

FINDING NED

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If you are told it's a nice day, look out the window and check. But if you have chosen not to have a window, the day is immaterial unless your supply lines are cut. Even then, everything is fine until your resources are consumed.

When I faced diagnosis with a serious and life threatening lymphoma, I realized that my windows were indeed shuttered and I did not appreciate where my resources were stored. That search revealed a complete spectrum of lifestyle management issues with many colors and hues – vastly more than emerge in the multiplicity of books or epistles on 'Curing Life'. Our bodies, if allowed to speak independently, would probably assert that none of us allows them to operate normally. Likely the root cause is attitude, though behavior is the instrument with which we torture ourselves. Our bodies need to find normalcy (homeostasis) but we do not want to be normal since we equate that with average. In a culture where self-reliance, freedom, and individual achievement stand paramount we don't dare be average.

In fact normal is so hard to achieve that you wonder if a normal person exists. None do in fact; they are merely a statistical ideal. So we each have a separate search to undertake in partnership with our own body. Our bodies *do* speak but we don't listen carefully enough. When we feel really well, the windows open: both day and night are bright. This might not be full health in a clinical sense, but it's a great base to have as you fight back with medical support against daunting challenge. My personal journey was made with the support of vigilant medical assessment. No intrusive measures were adopted, nothing done that was off-the-wall, yet it has restored a quality of life absent for many years. Life had been wretched for a long time. It is now a joy.

The following sections speak to the locations of the resources you need to harness and the management philosophy that seems appropriate. They don't provide cook book formulae, since your taste is entirely individual. Neither do they set out to interfere with any treatment program you might agree with your consultants. And, most important, they are not some disguised advocacy for faith healing. I hope my thoughts and approach are helpful to you, as were for me in finding Ned.

I. CAMELOT

Pride, reward and armor: that was the time of chivalry and chastity belts. To survive you needed good armor and you needed to conform. Otherwise you simply didn't live very long! Actually, they didn't live very long at all, back then. There is a myth about the importance of *everything traditional* – we have to be circumspect.

Some would suggest that illness, turmoil and misfortune come from denial of faith and community. Though community focus may be collective, it isn't necessarily embracing or even pleasant. Religious fervor, racial delineation, cultural intolerance and political strife are all aspects of human behavior in which collective involvement is strong. Still, another community of very deserving individuals is considered mortal enemy. Even if they follow the same overall principles of living, they are outside our horizons and therefore not from within the herd. Whole communities pursue illogical

paths because of instituted blindness which shrouds the fact that we all make the one journey in life – one sun, one moon and one family.

Another theme which promotes escape to nature; seeking personal tranquility by through alternative lifestyle denies its reality. The evolutionary principles of competitive advantage and fitness for purpose exist and were not created. What do we find if we cut from the general to specific and compare our species with a close relative; primates living quietly with best care in a zoo? We find they live at most into their early fifties. I find this a stark comparison. This is a pivotal age for us too.

So perhaps we should understand that our bodies have not evolved to live for much longer than we would consider a short span. But it doesn't take very long to live a hundred years, so I am told. Our bodies are ill equipped for that endurance race but our minds seek even greater dimensions. I remember being shocked thirty years ago to be told offhandedly that I was entering middle age. And again just recently, another medico interrupted to remind me 'You are 61!' So here we have the basic disconnect really, our bodies and our minds operate against different measures, to different scales of time and need. My mind has no intention of retreating to a cave without windows, so I have to do what I can to maintain the abilities my body has in resisting decline and combating age.

ATTITUDE

NED is the best friend any living person can have. When he is around, you are wrapped in good health; you have **No Evidence of Disease**. But we humans are a difficult lot, to say the least. We rely on our best friends but treat them complacently. We court others to find stimulation and reward, but we expect the likes of Ned to be waiting patiently just where we discarded him.

Think for a moment of those who are applauded for their physical beauty. Are they outstanding examples of ones who treat their bodies with absolute care? Sports champions; are they content to coax and manage their bodies to deliver what is a reasonable expectation? No! Do politicians remain responsive to the real needs of the individuals within their constituencies? Are preachers and mystics consistently humble, working alongside those they would lead to a better realization of the majesty of existence, or do they come to enjoy looking down as they acquire the authority of assumed knowledge? The human mind does not live in the head. It reaches amazing and complex spaces unlimited by space or time. It has immense powers to create in its chosen image – and incalculable ability to destroy without favor.

Arguably then, our minds are not simply the vehicles for us to fly above other living species but they cause us to neglect the realities of our physical existence. Ned, like all of our other true friends, cannot stay around indefinitely unless we are consistently hospitable; unless we nurture the appropriate attitude.

