The Triune Brain by Rosemary Cowan

Introduction
This paper draws heavily on the work of three physicians, Lewis, Amini and Lannon, and their wonderful book A General Theory of Love (Random House, 2001). Their theory explains much about the human condition and, moreover, I perceive some connection with the Enneagram, particularly the Three Centres.

When I presented this paper at the AETNT Meeting in Dublin in June, I was delighted to be able to make a connection between where we were – in the beautiful green countryside of Ireland and Tri-unes - or 3-in-1’s. St Patrick, the patron saint of Ireland, was a Roman Britain, born about the end of the 4th century AD. When he was 16 he was captured by Hiburnian pirates (Hibernia was the Latin name for Ireland), transported to Ireland and sold as a slave. He was a pagan, but he prayed to the Christian God for deliverance and he escaped. He became a monk and a priest and lived in France for 20 years. Then he had a dream: God was telling him to go back to Ireland and convert the people there to Christianity.

At this point I want you to notice that I’m telling you a story. This is not only to engage you and encourage you to read further, it is also a parallel process, which I will explain shortly. St Patrick used a metaphor – another way of engaging attention – when he picked a shamrock leaf and used its three leaves on one stalk to explain the Trinity, the three persons in one God. This has become a symbol of Ireland ever since and Trinity College, Dublin’s famous university, in the heart of the city reminds us still of St Patrick’s teaching.

Stories and metaphors make facts easier to engage with. This seems paradoxical. Rationally, one would think that bald facts would represent less to remember. But human beings are not solely rational and, emotionally, we need more. We need to care, to feel something about these facts, to be excited enough to remain interested.

We experience ourselves as both rational and emotional. This seems to explain the particular benefit of transmitting the Enneagram in the Narrative Tradition. I will always remember the people who told me so movingly about their worldview, whereas books can only ever give an echo of that lived experience. The need for emotional connection also explains why we like to meet at conferences and on social occasions, to eat, talk and laugh together.

This leads to the question, ‘What are emotions?’ To discover this we need to look at how human beings, and especially human brains, developed. (At last!, you think, she’s going to explain the 3-in-1 part!) The split between our emotional and rational aspects is explained by the evolutionary development of the human brain, which has three distinct parts: the proto-reptilian, the limbic and the neocortex. The three intermingle and communicate, but they do not work well together and some information is lost in the translation because they differ from each other in function, properties and even chemistry.
The Proto-reptilian or Reptilian Brain
The oldest brain is a bulbous elaboration of the spinal cord. This brain is responsible for basic physiological survival functions such as breathing, swallowing, heartbeat, and balancing salt and water in the blood. It controls our most basic urges: the startle reflex and the visual tracking system which responds ‘automatically’ (when we swerve to avoid a fist or an erratic driver on the motorway), territorial and sexual instincts.

“The reptilian brain permits rudimentary interactions: displays of aggression and courtship, mating and territorial defence...When we see urban gangs mark their domains and harass someone for stepping onto the wrong city block...we are witnessing, in part, a product of this antediluvian brain, with motivations more suited to the lives of the asocial carnivores that brain was designed to serve.” (Lewis et al)

This brain may also be responsible for innate temperament, setting the background tone for emotional life, which could explain why some newborn babies are fearful, while others react to the same stimulus with curiosity and others with anger. Apart from this kind of hardwiring, the reptilian brain has only rudimentary emotional responsiveness: heart, lungs and sweat glands warm up ready to respond to danger in the form of fight or flight - changes that accompany severe emotional reactions.

This is our instinctual brain. Without being too literal about it, I see a connection with the Gut Centre: its rhythmicity, its power, its instantaneous nature, which does not need words, logic or other mediation. Although a valuable development, the reptilian brain has its limitations. There is, for a
start, a strong chance that the young will be eaten by adults of the same species, maybe even their parents! Hence, many eggs are produced, which is wasteful and lack of parental care is potentially dangerous for the species.

