

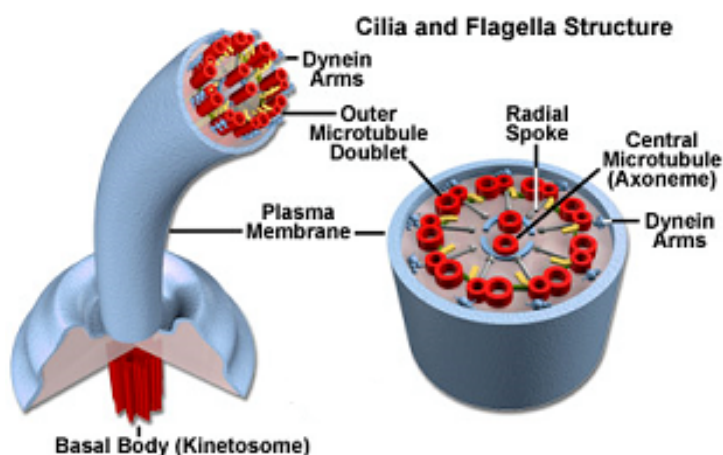
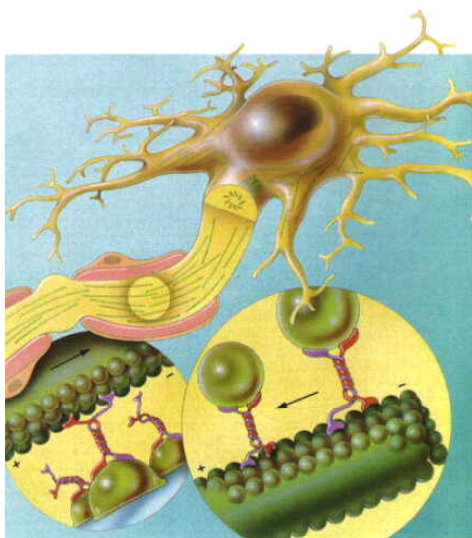
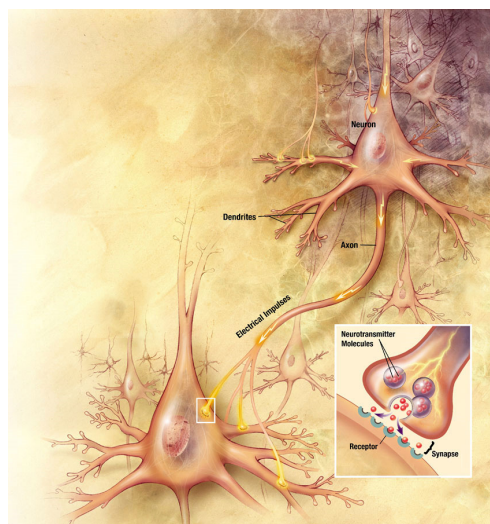
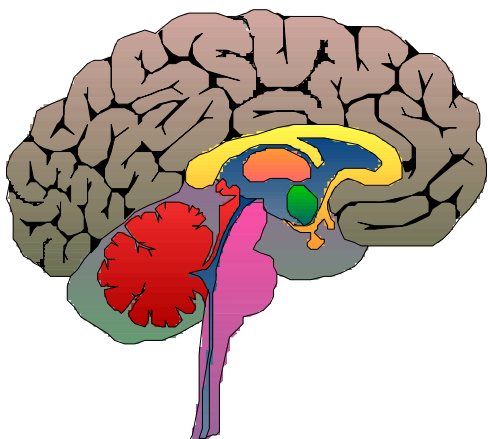
Consciousness and the Direction of Structure

The molecular origins of our species wide insanity
The fundamental causality of our self inflicted suffering

By Tony Wright

Solving the mystery of human evolution using Darwin's basic theory required no more than a simple reinterpretation of existing data and the application of basic biological principles. The same approach simultaneously resolves several other major enigmas in disciplines rarely considered within the same context. By following in the footsteps of William of Ockham taking the path of least resistance leads to a simple, coherent and elegant explanation for our unique physiological traits and sheds light on the state of our mind.