So when we find to our dismay that Ned has departed, there is no point demanding in outrage that he return immediately. In face of a serious diagnosis such as an incurable malignancy, we need to obtain the best clinical advice possible. We can refurbish the house but if it remains cold – barren and uninviting – Ned is unlikely to be a permanent resident. Our key enquiry at that point is not why he left, but what will entice him to return and stay. As in marriage, this rests on caring attitude and underlying philosophy. Deeper still, we need to find a management process that will

cause our minds to understand the need to cohabit with Ned; to curtail the flights of fancy and yet be content and fully motivated. Ned is not a high flier. He needs a relatively simple environment. So the task falls out as follows: We must step aside somehow from ourselves to set targets to reward the mind whilst also managing the impact that outreach has on Ned's world.

Ned's place is a marine laboratory on legs – dependent on water, oxygen, nutrients and a microscopic flurry of cells and predators operating among polymer-like strands of tissue, through and into bone. Biologists view the whole thing as a microscopic community and attempt to unravel its secrets by observation and phenomenological deduction. From the viewpoint of a chemical physicist, it is something quite different. It is a dynamic of flows and diffusion in which substantive change occurs by chemical interaction across interfaces and boundary layers – where equilibria are metastable. Looking further at the dynamic as it relates to DNA damage and cancer provides some useful insights which add significant and broader dimension to faulted hypotheses which have emerged by philosophical deduction from biological research.

So what, you ask? The essential difference is that physical science works with established methods and rules to uncover unifying principles. The mechanistic connections between observation and underlying principle are strict – provided the researchers don't fall to the temptation of introducing a plethora of notional parameters in order to introduce unexplained flexibility into the essential controls. Predictions are then best described as computational models, rather than efforts at exposing the underlying principle. However the fact that these branches of science are not working in close tandem is seriously tragic, but unremarkable.

IMMUNOLOGY AGING AND CANCER

In a practical sense, the numerate measure of age is the sum of damage that our DNA has accumulated from conception until now. It is the memory carried by our DNA of all errors that occur during cell reproduction, maturation, or repair. It is inevitable and, conceptually at least, non-erasable. It is the record of our past, written as much by our own choices as by the biological sequences initiated when we were conceived. The relationship between time and age comes from the pace at which our bodies have accumulated the DNA damage, and at which they continue to do so. The potential for cancers, the risk of mutiny that we face, depends on the extent and type of DNA damage sustained. In addition, it depends on the *repair capability* our bodies hold for restoring damaged cells efficiently and returning them to the host population. Alternatively *safeguard mechanisms* may delete or isolate non-conforming cells from the population. Defense is important, but killing the enemy may only appear like progress. If you do not sustain and revitalize your own troops you become entrapped in the age-old tactic of siege. At some point mutiny will prevail simply because of resource depletion.

Immune Surveillance: A Faulted Hypothesis

For a hundred years there has been waxing and waning view about the importance of the human immune system in the control of various illnesses, including cancer. Paul Ehrlich suggested in 1909 that the immune system played a major role in the occurrence of cancer. Sir Frank Macfarlane Burnet proposed a model of immune system surveillance in the 1950's, suggesting that cancer represented the occasional escape of mutant cells from the immune system; either because of immune suppression or failure of the body to recognize the rogue cells as potential mutants.

However, there is evidence to the effect that some cancers may initiate and proliferate at rates which seem to be unaltered by the presence or otherwise of immune responses. Thus the hypothesis is faulted.

Lauren Sompayrac¹ provides a succinct outline of contemporary clinical views regarding the role of the immune system in disease, on the one hand, and in cancer on the other. It may be said in summary that the immune system does protect us against a wide variety of diseases and is involved with hematological cancers; leukemias, lymphomas and virus-induced cancers. But whether it plays a major role in protecting us against the majority of human cancers, carcinomas, is quite debatable. So I ask whether, in the absence of a unifying principle, the role of the immune system is formatted properly even for hematological cancers.

The control factors necessary to prevent mutating cells from being able to proliferate and pose health risks are present mainly within the cell itself or at least its microenvironment. Cancer ensues when deviant cells gain competitive advantage and proliferate at will. This becomes possible when such cells persist within a host population despite the presence of tools for repairing the DNA damage, and others which safeguard the host by deleting errant cells. In other words, it requires that both of these systems are corrupted simultaneously within the experience of a single cell. Sompayrac stresses that two general categories of control – *repair* and *safeguard* – are involved and ‘both must fail’ for catastrophe to follow. Therefore one cannot appeal to a model that presumes at the outset dominance by one or other would-be controller. This is a crucial point. Attractively concise, though it may be, the human immune surveillance hypothesis simply doesn’t hold sufficient diversity to encompass all experience. But the principal weakness of the hypothesis and, Sompayrac’s objections also, is philosophical.

Two forms of jurisdiction can only function in true independence of each other if they operate on distinct constituencies. Where two forces supervise the same constituency, one is quite probably rate-controlling in terms of the dynamics that play out. The other is suppressed unable to function, yet it hasn’t failed of itself. True depth of management will only be found if that secondary power is ready to fill the gap which opens whenever the other faults. Yet describing the detailed interplay brings us inevitably to places where different streams of philosophy or technical specialization meet; no one field has all the answers and techniques. Debate and disagreement are inevitable because things apparent from one field of analysis are not so from another. Yet the potential benefit is far greater than looking slightly aside while traveling down the same tunnel nevertheless.