Reptiles are experienced as ‘cold’ because they do not have an emotional life. We may keep a snake or an iguana as a pet, but it will not, it cannot, ever return our affection. Unlike a dolphin, there will never be a flicker of a playful response from a crocodile. To a mammal this is particularly chilling and accounts for the fear behind mythological creatures that kill with their gaze – such as the serpent-headed Medusa.

The reptilian brain is the one that is still functioning in someone who is ‘brain-dead’.

“Sad as it may be, a body animated by the reptilian brain is no more human than a severed toe. The qualities that set us apart from other animals or that distinguish one person from another, do not belong to this archaic conglomeration of cells.” (Lewis et al)

**The Mammalian or Limbic Brain**

This part of the brain sits over and around the reptilian brain. Its cells have a very different chemical structure. In 1879 Paul Broca, the French surgeon and neuroanatomist, discovered that the brains of all mammals have this structure in common, and he named it ‘limbic’, meaning a ring or boundary because he could clearly see a line of demarcation.

Mammals are distinguishable from reptiles by external and behavioural differences: hair instead of scales, warm-blooded, bearing live young, nurturing the young with milk via the mammary glands. Internally these differences are controlled by the limbic brain, which represents the next evolutionary – and revolutionary – step, responsible for mammalian development: a change in orientation towards rearing the young. The limbic brain is the ‘power station’ of desires and motivations. It is responsible for the caring and playing instincts, for emotional reactions, dreams, the selection of stimuli for attention, and the formation of long-term memory.

Emotions, which were originally a mere survival mechanism – away from danger; towards advantage – developed more fully from the evolutionary step of caring for the young, which led to bonding and therefore loving. Emotions can be compared to colours. The primary ones - fear, anger, sorrow, happiness, disgust - blend to produce an infinite number of shades, the so-called ‘social emotions’: admiration, contempt, embarrassment, envy, shame, sympathy, contentment.

“Exhilaration, longing, grief, loyalty, fury, love … emotions do more than colour our sensory world; they are at the root of everything we do, the unquenchable origin of every act more complicated than a reflex. Fascination, passion and devotion draw us toward compelling people and situations, while fear, shame and disgust repel us from others…Greed and ambition run beneath the surface of economics; vengefulness and reverence under the veneer of justice. In all cases, emotions are humanity’s motivator and its omnipresent guide.” (Lewis et al)
The evolutionary step of nurturing the young not only increases the chances of species survival but led to communication. All mammals vocally communicate with their offspring and vice versa. When the mother is removed from a litter of kittens or puppies they begin an incessant yowling — the separation cry — a noise that only makes sense for those animals in whose brains it will trigger a protective, rather than a predatory response.

"Given how primal the urge is to gobble up a smaller organism, feelings of tenderness, care and concern for the tiny and frail may rightly strike us as near marvels. They are limbic endowments, and so are the rage and tears that erupt at the fracture of a mammalian bond." (Lewis et al)

The limbic brain allows mammals, uniquely, to play with one another.

"Anyone who has joined a dog in a tug-of-war over an old sneaker, and has let the shoe go, knows what follows — he trots back. Mutual tugging is what he desires, not the shoe...and his heart warms to go-fetch – the improbably joyous celebration of making an object go exactly nowhere." (Lewis et al)

Considering such an activity has no obvious survival value, what does it achieve?

"..why do all kinds of mammals want to frolic, gambol, tumble and roughhouse? ...play is physical poetry: it provides the permissible way, as Robert Frost said poems do, of saying one thing and meaning another. By the grace of their limbic brains, mammals find such exultant metaphor irresistible." (Lewis et al)

There seem to be many parallels between the Heart Centre and the limbic brain: the focus on connection with other – influencing, communicating, playing; the intuitive style, emotionality, creativity, metaphor and artistry.