Your ability to read and understand this article, your perception, state of mind and sense of self is directly related to the coordinated real time variations in structure and cascading flood of chemical and electrical chain reactions in your brain. That is not to say your consciousness is the structure, rather one facilitates the other. Forget for now the so-called hard problem, how does consciousness arise or emerge from a large glob of fatty stuff, or the esoteric realms of physics where the nature of matter and energy is indeterminate. Let us begin with a model based on the concept of structure, in this case the microstructure and molecular arrangement of our brain as an understanding at this level may shed light on some of the more esoteric mysteries. A single brain cell is more complex by many orders than anything most of us have ever imagined, a comparison with the best of our technology would be laughable. Sub atomic, atomic and molecular engineering of extraordinary elegance, a whole dynamic ecosystem in constant yet precisely orchestrated flux.



These diagrams (borrowed from Wikipedia) provide some concept of the scale, complexity and the engineering marvel that we are when compared to the best of our technological innovation. However they fail to do justice to the dynamic reality and wonders of bio-molecular engineering, more on that later.

Take around 100 billion or so of these supremely advanced organic machines and organise them into a coherent interconnected and self-regulating whole and we have the human brain. It manages its biological support systems, processes and translates sensory input into something comprehensible and appears to give rise to or at least facilitate a sense of 'I'. The correlation between structure and function is very good, the tiniest change in its structure can and usually does result in major changes in our sense of who or what we are. From congenital defects in the developmental process to minor accidents as small as a pinprick through to the use of appropriately termed mind altering molecules the result is always the same, micro change in structure, macro change in consciousness. So for this model to develop we will assume the brain acts like a lens for our sense of self or consciousness. The arrangement of the molecular architecture directly relates to its resolution or the quality of consciousness in the same way the design and structural integrity of a telescope lens and mirror relates to its ability to resolve light and the sharpness of the image it produces.

If we take the lens analogy as read it would be useful to look at its design and how it evolved and developed. Not quite the current paradigm re human evolution rather a modern translation of an earlier paradigm when somewhat circuitously the theory outlined below predicts the archaic traditions on which it is based would be more accurate than much of what is currently in vogue. So sit back and enjoy the ride and lets see if it correlates with the world you inhabit or whether it offers any practical insights as to where we go next....

Expansion

During the latter stages of its evolution the human brain was on a rapid and accelerating curve of expansion. This exceptionally rare phenomenon was the by-product of an increasingly symbiotic and co-evolutionary relationship with flowering plants that resulted in the emergence of a number of unusual traits. These traits were the direct consequence of a heavily and progressively modified transcription environment at all stages of growth and development. Rather than selective adaptation working on DNA mutation the primary mechanism was a form of genetic engineering or more accurately epigenetic engineering. The increasing dependence on a bio-chemically complex diet, very rich in transcription altering, endocrine disrupting and neuro-active flavonoids drove the expansion of the brain. As the brain enlarged and its fuel requirement disproportionately increased the expansion cocktail was liberally laced with simple sugars. In order meet its appetite for fuel it was compelled to ingest an ever-greater amounts of the chemicals that were responsible for its growth in the first place.

New structure

The tumour like proliferation of the new brain, the neo-cortex, increasingly freed from the constraints of specialised differentiation and survival related function took a quantum leap in its development. It had acquired highly advanced cognitive abilities and begun acting as an executive layer with built in automatic enhancing capabilities for earlier more primitive neural structures. It had also reached sufficient complexity to experience self recognition, not the self we 'think' we are today, rather a self we would now describe as something wholly other. In addition and related to its self recognition capacity its experience of itself could be described in terms of rapture, a perpetual sense of profound wonder and intense sensual joy.

Contraction

Then around two hundred thousand years ago the rapid expansion of our brain abruptly stalled and turned to contraction. The huge reduction and near loss of the wet tropical forests during the driest period of the last ice age pulled the plug on the fomenting cauldron of chemicals that had been responsible for re-designing, re-organising and re-engineering the evolutionary development of our brain. When the last of our lineage were ejected from the forests womb like protection that had hot housed our evolution, the neural system it had nurtured was exposed to the kinds of hostile ecological and biochemical environments it had not encountered for millions of years. The physiological traits that had emerged and were dependent on a heavily modified transcription environment inevitably began to regress.