Population Integrity Criterion – A New Postulate

Significant capability overall has been added to cancer research in the last decade with the emergence of computational modeling². This is concerned primarily so far with the detail observed in clinical study, attempting to achieve predictive models that might foreshorten the tortuous path of in vivo experimentation. In essence all such models consider the fate of cells whose DNA incurs damage and are presented as a rogue to the host community. The checkpoint process will result in attempted repair of the DNA damage or it will initiate surveillance. A particular cell might gain passage through either route and equally it might fail in either route. A cell which passes repair returns as a fully qualified member of the host whereas one which escapes surveillance is rogue with the potential to mutate. A familiar example of failure in repair (cell arrest) is when cells become dormant or senescent. So we find

the definition: *Aging is the decline in tissue function as a result of high levels of cellular senescence which occurs in the face of elevated DNA damage*³. In this sense, cancer is very much a disease of aging⁴.

But cancers are not a compulsory experience during the passage of life. They flourish when essential balance is threatened by lost ability to maintain the integrity of cells and absent means to forestall uncontrolled population growth. These balances may be modeled for specific situations such as colon cancer assuming basic underlying probabilities for cell arrest and deletion following the checkpoint process. I have taken the opposite approach and left the checkpoint environment non-specific for the purpose of looking at the general effects of 'failure' in repair and in surveillance.

After some months of mathematical distraction, I have noticed a simple paradigm under which the host cell population will remain essentially pure in face of DNA damage and fluctuating systemic capability. Furthermore, there is a pair of general measures with joint control over the probability a host cell population remaining free from intrusion by deviant and potentially mutant entities. This is expressed as follows⁵;

If no errant cells were ever transferred to the host as potentially viable members of the population, cancers would not be encountered. For this situation to hold, all mechanisms by which deleterious cells are withheld from the host must be durable, as if actual cell death had ensued. That given, the integrity of a cell population is highest and most stable when potentially mutant cells have least likelihood of escaping the body's repair and safeguard mechanisms.

This condition is achieved when the repair and safeguard processes fulfill the following pair of requirements concurrently:

- i) An insignificant proportion of the cell DNA damage is transferred to the host population, and*
- ii) There is a negligible rate of cell deletion in process, irrespective of the fitness of the cell population.*

When either measure fails but the other is satisfied nonetheless, the integrity of the cell population will still achieve its highest level but it will not exhibit a commensurate level of stability. As the level of default according to one requirement becomes more so, the population integrity is threatened increasingly by performance fluctuations affecting viability of the other, then operating as the sole guardian of cell integrity in the host.

Note firstly that the dynamic doesn't rely on specifically attributed aspects of immunology or endocrinology. It doesn't draw a distinction between hematological cancers and tumors. But it provides a context for reaching behind the intent within the human immune surveillance hypothesis. It is complex and inappropriate for this discussion. However the host community will enjoy stable and durable integrity when;

- Both repair and surveillance processes exhibit maximum capability, and
- Very few cells are actually deleted in process.

For this to be achieved;

- The checkpoint process must attempt repair almost universally.

When the ideal is not possible, there may be host integrity as a result of cell repair and surveillance processes but this will be unstable – sensitive to fluctuations in

systemic capability. I am currently analyzing the nature of the instabilities. Bottom line however, is that we need to avoid immune suppression which downgrades the ability to eliminate errant cells and we need also to maximize the ability our bodies have to repair the DNA damage of errant cells. Sompayrac can be interpreted as saying 'We are OK so long as both do not fail'. I am saying that we need both mechanisms fully armed in order to achieve stable protection, while in addition, the checkpoint process must initiate repair of the rogue cells. Anything less will deliver an unstable outcome.

SOME BODY CHEMISTRY

Oxygen & Nitric Oxide

If we have no oxygen, we have no life. But what if we have nearly enough oxygen some places and not others? For example, you can find these assertions;

- i) "Oxygen is critical to the proper functioning and healing of all tissues in the body."
- ii) "The Nepali Sherpas have elevated nitric oxide content in their blood indicating specific adaptation to life at high altitudes."
- iii) "It doesn't matter how much oxygen is being carried by red blood cells, it cannot get to the tissues that need it without nitric oxide."

In chemical physics terms, there is no doubt that the interaction of hemoglobin and tissues is mediated by nitric oxide in some manner and therefore the rate of reaction will be controlled by the chemical potential of nitric oxide in the vicinity of the hemoglobin and the diffusion coefficients for molecular transport. Normal reaction kinetics will be sensitive to any environmental component such as surfactants able to hinder the exchange. A typical surfactant could be any of alcohol, sugars and fats. Therefore the things we ingest can have a direct impact on the way oxygen is supplied to our muscles, to the component cells of the immune system, to our brains. Other molecules can similarly wreak effect; such as the naturally released hormones⁶. Mental conditions, arousal and alarm, may be the triggers for the changes we experience. The level of hydration is going to be important also since that alters the chemical concentrations.