**Autism – When the Limbic Brain Malfunctions**

Because human beings are so adept at emotional interchange we tend to take our abilities for granted, hardly recognising them as skills at all. It is only when things go wrong that we can begin to appreciate just how complex it is to decipher and communicate emotional messages. People with Asberger’s Syndrome (high-functioning autism) demonstrate the problem well, having high IQ’s but being socially inept and unable to decode the rules of social behaviour.

An autistic child, failing to understand that a schoolfellow was crying bitterly, described her as, “making a funny noise”. A normal child could easily identify with a friend’s distress and respond appropriately; the autistic is at a loss to understand the situation or even to describe its true nature. A young woman with Asberger’s was asked if she had a sense of what it is like to play. She stared for a moment, puzzled, and then asked, “As opposed to what?”

What comes naturally to limbically fluent people - eye contact, voice modulation and inflexion, acceptable levels of physical proximity, body language, dress-code and other social ‘codes’ such as gift-giving – eludes autistic people. They have no inbuilt understanding of other people’s mental states; they do not connect, communicate or play. Mr Spock and Data in Star
Trek make appealing fictional versions, but in reality such people are often considered 'weird' and are treated with suspicion, teased, shunned or taken advantage of by their peers.

Oliver Sacks, the neurologist and author, took the name of his book, An Anthropologist on Mars, from Temple Grandin, a highly intelligent woman with Asberger’s Syndrome, who used the phrase to describe her lifetime's experience. This woman, in common with all autistics, finds it impossible to understand ordinary social interchange. She misses allusions and presuppositions; irony, metaphor and jokes. The language of science and technology, which is much clearer, more explicit and less dependent on unstated assumptions, is to her a huge relief.

“She was bewildered, she said, by Romeo and Juliet (‘I never knew what they were up to’), and with Hamlet she got lost with the back-and-forth of the play. Though she ascribed these problems to ‘sequencing difficulties’, they seemed to arise from her failure to empathize with the characters, to follow the intricate play of motive and intention. She said that she could understand ‘simple, strong, universal’ emotions but was stumped by more complex emotions and the games people play. ‘Much of the time,’ she said, ‘I feel like an anthropologist on Mars…’ I had to learn to be suspicious, I had to learn it cognitively. I could put two and two together, but I couldn't see the jealous look [on people’s faces]...By professional standards, she is extraordinarily successful, but other human interactions – social, sexual – she cannot ‘get’. ‘My work is my life,’ she told me several times. ‘There is not much else.’”

(Oliver Sacks)

Sacks notes:

“Some autistic people keep dogs, as blind or deaf people may do, to assist their perceptions – in this case, social perceptions. They may use dogs to ‘read’ the minds and intentions of visitors, which they may feel unable to do themselves. I know two autistic people who regard their dogs as having ‘telepathic abilities’, but of course the abilities of their dogs are merely normal canine ones – and indeed normal human ones – which they themselves lack.”

The behaviour and attitudes of Asberger’s Syndrome people shows that, in the absence of a functioning limbic brain, they rely on the neocortex, the third part of the human brain.

**Neocortex – the Reasoning Brain**

The neocortex takes its name from the Greek ‘neo’, meaning new and the Latin ‘cortex’ meaning ‘rind’ or ‘bark’. It has been described as consisting of two symmetrical sheets, each the size of a thick linen napkin, crumpled for better cramming into the small human skull. This brain is the most recent to develop and, in humans, it is the largest of the three brains – and massive compared to other mammals.

Although there is much that still remains a mystery, we know that the neocortex is responsible for awareness, the experiences of our senses and our conscious movements, our will, and for abstraction – the ability to make symbolic representations: speaking and understanding language, writing, planning, analyses, reasoning, logic and problem-solving.
The power to symbolise is hugely valuable because, by using symbols, the imagination can test out hypotheses and strategies in advance, without risking physical danger or, possibly, death.