Catastrophic failure

Since that time our brain has suffered a progressive and catastrophic failure in its development, massive loss of its structural integrity at a molecular and cellular level and near total loss of the most complex biochemical cocktail in evolutionary history essential for its optimum function. Archaic genetic specialisation asymmetrically encoded between the cerebral hemispheres resulted in the predisposition of one side of the brain to fail more quickly than the other. Paradoxically as the developmental retardation progressed the more retarded side assumed control, its greater loss of function and the associated psychology of fear provided the drive to dominate. Finally as sex steroids such as testosterone are fundamental in brain development and the evolutionary effect of flavonoids significantly modified their activity the severity of the symptoms is gender related with males exhibiting a more extreme spectrum of symptoms than females.

Ancient treatment

Our ancestors being significantly more functional than we are, were acutely aware of their predicament. They developed a number of ingenious practices and techniques in an attempt to treat the emerging symptoms of their neurodegenerative disease and slow its rate of progression. Through the insight of their minds alone they achieved a high science of consciousness now largely forgotten and dismissed as the mythological ramblings of our 'primitive' forebears. They were faced with a condition so insidious it is difficult for us to imagine, symptoms include the inability to accurately perceive reality and a progressive blindness to the nature and severity of the condition itself. Ultimately their best efforts failed, though the relics of their treatments can offer a powerful insight into the specific nature of the condition when considered within a neurological framework.

The lights went out, there is no one home

From the most advanced consciousness system this side of the Milky Way the human brain has been reduced to a zombie like state, unable to recognise itself, paralysed by a profound sense of paranoia, plagued by deeply rooted psychosis and driven to control anything beyond its rapidly diminishing experiential capacity. In the most recent and severe period of degeneration, what we now refer to as recorded history (a necessary response to the failure of our eidetic memory) it has created a world in its own demented image. The stratification of society along neurodegenerative lines resulted in the emergence of hierarchical and patriarchal structures that reward delusion and dysfunction with power and control. This has further accelerated our plunge into a culture dominated by fear where the least functional members of society inevitably end up creating a world that reflects their underlying dysfunction. Ironically labelled civilisation, built on foundations of deep psychosis, devoid of reality, empathy or any sense of beingness, a living hell where only the deluded sense of being in control at any cost provides temporary respite from the self inflicted nightmare.

Examples of catastrophic structural failure (design and development, real time function, build quality)

1 Congenital development and design specification: The earliest phase of neural development is the most crucial, the highly sensitive neural cells are at their most responsive and plastic. The foundations for lifelong neural structure, organisation and function are laid down during specific developmental windows in the first few weeks and months of our life. While our brain maintains much more plasticity much later in life than previously thought the way the brain develops during these key windows is a very significant factor in permanently shaping its functional parameters.

The design for this period of development is locked in the DNA blueprint and like all blueprints it needs to be read. A major part of this mechanism is hormonal, the translation of the genetic blueprint into molecular and neurological structure depends on the complex interaction of many hormonally active chemicals. These chemicals play a direct role in dictating the timing and duration of the developmental windows as well as what happens at a structural level within each window.

Recent research has identified a number of chemicals that are known to interfere with this natural process. Generally termed endocrine disrupters they can alter the period of developmental windows and what happens during those windows by interfering with the activity of hormones integral to or by acting directly on the transcription process.

Chemicals found in plastics or pesticide residues have been identified as potentially dangerous endocrine disrupters and recommendations to limit their effect particularly during early development have been implemented.

Interestingly enough flavonoids have also been designated endocrine disrupters and the potentially harmful effects of flavonoids in Soya infant formula have been the subject of serious investigation.

So while the design for our brain and all aspects of our physical form are encoded in the genetic blueprint the final structure is dictated by the precise cocktail of chemicals in the developmental environment.

A powerful mix of endocrine disrupting flavonoids was known to be an integral part of our transcription environment for many millions of years. They influenced the molecular and cellular structure of our brain so inevitably altered our state of mind. Those designer drugs are now almost entirely absent during our neural development, the consequence cannot be anything other than the congenital malformation of our brain.

2 Microtubules: Generally considered part of the cells skeleton these supremely delicate and complex structures are increasingly associated with cognition and intelligence particularly in neural cells where they are especially abundant, some theories even suggest a central role in higher consciousness. Either way like most biological structures, their precise design and molecular arrangement, is dictated by DNA. However they display a very high level of plasticity in response to their biochemical environment, an excellent example of real time hormonal and chemical effect on the transcription, configuration and functionality of structures directly related to cognition and consciousness. For example a minor change in the cellular concentration of the neuro-active hormone melatonin will radically alter the structure of these extraordinary intelligence-related machines. Is it any wonder that the near total loss of the complex and hormonally active chemicals present and essential during the evolution and development of our brain has left the most delicate and hormonally sensitive parts of our consciousness system twisted and distorted literally out of all recognition.