Nitric oxide in the linings of blood vessels increases the formation of a compound labeled cGMP. In turn, smooth muscles of the vessel lining relax and the blood vessel dilates. So nitroglycerin is an effective cardiac drug. Therapeutic drugs lead to some unlikely correlations. In another aspect of the same process, cGMP is destroyed by a specific enzyme which in turn is blocked by Viagra. In a dynamic sense, therefore, Viagra and nitroglycerin are synergistic to blood vessel dilation. On another hand, the influence of nitric oxide on oxygen delivery is found also in the immune system where it assists activation of inflammatory cells required for healing. In excessive concentrations, it can exacerbate inflammatory conditions such as rheumatoid arthritis and lupus. The net result is that nitric acid biochemistry is currently an intensely active area for patenting. Applications are foreseen in a host of conditions including the control of cancers and also facilitating radiation therapy by swelling tumors. It is one clear example of how managing your body – naturally or with therapy – involves numerous potential interactions that all boil down to one fundamental question: Is the correct amount of oxygen available to provide energy and fuel the chemical reactions which determine cellular health where it matters?

Ned, the Science Tutor

We don't need to have the detailed science at our finger tips since Ned answers the questions important to our individual worlds. Do you feel better after eliminating some of the obvious surfactants – alcohol, sugar and fats? What mental stimuli or burdens leave you feeling down; can you lift the cloud by avoiding them? Experiment, modify your behaviors and find out what transforms your body's signals to good rather than sad messages. But above all, do not rush to the pill box or bottle to swamp them. If you are in pain, research the meaning of the pain. At the most basic level, look at robust and reputable guides like "Foods that Fight Pain" by Neal Barnard MD⁷. His book tells you a lot about what aspects of your diet or the entrained food processing history could be causing pain. He assumes you will have the fortitude to take control. There are many insights available but in the end it is between you and Ned to discover the route to follow. Some of those early morning headaches have a simple cause – dehydration. We must drink enough water.

At the very bottom line, however, the cortisol cycle is the body rhythm which we need to manage. In particular we need to schedule emotionally demanding or mentally challenging tasks for the early part of our day – say mid morning. Savor your waking period: don't make the commute your immediate challenge. Do the routine tasks in the afternoon: prepare yourself to subside into a state of relaxation not long after sundown. The Circadian clock is timed by the light of day, not by our tenacity and determination. As we burn the midnight oil, the cortisol balance is disturbed and the normal surveillance operation by our immune system is truncated. This is not what we want. Give your body resources – and give it the chance to use them against the schedule it is designed to follow. Ned does not read Board Papers or TV Guides, do advanced math or devise strategies. He works hard on the night shift, if you let him.

NEED ACHIEVERS

I am most definitely a 'need-achiever'. Many individuals deemed successful are so. Is this a good or bad thing? Neither: unless it leads us to be exploited – deliberately by others or unwittingly by ourselves. I guess I fell to both traps.

Management and team motivational consultants are experts in setting those traps, since corporate management theory uses reward as both carrot and stick. I recall the following;

"You guys need to discover and understand yourselves – learn who you really are – and earn your places in this world beating team. Yes, and you are so lucky to have this amazing leader here!" She said these words smiling toward the bloated CEO draped inelegantly on the presidential chair. The smile was so sweet. She could just taste the equally bloated fees he was going to pay for the repeat performance in this little Board Room drama. Yes!!! He couldn't help but add "True – and I have an enormous heart, you know, the biggest you are likely to find." That was perhaps the truest thing said since his heart was to give him final tranquility in cardiac arrest.

My friend and former colleague Ted Gioia www.TedGioia.com wrote to me recently "I often think back fondly to many of the times we spent together. You were always a voice of sanity and wisdom, often in the midst of craziness." That was my intention

of course, but not my mood. The outer image may have been one of intellectual control, but there was another level of reality. This persona sitting in the shadows is intensely emotional and competitive to a fault. So the calm at the center of the storm was not a place of tranquility but quite the opposite. It was a place where conflicting forces met and crushed each other into a stall. Anything at all off center was sheered off by the combined strength of both opponents. That which got off center was my health – Ned's place.

I have a large number of patents, primarily in the field of human vision. People remark as result on levels of intuition, intellectual strength and the like but are usually appalled when I tell them what circumstances are best for commercial innovation. Certainly you need to understand the customer. Since I had no convergence and therefore no binocular vision (near or close) for the first 21 years of my life, I have a good idea of what it is like not to be able to see properly nor read easily. It was an advantage in thinking about the presbyopia experienced by affluent baby-boomers well before I had to acknowledge aging. And I am honest enough to realize that fashion is a major part of the eyewear business – even changing the apparent color of your eyes with contact lenses. But in my view, the important thing in any competitive environment is to understand the competitor better than he knows himself. Know how to work his technology better than he does. Understand the strengths and foibles of the marketing portfolio. Be sure you can predict the reactions to surprise attack. Then go and eat his lunch! It is crude I admit, but it is effective so long as you do not telegraph your own arsenal. This philosophy cuts deep although absolutely no harm is intended to anyone, no judgment of the other implied. In fact that is quite counter to my philosophy⁸.