“The neocortical brain can envision where and how a plan ends, allowing its possessor to...rehearse and refine without betraying his intention prematurely... The neurophysiologist WH Calvin has proposed that the cerebral cortex originally developed to serve ballistic movements – complicated, one-shot actions that occur too rapidly to be modified as they uncoil, requiring planned precision...A talent for visualizing what-ifs may better someone’s rock-throwing as much as his skill at chess. The former aptitude is what secured for the neocortex a lasting place.” (Lewis et al)

The newest brain is responsible for towering achievements: feats of engineering; new technologies; scientific and mathematical theories; problem solving; analysis and deduction. This is the brain that is often compared to a computer; it evaluates, selects and stores information.

The connection to the Head Centre seems clear: the emphasis on logic and reason, the powerful imagination, the focus on academic skills - ideas and data-gathering; the facility with language, (the slightly superior stance?!).

Tendency to Overvalue the Neocortex
Perhaps because many people perceive evolution to be a vertical process, with each sequence producing ever more advanced organisms, western society – in particular the worlds of business, education, science and technology - has elevated the neocortical brain to the position of primary importance.

“We are free to label ourselves the end product of evolution not because it is so, but because we exist now. Expunge this temperocentríst bias, and the neocortical brain is not the most advanced of the three, but simply the most recent.” [my emphasis] (Lewis et al)

In human beings the limbic system developed in tandem with the neocortex so that, of all mammals, human beings are the most emotional, as well as the most intellectual. Without the limbic brain there is no restraint on harming others, since neither the reptilian nor the neocortical brains are capable of sympathy.

It is an irony that science, so much the preserve of the rational neocortex, should now be giving us insights into the transcendence not of the neocortex, but of the limbic brain. In aligning ourselves to the neocortex we have promoted analysis over intuition and logic above feeling.

Left and Right Cerebral Hemispheres
A great deal has been written about the left and right sides of the brain – and a great deal is as yet undiscovered. This article would be incomplete without some reference to the two hemispheres, which mirror each other but operate very differently.

So far we have been considering the three parts of the brain, each representing a distinct evolutionary phase and each developing, in layers, one
on top of the other. It is worthwhile briefly looking at the brain in vertical section and considering it as two hemispheres.

Research conducted amongst people who, for various reasons, had severed the connection between the left and right hemispheres of the brain has shown that a differentiation can be made between the left and right brain halves and points up the importance of the complementary and interdependent nature of the two halves.

The left is logical, sequential, exact, detail oriented, interested in abstract ideas and has a sense of time. It seeks to analyse, but cannot do so without the right side of the brain. Processing verbal language, reading and writing takes place in most people’s left temporal lobe, which is larger and more developed than the right.

The right half of the brain sees things whole and looks for coherence, rhythm, pattern and synthesis. It is creative, intuitive, dreamier, has little sense of time, and is more focused on sensory perceptions. The right side is more involved with processing emotional stimuli and in relationships with others. This is the side of the brain that recognises faces.

“The left brain half works progressively: it processes information step by step. The right brain half works more in parallel, perceiving a large number of non-verbal elements as a unit. This specialisation enables us to process two streams of information simultaneously and integrate them into one total impression.” (Franzen and Bouwman)

Whilst emotions are under the control of the limbic brain, it is the neocortex which has the ability express those emotions in language. Wernicke’s area and Broca’s area are the two ‘language centres’ on the left side of the brain. The former translates inbound speech into meaning; the later turns thought into speech. On the right side of the brain mirror-image areas interpret the emotional meaning of speech and deliver emotional nuances in spoken language. Whilst damage to Wernicke’s area means one can speak but cannot understand what is said and damage to Broca’s area means one can no longer talk, while being perfectly capable of understanding what others say, damage to the corresponding areas on the right side of the brain are no less crippling. Imagine being unable to perceive the emotional clues which tell us a speaker’s intentions - we would not know whether a comment was straightforward or sarcastic. Just as terrible would be losing the ability to convey the difference between a threat, a joke or a tender expression of love. E-mail and text messaging give us an insight into this frustrating experience. The range of misunderstandings generated has led to the development of emoticons which sketch a facial expression :) or :( to aid interpretation (more than 200 of these now exist, showing how important emotions are for successful communication).