3 Super structure: A major structural and functional component in the central, peripheral and enteric nervous system as well as cell membranes are fatty acids. A class of highly volatile, incredibly delicate, long-chain molecules that are extremely susceptible to oxidative degeneration. In nature they are always very heavily protected, wrapped up and immersed in a cocktail of powerful anti-oxidants which is very handy and no accident. Retaining them in their protective matrix at a molecular level until they are assimilated and incorporated into the neural and cellular structures is absolutely essential to prevent damage. The expansion of the human brain to its colossal proportions presents a major engineering headache in simply protecting such a volatile mass from rapid degeneration. To meet this requirement biological pumps maintain a concentration of vitamin C in the brain to a level 100 times higher than that of blood. In addition the pineal gland pumps out the neuro-active hormone melatonin, as an antioxidant it is around 50 times more effective than vitamin C. As yet an unrecognised part of the evolutionary equation are the powerful antioxidant activities of flavonoids. Increasingly studied in isolation or as part of our typical dietary intake and slowly creeping into nutritional recommendations or offered as supplements they also have more protective action than vitamin C. Here is the paradox, flavonoids were known to be present along with the more familiar protective vitamins as part of our evolutionary diet at levels at least 20 times higher than what is currently considered normal. A perpetual flood of 1000s of anti-oxidant compounds present 24/7 from conception to death. This constant immersion in a highly protective chemical soup was absolutely essential to prevent the most complex feat of molecular engineering we know, constructed from some of the most delicate and highly volatile molecules we know, from structural and functional degeneration. As a bonus some groups of flavonoids also elevate the production of melatonin by stimulating the activity of the pineal. Check it out for yourself, our nearest living relatives the forest dwelling apes currently, today and everyday flood their system with at least 20 times more of these antioxidants than we do and we have a proportionally much larger and therefore more vulnerable brain. Now we have lost virtually all that protection, at least a 95% deficiency, in fact its more like 98% and it's the reason why it takes a while for the implications to sink in... In addition we are chronically deficient in fatty acids the raw construction materials for the neural systems super structure, finally we tend to separate them from their natural protection, then heat them to extremely high temperatures in oxygen before incorporating them into the structural integrity of our brain.

Now pay attention, you might have to read this again and again and again to begin to understand the catastrophic failure at a molecular level this represents. Not only is it profoundly shocking, it certainly should be, your ability to assimilate this information is seriously compromised by severe neurodegenerative dementia, whatever your age. What we currently define as dementia and Alzheimer's are simply the inevitable and extreme ends of a spectrum of life long neuro-degeneration due to the near total loss of functional and protective biochemistry.

How would our 'advanced' engineering fare in similar circumstances?

Applying these principles to modern feats of engineering can provide a basic understanding regarding the impact of minute changes in basic specification. For example instructing the research and development team at a major engineering corporation to add 1% to the blueprints design dimensions, to reduce the quality of the construction materials by 5% and to vary the fuel quality or power supply by 10%.

If you applied these specification changes to some of the most advanced technology the human mind has created then you begin to get the idea. Take any of the following examples of 'advanced' engineering, Concorde, The Northrop Grumman B-2 Stealth bomber, The Space Shuttle, The large Hadron Collider or The Hubble Telescope. Such a change in specifications would likely render their construction impossible, even if construction were possible the idea that they would work would be reasonable grounds for being institutionalised. Apply the same parameters to more basic technology such as your car or personal computer and the outcome would be the same. You might just get away with building or at least shoehorning your car together, it might even start but would you drive it if you knew about the changes in specification?

Everyday life and death decisions are made on behalf of millions of people based on the untested presumption that the most complex piece of engineering we know is even remotely functional. You might think that the basic scientific protocol of never presuming your primary instrument of investigation is working would be applied to the one piece of equipment we use for absolutely everything. Perhaps its flawless performance throughout recent history has provided us with the confidence to ignore what would be considered 'bad science' in any other context.

The accepted evidence for the structural basis of our insanity is staring us in the face, as might be expected we fail to recognise its profound significance.