But now, that's all very fine until we make Ned the competitor! Ned's lunch is our lunch, day after day ... after day ... And those little messages Ned sends all the time aren't weaknesses as we may perceive. They aren't to be attacked or ignored. Our body tells us what helps and what hurts in the finest detail – if only we will learn to listen.

LEARNED NEEDS

Sociologists will tell us that people have characteristically different needs, and that needs are learned. However, they may not point out that our needs can be re-learned or at very least redefined. In my case, an intense (and expensive) course of cognitive therapy provided the key to change. From it, I learned that important impacts of neuroscience on immunology and entomology are consequence of chemical phenomena on the one hand, and mental stimuli on the other. One avenue leads us inevitably to consider nutrition and exercise. The second may be moderated by meditation and exacerbated by emotion. But overall, in my opinion, the matter of 'needs' is the pivotal issue for anyone who is driven or striven in some way.

'Needs' are like any other attribute and may be categorized for convenience of discussion, as we shall see. But according to current models, a person's orientation within those categories is rooted in culture. Since culture is largely a matter of exposure, its influence is likely to be imposed by social environment and learning as much as genetics. The good news here is that we have the potential to alter our dependent 'needs' basis by learning new values and motives. With suitable effort and self-honesty we can depart one world and enter another with far greater reward and less potential detriment to our health. One view, such as you might find among X-Anonymous groups, suggests that holding a new position is tenuous unless you

wallow continuously in the memory of past agony. This is the 'whipping stick' approach. The counter position says partial emergence from a non-ideal needs set is typical when the emotional dependence is unaltered, but is transferred to a different outward manifestation. Thus a secure hold on a new and fulfilling world demands a true shift in emotional 'needs' dependence. A major attitude shift will probably be incomplete unless careful attention is given to nutrition and other aspects of consumption which underwrite the stimuli received by the central nervous system.

To proceed with a general assessment of 'needs', I draw on a paper by Roger J. Volkema⁹ (2005). A relevant earlier article is by Eugene Burnstein *et al*¹⁰ (1963). The primary reference is David McClelland¹¹ (1984), whose *learned needs model* of behavior and motivation provides us with reasons why individuals accept tasks and pursue them beyond expectations of time and level of performance. This focuses on three needs: achievement, affiliation, and power. According to McClelland, most of us have a desire for each of these three needs, but some individuals have a particularly strong orientation towards *one* of the three above the others. I surmise that the more polarized we are to individualist behavior the more we are at risk of jeopardizing our physical health.

People who are individualists and high need achievers have a strong desire to work independently. They like to set their own goals, they prefer achievable goals, and they like positive feedback on their performance. And since the high need achiever works alone, that feedback is not shared with anyone else. Burnstein *et al* posited earlier that individuals with high achievement motivation and high achievement values seek excellence. Now, the search for excellence is a *continuous* journey. If it is also a *private* journey, as for the most polarized need achiever, a powerful but deadly combination is in play. Whatever the feedback, it will not quench one's thirst – so the pace will accelerate until something breaks. That's when Ned departs and gridlock takes charge.

In another, perhaps the most populous group, there is strong need for affiliation or involvement in collective mechanisms. People who have this orientation have a strong desire for social engagement. This means that they enjoy being with others – family, friends, co-workers. They would prefer working with others on a project to working alone. And while a high need achiever might be satisfied solely or primarily by the accomplishment of task, the individual with a high affiliation need might prefer to celebrate with others. In overview, this preference set is consistent with our evolutionary basis. But as noted above, life in the herd instinct does not guarantee tranquility or time for cerebral balance. The herd goes into disarray when under threat; when the primitive 'flight or flight' or *sympathetic* responses are triggered. It finds calm when impulse is controlled and conscious reasoning prevails under a 'pause and digest' or *parasympathetic* response mode. Members of the herd do best when their cortisol cycle is controlled, which means that the pattern and quality of sleep are matched to the physical needs of the body. 'Nutrition, Exercise, Sleep and Relaxation' is the catch cry.

The third category exhibits a need for power. Burnstein *et al* describe this rather as a need for prestige. They step further to suggest that the need for prestige is to the fore when achievement needs and achievement values are low. Volkema explains this orientation is a combination of individualistic and collective focus. Because power is a social construct, more than one individual is required. That is, one's power or influence is over another individual or group of individuals. If no one exists to influence, then there can be no power. Yet despite the need for another person, the

need for power is more about the ego. The desire for power derives from an individual's need to control his or her environment, in this case social environment.