Clearly we need to be aware of the limitations and potential pitfalls of various forms of communication not just with family and friends but particularly when dealing with colleagues and clients, where a ‘businesslike’ attitude may lead us to be too neocortical. This insight reinforces what good business people have always known: that it is important to build relationships and to meet up;
that ‘doing lunch’ has hidden benefits. It explains the appeal – and necessity - of meeting at conferences, sharing meals and good times together and making that vital ‘limbic connection’.

When it comes to interpreting a message, both brain halves are necessary. We need to be able not only to understand the messages but also, crucially, how we feel about them. The quote below comes from a ‘business bible’, but it makes the point well.

“Roughly speaking, we can say that our left brain half processes the knowledge elements of a brand (how the brand name is written, which articles are sold under that brand name), and the right half processes the visual and emotional elements (how does it look and do I like it?). In fact, neither brain half can perform these functions without the help of the other.” (Franzen and Bouwman)

The left side of the brain controls the right side of the body and it is interesting that this side, responsible as it is for verbal language, often has negative labels for the left side, which is under the control of the right brain. For example: sinister, gauche, cack-handed, left-footer, subjective – whereas the opposite terms have positive associations — dexterous, adroit, right, right-hand man, objective.

There is a parallel here with the self-aware, articulate neocortex tending to label negatively the qualities of the limbic brain: emotional, irrational, illogical, inarticulate, unconscious.

**Communicating Emotions via the Neocortex**

Emotions, as we have seen, are under the control of the limbic brain, which must rely on the neocortex when it comes to verbal communication. Expressing emotions verbally, forcing strong feelings into the straitjacket of words, however, is difficult and constraining. It takes effort. We stammer and gesticulate; becoming mute with frustration as our emotionality rises.

“The emotional brain, although inarticulate and unreasoning, can be expressive and intuitive. Like the art it is responsible for inspiring, the limbic brain can move us in ways beyond logic that have only the most inexact translations in a language the neocortex can comprehend.” (Lewis et al)

“Poetry, a bridge between the neocortical and limbic brains, is simultaneously improbable and powerful. Frost wrote that a poem, ‘begins as a lump in the throat, a sense of wrong, a homesickness, a love sickness. It is never a thought to begin with.’” (Lewis et al)

When it comes to receiving data, some scientists believe that stimuli must always be attached a meaning by the neocortex in order to be evaluated. Given David Daniels’ dictum for Head Types: ‘Try to have a meaningless emotion’, however, this may say more about those scientists than about reality! Others believe that an area of the limbic brain, the amygdala, acts as an alarm-system, responding even before the neocortex has time to analyse and interpret.
"This happens so fast that it occurs outside our consciousness and the control of our free will. We are overtaken by our emotions before we are fully aware of what is happening to us... The limbic system is in many ways superior to the neocortex. It is actually much faster – it reacts in thousandths of a second to a signal from the outside. This speed is accompanied by a large degree of certainty." (Franzen and Bouwman)

We shall return to this final point – the 'large degree of certainty' associated with limbic reactions – because this aspect is crucially important when making decisions.

**Tension between the Limbic Brain and the Neocortex**

In any divided community – Northern Ireland, Israel, India and Pakistan, Iraq – the major causes of division arise as a result of the two communities valuing different ideals and each seeking control; wanting their values, and not the other’s, to have precedence. Misunderstandings easily occur - and language difficulties exacerbate the communication breakdown. The same applies to the brain. It is not for nothing that we experience ourselves as divided and speak of being ruled at different times by either the ‘head’ or the ‘heart’, by ‘reason’ or by ‘passion’.

