiences, thus enabling it to choose the best option, in order to guarantee its own survival. (Associated with amygdala)

Subiculum
Subiculum

- The subiculum sits at the base of the hippocampus, and is continuous with the entorhinal cortex, which is part of the parahippocampal gyrus.
- The output of hippocampal processing apparently goes to the subiculum, which is the superior portion of the parahippocampal gyrus of the temporal lobe.

Subiculum

- The subiculum is responsible for the output of the hippocampus:
  - it can either send axons directly to the hypothalamus and mammillary bodies via the fornix (a connecting pathway whose function is largely unknown)
  - or it can pass along the information back to entorhinal cortex, which will relay it all back to sensory cortex.
  - It is essentially one continuous pathway that begins in sensory cortex, traverses the hippocampus (loop-the-loop), and returns to sensory cortex.
  - Somewhere in there, memory is born
Reticular Formation

The reticular activating system (RAS) forms a special system of nerve cells linking the medulla, pons, midbrain, and cerebral cortex.

- The RAS functions as a sentry. (Ganesh)
- In a noisy crowd, for example, the RAS alerts a person when a friend speaks and enables that person to ignore other sounds.
Reticular Formation

- The reticular formation is involved in the control of sleep and wakefulness.
- An essential ingredient in motivation states controlled by the hypothalamus is the phenomenon of wakefulness.
- In experimental animals, lesions of the rostral reticular formation lead to constant behavioral stupor (apathy and insensitivity)

Reticular Formation

- And - lesions of the caudal (pontine) reticular formation result in constant wakefulness.
- The reticular formation is also needed for sleep to occur, and although the complex circuitry responsible for sleep has been identified only partially, the nuclei of the pontine reticular formation are clearly important.
The mammillary bodies are in the posterior portion of the hypothalamus. They receive inputs mainly from the hippocampus via the fornix, and send outputs to the reticular formation and to the cingulate cortex via the mediodorsal thalamic nucleus.

Function:
- They store conscious memory, and control behavior relating to eating and taste.
The entire brain is enveloped in three protective sheets known as the meninges.

These are continuations of the membranes that wrap the spinal cord.

The two inner sheets enclose a shock-absorbing cushion of cerebrospinal fluid.

The meninges consist of three membranous layers of connective tissue that envelop the brain and spinal cord.

- The dura mater, or outermost layer, is extremely tough and is fused with the membranous lining of the skull.
- In the brain it forms a vertical sheet that separates the cerebral hemispheres and a horizontal sheet that lies between the cerebrum and the cerebellum.
Meninges

- The thin arachnoid membrane lies below and in close contact with the dura mater.
- The pia mater, or innermost layer, is in direct contact with the brain and spinal cord and contains the blood vessels that supply them.
- The pia mater and arachnoid membrane are separated by the subarachnoid space containing the cerebrospinal fluid, which carries nutrients, absorbs the impact of shocks, and acts as a barrier to disease organisms.
- Thus, the meninges provide a fluid-filled jacket for the protection of neural tissues and allow for the flexing and twisting of the vertebral column about the spinal cord.

Septal Region
The septal region lies anterior to the thalamus.

Inside it, one finds the centers of orgasm (four for women and one for men).

This area has been associated with different kinds of pleasant sensations, mainly those related to sexual experiences.