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Our own sex hormones retard the development of the dominant side of our brain!

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Our flavonoid rich ancestral diet inhibited the action of our sex hormones during the evolution of our brain!

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The complexities of the human brain are so far beyond our current thinking we really have no idea how it works. What we do know is that our own sex steroids such as testosterone play a major role in all aspects of neural development. In addition through testosterone's conversion to estradiol via the enzyme aromatase it is also responsible for the masculinization of the brain. Strangely enough this 'normal' process is known to retard its development in the uterus by modifying the way DNA is transcribed, in turn changing its molecular and cellular structure with testosterone referred to as a neuro-toxin. Cambridge based researcher Professor Simon Baron-Cohen, building on findings dating back 20 years or more has concluded that the 'normal' male brain is simply at one end of the spectrum of ASD due to the effects of hormonal retardation. Of course the reference point for normal is based on the presumption that the activity of our sex hormones is normal.

We also know that for the greater part of its evolution the human brain was immersed in a chemical cocktail that inhibited and diluted the action of our own sex steroids as well as the action of the enzyme aromatase. It is inevitable that the near complete loss of these inhibitory effects has radically altered the development of our brain and therefore our state of mind. The very acceptance of 'retardation' as normal within the context of a recently expanding brain that is now shrinking would be cause for great concern if it were a modern hi tech engineering project. These two pieces of the evolutionary jigsaw alone should set alarm bells ringing as they are well evidenced and accepted, that they don't is a direct consequence of the hormonal retardation on our minds ability to see context. That we now build the most complex product of biological evolution from materials that have never been part of that 3 billion year process might be another. The very simple equation above should be enough on its own to initiate the kind of response when we are faced with a massive natural disaster, what is your response?

A short exercise in re-calibrating your perception of how astounding you really are.

Before pondering the pictorial summary below, watch [this excerpt](#) from a recent animation that provides just a hint of the unimaginable dynamic complexity that you are ([full-length version with narrative here](#)). Do not buy into your perceptually limited mind telling you 'this is just what happens in my cells'. Although near the cutting edge of biological animation and still a relatively crude representation of the molecular biology that you are in action, right now, it does begin to reveal what extraordinarily complex beings we are, divine poetry in molecular motion.