"The scientist and the artist both speak to the turmoil that comes from having a triune brain. A person cannot direct his emotional life in the way he bids his motor system to reach for a cup. He cannot will himself to want the right thing, or to love the right person, or to be happy after a disappointment, or even to be happy in happy times. People lack this capacity not through a deficiency of discipline but because the jurisdiction of will is limited to the latest brain. ...Emotional life can be influenced, but it cannot be commanded... Only the latest of the three brains traffics in logic and reason, and it alone can utilize the abstract symbols we know as words." [my emphasis] (Lewis et al)

Everyone knows how easy it is to make sensible resolutions – every New Year we’ll give up smoking, go on a diet, cut down on alcohol – and everyone has experienced failing to keep those promises to reform. The self-help industry is founded on this very premise: if only one could follow sensible advice! We blame ourselves for our lack of discipline and believe that, by will alone, we can overcome our stubborn weaknesses. But we are too hard on ourselves. Only the neocortex is under our conscious will. Only the neocortex, with its power to abstract, can understand wise advice; to the neocortex understanding makes all the difference.

"...but it doesn’t count for much in the neural systems that evolved before understanding existed. Ideas bounce like so many peas off the sturdy in comprehensibility of the limbic and reptilian brain. The dogged implicitness of emotional knowledge, its relentless unreasoning force, prevents logic from granting salvation just as it precludes self-help books from helping. ... Words, good ideas and logic mean nothing to at least two brains out of three. Much of one’s mind does not take orders." [my emphasis] (Lewis et al)

"Whenever thinking conflicts with emotions, emotions win." (Franzen and Bouwman)

In organisations rational decisions and logic take precedence and the focus is on company survival. Corporate companies behave like reptiles with a neocortex, that is, without conscience. Unfortunately, their example is increasingly being adopted by other organisations: medical, legal, military, police and governments. To have any success in human relationships, however, one must appeal to the soft, mammalian traits – playfulness, caring,
beauty, metaphor. Above all, one must engage the emotions. The regeneration of urban areas works when art is included; successful cities are creative cities.

**Limbic resonance**

Reptiles can detect changes in the environment and can alter their physiology accordingly; they are aware of possible predators and can mobilize in response. Mammals go further. They not only respond to the inanimate world but can detect the internal state and motives of another mammal and adjust to match the situation – which causes the other to sense a change and make a further adjustment, creating a fluid, reciprocal interchange known as limbic resonance.

This ability to detect and influence others’ emotional states served humanity as a survival skill, particularly in the rearing of infants. The human baby has the longest childhood of any mammal and is the most dependent of infants. A baby has to create an emotional bond with its parents to survive. The knowledge of how to do this, how to express emotions, is innate. A congenitally blind baby knows what muscles to contract into a smile when he hears his mother, even though he has never seen anyone smile.

Most people know that a good way to keep a sighted baby entertained is to use expressive faces and exaggerated looks. Babies study faces intently, peering and gazing because the expression on a person’s face tells you about the other person’s emotional state – and a baby needs to know because the people he cares about teach him what it is safe to do and what he should avoid.

“Whether they realize it or not, mothers use the universal signals of emotion to teach their babies about the world. Because their display is inborn, emotions not only reach across the gaps between cultures and species, but they also span the developmental chasm between mother and infant. Emotionality gives the two of them a common language years before the infant will acquire speech, the arbitrary symbolic system of the neocortical brain.” (Lewis et al)

Human beings in every culture show emotion using identical facial expressions. A New Guinea tribesman, who has never seen anyone outside his own tribe, shows the same face when he is angry as someone in Glasgow or San Francisco who is about to fight. Nowhere in the world do people express sorrow with the corners of their mouths turned up. And, if we are perceptive, we can often tell how other mammals are feeling. People who say their dog or cat knows when they have had a bad day are not being fanciful. Just as they can tell when their pet is weary or guilty or excited or playful, the animal can tell when it’s best to keep out of the way or offer comfort, because its limbic brain is well-developed.