Such people are highly visible. We see them everywhere because they cannot bear the thought of camouflage. I don't understand the stereotype, but I have always felt the need to be wary of their intrusion upon my life – and somewhat aghast at the excesses that can be justified. But arguably, these people are locked perpetually into a predatory mode. In my observation at least, impulsive response is more obvious the more challenge arises. That man with the big heart became decidedly agitated when things didn't go well. Interpersonal behavior and decision making became impetuous – and he was uncharacteristically forgetful. Could memory link to mood in some specific way? Most certainly! There is an important source of relevant information at the Society for Neuroscience website www.sfn.org in the book *"Brain Facts"* and discrete articles called *"Brain Briefings"*. When a person is operating under the 'fight or flight' mode – also called 'sympathetic response' – the body is activated to supply energy and nutrients to the muscles. Oxygen is diverted to the tissues and away from the circulating blood. Consequently the brain is deprived of oxygen. Under these conditions the primitive brain assumes control and cognitive function is suppressed. Both memory and reason suffer in consequence. After such episodes the person typically feels exhausted.

The controlling person who operates under 'sympathetic response' carries an obvious level of personal risk, but what of the extreme need achiever who works at the other end of the assessment scale – another form of individualist? This person is on a treadmill which runs with its own speed and power. I know it well and I know that you cannot catch up. If you do, you are most likely to raise the bar and perpetuate the demand load. Typically you put more and more hours into the tasks at issue. You work long hours and late into the night. Emotional relaxation evaporates, the sense of community dwindles seriously and you become very sleep-deprived. What happens is that your cortisol cycle is disrupted and you are in exactly the same mode as the arch-controller. Fatigue takes hold, memory slips, reasoning declines and flexibility diminishes. So you work harder for longer hours and gridlock looms. While all of this adversity is developing, the immune system is also compromised and the cell microclimate is perturbed throughout the body.

In the mid range of 'needs' reside some contented people who operate an uncomplicated lifestyle consistent with the demands and stimuli to which we are adapted naturally. This is called the 'parasympathetic response'. There are frequent assertions in popular press that such are 'happy' people, but that term is no real indicator of homeostasis. The irritable but intensely rich mogul is probably very happy. The human mole locked in his private mental universe is almost certainly happy. But neither is content. The normal systems of their bodies are disturbed.

ADJUSTING NEEDS

McClelland believed that our orientation towards one of these three needs is rooted in culture. Since culture is largely a matter of exposure, its influence is likely to be imposed by exposure and learning as much as genetics. Volkema adds that an individualist culture is one in which the needs and contributions of the individual are paramount. The important measures include self-reliance, freedom, and individual achievement. Countries ranking high for individualism are the USA, Australia, Great Britain, Canada, and the Netherlands.

Being an Australian who came to the USA to follow market opportunity and now a dual citizen, I guess it is clear that I must be individualist in outlook. As an Australian: I am republican, which means anti-monarchist; I abhor the extended periods of conservative politics which have preserved European social delineations and religious biases despite what is now a very diverse population. I have quite strong views about the need for a meaningful Bill of Rights in Australia rather than some abstraction of the 'Magna Carta'. I am still dismayed some thirty years later at the experience of the Monarch dismissing the elected Federal Government and installing the minority opposition without reference to the people. So there is perhaps some hope for me, since collectivist cultures which value family, organization, and community are somewhat iconoclastic. But dramatic forms of attitude shift are not implied here.

If we look again, we see that the critical issue is the degree of polarization in 'needs' structure. So as a need-achiever who seeks excellence against some criteria of my own, *I become isolated into an introspective world* if performance feedback is entirely private. Say, I am doing something valued by individual performance alone, such as devising an entirely new and commercial way to link factors of personality to the balance of central and peripheral vision required by patients. My energy is self-focused...until the package is ready for financial appraisal. If on the other hand, I have a friend who cannot function independently without the technology I could create, the measures are altered. My reward is still private, but not introspective. It occurs through my active involvement in improving her quality of life – through participating in her enjoyment of new horizons. The important shift is *from* a condition fomenting grim determination to be successful *to* one where joy drives each coming day.

So my demeanor and whole psycho-neurological condition will move toward contentment and my biological processes will move toward normalcy. This is the winning trend. If, on the other hand, the challenge I face drives me away from shared achievement into a war against something which concerns *ME*, I drift the wrong direction. Logically then, the objective I discern should be posited not as a task in exploiting the resources which are available to me personally, but as a call to improve the quality of my friend's life. Making this adjustment will remain no more than an intellectual exercise unless you look around to others in your social environment who: depend on you – need you – and, in the end, are those *you need* to help. *They are there.*

For me it wasn't a matter of technology as I might have implied just above, it was simply attention. Two of our grandchildren are the unfortunate outcome of an abusive domestic relationship between one of our daughters and an irrecoverable addict. We are the full time legal parents of those two kids – like very many other grandparents in the USA. This isn't a burden; it really is in many ways a reward. And we have to look at the delightful young people they are: understanding the trauma they have suffered also. It brings to life on oft-quoted statement from another Australian;

If you have come to help me, you are wasting your time, but if you have come because your liberation is bound up with mine, let's work together.