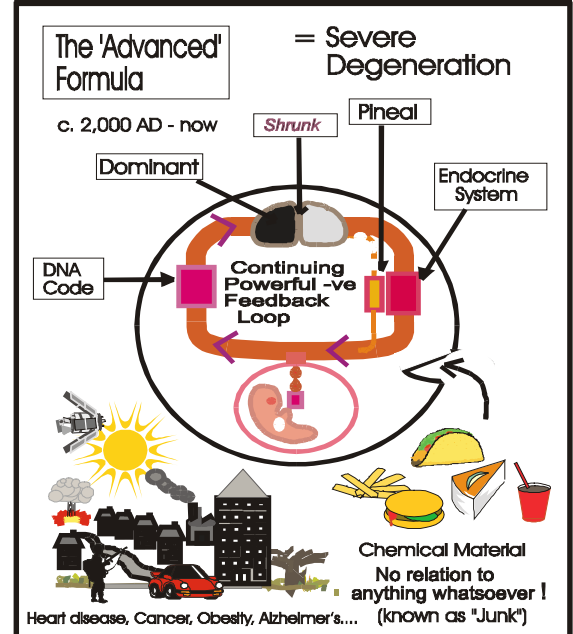
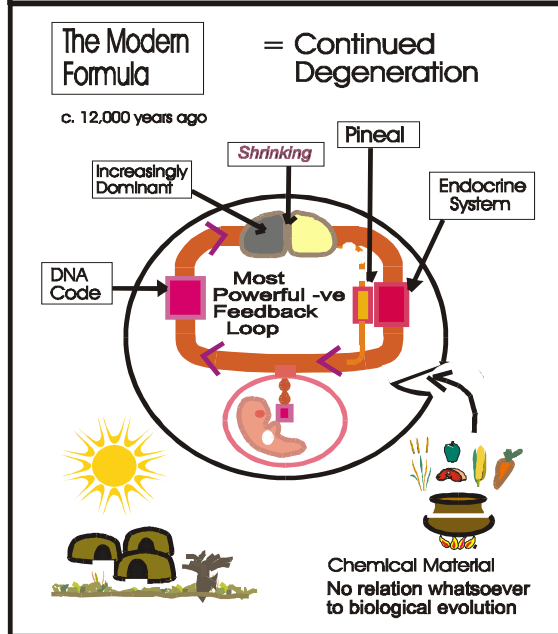
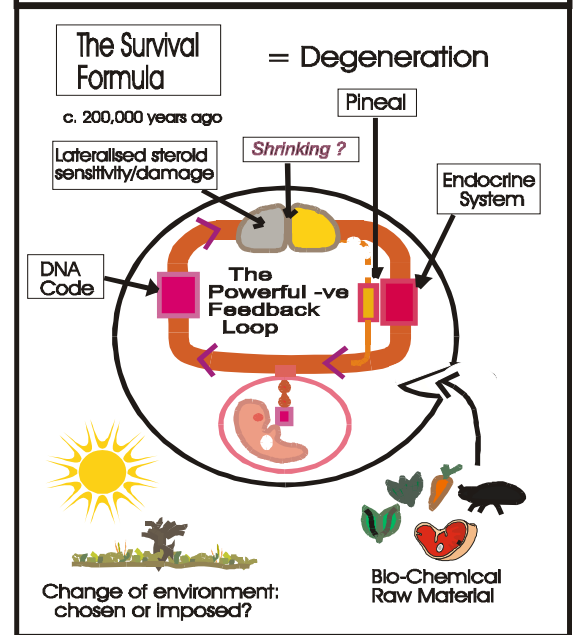
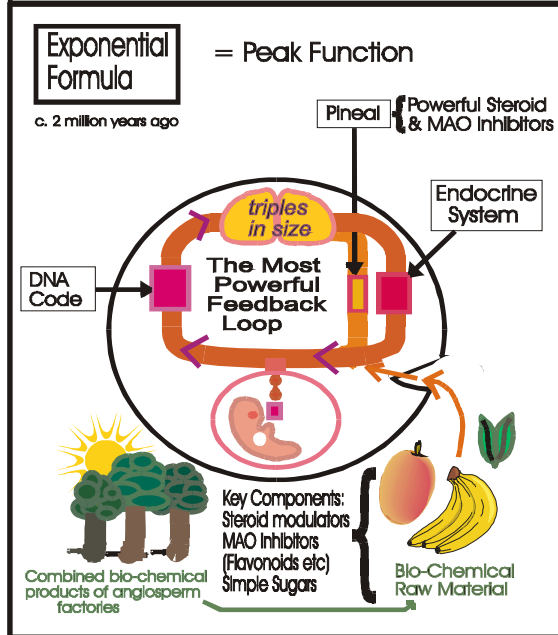
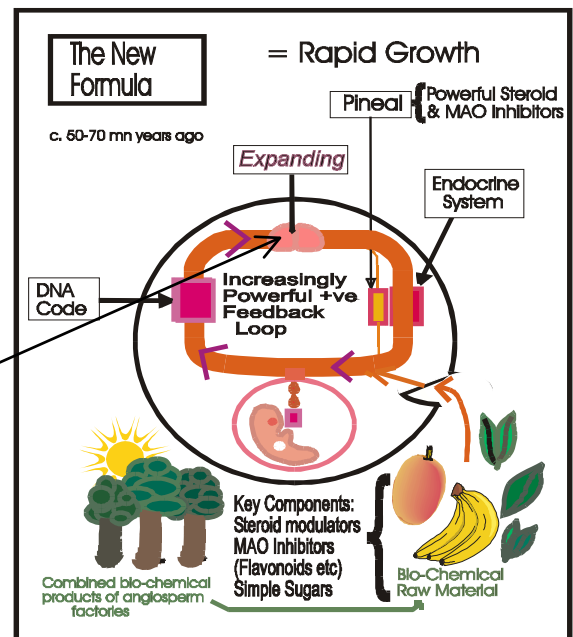
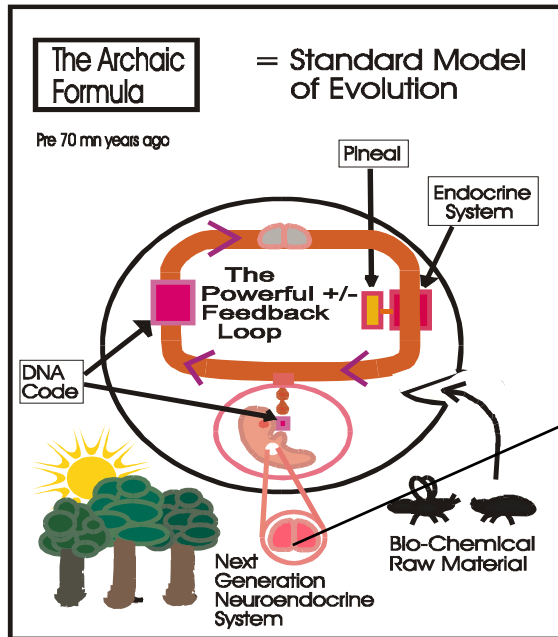
Watch it a couple of times and allow yourself to imagine that this is what you are, then multiply the molecular and cellular complexity and transpose that to the structures that play a major role in facilitating our sense of self, our neural cells, when watching [this very simple animation](#).