Limbic resonance is everywhere – between parents and children, people and their pets, friends and lovers and it’s fun to go to a restaurant or a public place and watch the ‘dance’. Limbic resonance accounts for phenomena such as mass panic or hatred. Feelings are contagious – which is why it is more exciting to watch a film in the cinema than at home.

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“It’s not the size of the speakers (as the literal-minded home electronics industry would have it) – it’s the crowd that releases storytelling magic, the essential, communal, multiplied wonder.” (Lewis et al).

In the past the medical profession knew the importance of ‘bedside manner’ – that the relationship between the patient and the doctor is largely responsible for the cure. As technology has advanced and doctors have increasingly been trained to be scientists they have tended to give precedence to the neocortical brain and to rely on the intellect, knowledge and reason. The Health Service has compounded this by expecting more patients to be treated in shorter times so that the time-consuming emotional aspects of healing are treated as expendable. As a result, alternative medicine, with its emphasis on the relationship between patient and healer, is in the ascendant.

“The ‘alternative' healers proliferated in response to the demand for a context of relatedness. These limbically wiser settings are friendlier to emotional needs – they involve regular contact with someone who participates in close listening, and often, the ancient reassurance of laying on hands. Alternative medicine sees these activities as quintessential rather than incidental to healing. The result? Patients vote with their feet and their wallets.” (Lewis et al: 2001).

It takes an eccentric, like the real-life Dr Patch Adams, on whom the film starring Robin Williams was based, to remind the medical profession of its humanitarian role. Adams dresses as a clown, treats people like human beings and not ‘cases’ and has high rates of recovery.

**Emotions and Decision-making**

The rational neocortex links cause and effect but the world is so complex that one can never have all the information. How, then, can one make a decision? The addition of one more fact could swing the balance away from a decision that seemed logical only minutes before. And what about decisions such as who to love or who to trust? As As Berger’s people demonstrate, one cannot decide these issues on the basis of logic. When facing a situation for the first time, when there is no framework of reference, we need to weigh up all the cognitive information we have available, together with all the emotional associations. Most of the time, however, we deal with perceptions and experiences that have happened numerous times before and then we mostly rely on our emotions.

“Consciousness is the exception, not the rule...by its very nature, conscious thought seems the only sort. It is not the only sort; it is in the minority.” (Lachman, Lachman and Butterfield)

“In the middle of this constant bombardment of external stimuli to which we are exposed, or thoughts which our own brain generates, we constantly have to make choices about which ones we will pay attention to and which ones we will ignore. The only way we can do that is by consulting our stored emotional experiences, thereby making the meaning immediately clear. There is a parallel between our senses and our emotional system in the sense that, just as our eyes perceive light and our ears sound, the emotional system perceives, as it were, the emotional meaning of stimulus.” (Franzen and Bouwman)

As we saw when discussing the issue of communicating emotions, the emotional brain is a quicker and more certain machine than the neocortex. Even when decisions are weighed up over time emotions can have a greater influence on ultimate behaviour. Heuristics are a way of making decisions...
when no logical solution presents itself and most decisions we make in daily life are made largely on the basis of using emotions as heuristics. Whereas the neocortex knows, rationally, that a decision could change if more information were available, the limbic brain – as 8’s demonstrate so well - believes in the choice.

“Our emotions also see to it that we are convinced of certain views, regardless of whether they are ‘true’ or ‘untrue.’” (Franzen and Bouwman)

Unconscious Selectivity
The issue of ‘what we pay attention to’ in all the bombardment of external stimuli brings into the frame the need for filters.

“Without filters we might literally be driven to distraction by distractions, as happens in schizophrenia.” (Goleman)

Our systems would be overloaded if we actively engaged with everything all the time and so, by limiting what we pay attention to, we remain protected. Anyone who has ever been in the market for a product – a trip abroad, new car, a hairstyle – will have experienced this phenomena: suddenly this information is everywhere one looks. Surely it was there before, but we didn’t notice because we weren’t looking for it.