- Lilla Watson¹²

I first encountered Lilla in 1980 at a select workshop for invited participants to consider 'Australia's Future Directions' and found her to be somewhat startling. The

work she was doing and her self-presentation were in strong contrast, recalled in the meeting summary¹³ as follows;

'She gave a glare, "I dunno what I'm *doing* here." Then she stood stock still, looking into the distance...She was still looking into space when you turned away to find a seat. So her presence as she spoke to the resolution had a remarkable air: it was as if she was, without being detached from the conference, somehow removed from it. At one and the same time she had slumped into herself, while managing, with her face held high, to be speaking as if she had in some previous life occupied the present plane of the present discourse, and decided it was not for her.'

'This stance was to be even more conspicuous a few hours later, when she gave her talk in one of the lecture halls. Into the mike she gave an enormous sigh. "I dunno what to say," she said. Then there was that long silence. After a while she added. "I dunno what to say to an audience like this because when I was young I was full of energy and used to think that I could change the world. But I couldn't. And most of the time I was unhappy. For all those years I was unhappy – fighting those things with lots of other people, all *kinds* of people. But now I've come to realize that I'm only happy in one place. I'm only happy when I'm in the company of black people." She sighed again. There was a bit of a grin in the sigh. "There's not much I can say after that," she said, and began to read from her prepared paper – Black on Black.'

And along the way from that vacant stare was passed a powerful message to us, the uncertain audience; '*The important thing for Aboriginal people is what we think and create for ourselves*'. Strike the word *Aboriginal* and you have the kernel of my message here. We can adjust our attitudes and we will gain from the change so long as it brings us closer to sharing and caring with others. You cannot see the future when you are looking through tears, or blinded by rage – indeed you will probably miss it altogether. Seek a condition where you smile just for the sheer joy of it. If you live a hundred years, it will seem only a moment – I am convinced.

¹ Lauren Sompayrac, *How the Immune System Works*, Blackwell Science (2002) 96ff & 109ff.

² Dominik Wodarz and Natalia L. Komarova *Computational Biology of Cancer*, World Scientific Publishing 2005, Chapters 8 & 11

³ Wodarz and Komarova, Op. Cit. p129

⁴ Lauren Sompayrac, Op. Cit. pp5 & 109

⁵ Colin M Perrott, *A Certain Integrity* (Unpublished)

⁶ J. Matthew Neal, *How the Endocrine System Works*, Blackwell Science (2002) 6ff

⁷ Neal Barnard MD, *Foods that Fight Pain* (Harmony Books, New York 1953)

⁸ Extract of Citation at www.une.edu.au/news/archives/000198.html which suggests that "Dr Perrott's...skill in ideas and concept development in lens design has played a significant role in the improvement of vision and quality of life for millions of people throughout the world."

⁹ Roger J Volkema, www.midwestacademy.org/Proceedings/2005/papers/Volkema

¹⁰ Eugene Burnstein *et al*, *Amer. Soc. Rev.* Vol. 28 pp. 212 - 219 (1963) <http://links.jstor.org>

¹¹ David McClelland, *Motives, personality, and society: Selected papers*. (Praeger, NY 1984)

¹² www.universityofthepoor.org/schools/social/welcome.html

¹³ Barry Hill, "A New Romance" in *Future Directions 1980 Conference Report*, Australian Frontier Inc. (1980).

II. CRUSADES

Crusading is a compulsive chase toward a defined goal which we will likely not recognize when we reach it. It is said frequently that we males do not value the lives of others very highly because our involvement in creating new life is momentary. Women, on the other hand, nurture the emerging life by sharing both body and soul until birth and beyond. By extension, one personality knows how to live with ongoing uncertainty whereas the other rails against it; seemingly unable to accommodate fear. At least in emotional terms, this is a sleepless existence.

Crystal Cages

(to a caring mind)

The cage is its owner's pride
but there is no space inside.
Walls stand very near,
corners sharp and panels sheer.
Every angle is fitted tight;
creating a secluded place
to hide our human fear.

A vaulted roof made from glass
and a floor destined to last,
barriers scatter here and there.
Divisions rise through the air,
each shuttered with no door:
Cells strike a muted tune
to hold our silent fear.

A perfect shield against mistake
encasing every move we make:
Control descends as a heavy crown
preventing us from looking down;
or caring to glance aside
as we proceed to the front,
denying our sense of fear.

Past lessons must be learned,
lest anguish will forever return:
As if nothing of interest rests behind
apart from battles coming to mind,
we march an unbending path
consumed by what we know –
and the rigid mask in which we hide.