Now imagine the aqueous environment in which all this highly sensitive and interactive molecular machinery depends on being completely flooded with extremely reactive biochemistry. The most complex biochemical cocktail in evolutionary history also produced by equally complex molecular machines in one almighty orchestrated molecular dance.

Finally once you to begin to recognise how extraordinarily complex your evolutionary process is then take a look at the simple pictorial summary below and try to see way beyond the 'trees' the 'humans' the 'fruit' etc and imagine a single interconnected molecular organism.

While your brain was evolving it was effectively an extension of the most complex ecosystem we know. Scale that into molecular ecology that involved the plant chemistry reading our DNA and directly modifying the evolution and development of our mind and you begin to realise that we were not and could not be fully functioning once we were chemically separated.

Any Change in Neural Structure or Neurochemistry Alters Consciousness



Conclusion

Minutely modifying the molecular structure or chemical cocktail of our brain radically changes our sense of self, our psychology and behaviour, how we perceive and react to each other and the world we create and inhabit. We have recently had our brain structure and neurochemistry massively and detrimentally altered so inevitably our state of mind and sense of self has also massively and detrimentally altered. An accurate account of the catastrophic failure of our consciousness system is preserved in ancient mythology, a diagnosis of a progressive neurodegenerative condition that results in severe and all encompassing psychotic delusion. Evidence from several modern scientific disciplines supports the ancient accounts and provides compelling evidence of species wide hormonal 'retardation' of our brain and associated dysfunction.

Expecting to address the serious perceptual and psychological deficiencies that have resulted without addressing the underlying structural damage and neuro-chemical deficiencies is utterly futile and symptomatic of the condition itself. All that is required to restore our sanity is to repair the precise molecular structure and restore the neuro-chemical regime that is absolutely essential to perceive reality. This is already well within our reach and with a common sense approach likely to yield spectacular results within a generation. While we may be less aware than our ancestors we have the potential to mobilise the industrial scale technologies and bio-sciences we have invented and currently deploy to wage war on our selves or provide distraction with endless plastic shit. It might be fitting to turn these machines of destruction built on the broken backs and broken spirits of millions of lives and lost generations to creating something other than quiet desperation for a tiny minority and abject misery for everyone else. Even a partial fix is likely to yield a profound improvement in our mental health and bring with it the cognitive capacity to effect a complete restoration. Prioritising anything other than the immediate structural repair of our mind simply highlights how far we have fallen into the abyss of our own insanity.

It may all seem just a little challenging yet a solution would take a fraction of the colossal effort and resource wasted every single day in maintaining the unsustainable and destructive systems of control and the mindless consumer societies we all inadvertently support. Of course it would simply not be tenable to propose such a catastrophic failure if there were not an overwhelming body of evidence to support it. Aside from 'hard' evidence that would have to exist in the biological sciences it would require no more than reading a newspaper on any day you like to see the scale and depth of perceptual and psychological symptoms or if you are really brave just look in the mirror.

For more information visit www.leftinthedark.org.uk and www.beyond-belief.org.uk or read '[Left in the Dark](#)' and find explanations to long standing enigmas such as 'why very big brains really do grow on trees'

This modern translation of the ancient science of the mind was brought to you courtesy of a partially retrofitted and rebuilt neural system, repeated periods of cerebral dominance reversal and the treatment of chronic and clinical deficiency in neurochemistry via frequent self medication and supplementation with neuro-chemical analogues.