“If you are looking for restaurants, you will notice signs for them and not for gas stations; if you are skimming through the newspaper, you will notice those items that you care about. What gets through enters awareness, and only what is useful occupies that mental space.” (Goleman)

Through studying the Enneagram, we know this to be true. We also know that energy follows attention and that vast stores of energy are being used unnecessarily in keeping our Type filters in place, energy we can divert once we are aware of what we are doing.

Memory
Research amongst patients with amnesia has demonstrated that there are two kinds of memory: the explicit, conscious recall, which we normally associate with the term ‘memory’ and the implicit, secret memory of the limbic system. Even without explicit memory, the capacity to learn survives. People with amnesia can be taught new skills which they will deny knowing, until the right circumstances trigger their use. All of us acquire complex knowledge that we cannot describe, explain or recognise. We call it intuition.

“In a 1997 study of uncommon elegance, Antoine Bechara, Hanna and Antonio Damasio and Daniel Tranel gave people $2,000 in play money and four decks of cards to choose from. Subjects did not know the decks were rigged: turning over a card paid $100 in two decks and $50 in the other two. As in life, the high-paying decks also contained high-penalty cards, where the low-paying decks entailed fewer and smaller fines. Overall, playing exclusively from $50 decks was the winning strategy, but subjects knew nothing of the cards upon first encountering them.

“After suffering a few big losses, people began to show tiny elevations in sweating as they considered drawing a card from the risky decks. Bodily tension was the only indicator of an impending hunch; by the twentieth round none could express any verbal inkling that half the cards were stacked against them. After fifty or so turns, people began to suspect that they should avoid the $100 decks, although they couldn’t explain the reason for doing so. After

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When external stimuli remind us of a past experience, the limbic brain reacts by recalling the previous emotional response, often non-cognitively. The stronger that earlier reaction was, the stronger the imprint on our memory. This, I would argue, is how Type was formed.

Although our attention is influenced by mood – if dejected we will focus more on negative aspects; positive moods cause us to be more open to consider new options, so that mostly experiences that were accompanied by emotional excitement will be well retained. Moreover, positive options are more interesting and create more pleasurable emotions so that we spend more time processing them. In the world of business, this longer processing time means that brands with positive associations are more often stored in the memory and we enjoy accessing the positive feelings these brands generate.

**Conclusions**

In conclusion, evolution has given humanity a tripartite brain, each element of which operates differently and fulfils a different function. The neocortex, although the latest and the most prized, is not the most advanced. Human beings are the most intelligent and the most emotional mammals. Since thinking, language and will are under the control of the neocortex, there is a tendency to overvalue its faculties. It is, however, in the minority and the other two brains can be influenced, but they cannot be commanded.

There seems, therefore, to be a biological explanation for Enneagram Three Centres theory. Syndicate groups at the Dublin Conference offered interesting insights: Gut Types confirmed their instantaneous awareness of territorial issues; Heart Types their intuitive ability when it comes to establishing an emotional connection and Head Types their detachment, strong imaginations and consequent fear. Gut, Heart and Head Types may be too involved with the corresponding brain. Enneagram theory argues that the path of self-development is to integrate the three Centres. Hence, bringing the three brains into balance may be an effective strategy.

To engage human beings, the interaction works best when aimed at the emotional mind via the mammalian traits of playfulness, caring, metaphor and art of all kinds – music, poetry, dancing. Limbic resonance is an important factor and people naturally prefer to meet face to face, to talk, laugh, eat and generally socialise.

Emotions are an essential, though often denied, aspect of decision-making. If thinking conflicts with emotions, emotions win. Logical arguments will be used as post hoc back-up, but this is rationalisation. Intuition is ineffable knowledge, unrecognised and unexplainable, it is the secret memory of the limbic brain.

Unconscious selectivity operates to filter information and prevent overload. Bringing our unconscious ‘Type filters’ into awareness is the work of the
Enneagram and the start of the journey to personal fulfilment and the path to spiritual life.

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