- CMP

Mount Grenfell, 7th July 2007

Sleep is an essential part of living though we may not experience it consciously. This is the period when the body and brain have a chance to recover from the rigors to

which you expose them during the waking day. Unfortunately, your intrusions do not stop at the end of the waking day and the sleep you allow yourself may be far from ideal, or even sufficient. US statistics indicate that about one quarter of the population is affected by sleep disorders¹⁴. That amounts to about 70 million people who are exposed to disease or disability because they proceed into each day with impaired senses and reactions, and who are inefficient and down right ill-humored as a result. Then one can only be dismayed by the fashion of compounding exposure by attempting added functional complexity by flirting with numerous distinct tasks more or less simultaneously.

Our need for sleep is engaged by two natural cycles. One is the body's circadian clock, linked to external day and night. The other is controlled by diurnal variation in the hormone cortisol, intended to satisfy the body's need to achieve a natural equilibrium (homeostasis). Sleep itself involves cyclic patterns tailored to support the body's need for refurbishment between daily activities. If you are following normal rhythms of waking and sleeping and your other habits are not extraordinary, the way you feel when you wake naturally from a night's sleep is as close to 'normal' as your body gets. The day is as good as it gets! Accordingly, it's a time to enjoy and one for laying the foundation for the day. It is also the time to listen to the messages your body may be trying to convey, warnings about excesses of some type; underlying maladies; refurbishment tasks that couldn't be completed. Unfortunately we all seem to pay scant regard for this critical foundation period in our day. In fact, we only seem to remember those experiences which are unfamiliar compared to our routine. We don't notice the steady trends that warn of problems over which we will need to exercise positive control. We submit to routine which postpones conscious analysis.

UNFAMILIAR START

Waking has many faces that you discover when traveling or with visitors gathered around. People behave in different ways, and especially when their patterns are disturbed. There are many whose mouths cannot cope without mental override. They blubber forth inconsequentially to spray your world with little bits of muesli. Others like me really do not want to be disturbed, just to sit quietly without anything in particular on the mind. Then of course there are those who throw their latest opinion down firmly on the toast inviting any who dare to challenge, as they get good and ready to continue in just that way for the remainder of their day. Still another group sits to boast of last night's conquests, or of yesterday's panoramas. Sights they saw fuzzily on the screens of those new cameras swinging on their necks; those symbols now gleaming just a few inches below the pounding in their heads.

We all have the experience of waking to a start. Of not being quite sure where we are. Was our mind away somewhere fictitious in a dream, or are we somewhere that isn't familiar? It's always prudent to take a moment to recollect, observe what's around, to listen for sounds that allow us to adjust; to apply our senses before racing off on some course of hasty response. Even if we are in our own beds startled awake by an early alarm, only a short pause can help start the day on the correct footing. Some of my most remarkable experiences have occurred whilst traveling alone: Jumping out of bed and dressing hurriedly, rushing downstairs to endure a hurried English breakfast just in time to run for a meeting – only to find that I was twelve hours out of sync with my clock and the light was twilight and not morning! Waking to hear the ticking of a travel alarm clock...but it echoed and echoed and echoed. Should I have written Dear Abby "Why does my room seem to be round?" – Sincerely, 'Bewildered in Texas'. No, it was *much* more fruitful to don some clothes

and walk outside quietly to observe the hyena just beyond our compound fence searching for breakfast in the dawn light. That short moment of reflection offered a pleasant experience that one would only find in the African Veldt and might not come with some other dawn.

Not every day will bring entirely new experiences, but each morning is an opportunity for renewed reflection. So much more enjoyable if you are feeling well and refreshed. The day just doesn't get any better, so why squander the moment by allowing unpleasant thoughts to envelope you – even if they be the reality of the day ahead. Why do we have to jump out of bed and rush headlong into some commitment? Even when we have read the clock correctly and are not traveling! It's amazing how little time we have, particularly in our younger and middle age years. It's amazing how much time is taken doing things that are so important that we forget about those things we should do for our self, for those we love - those that depend on us. Meanwhile our personal video is playing out. This is arguably more critical as we begin to age – when in the normal progression of a career there are mounting demands imposed by heightened expectations.

Cycles in Sleep

As we age, the potency of our sleeping routine declines. We need to understand and protect our personal requirements for rest and recovery through sleep. There is a first entry phase of light sleep lasting about $\frac{1}{4}$ to $\frac{1}{2}$ an hour after which normal sleep settles into a cyclic repetition between two different stages. In one, 'slow wave sleep' the body goes into deep rest. The brain and circulatory processes slow down; the pulse rate, blood pressure and temperature all decline; the whole person is relaxed. After a reasonably short period, about $\frac{1}{2}$ an hour, the brain becomes active – as if it is awake – in a stage of 'rapid eye movement (REM) sleep'. The body's muscles are immobilized but all else responds. Heart rate, blood pressure, and temperature become variable. Dreams are vivid and remembered. The cycles of slow wave sleep and REM sleep alternate during slumber, the slow wave phases becoming less deep and the REM phases longer until waking occurs.

Taking a short nap during the day can be very valuable in halting fatigue¹⁵, and typically replenishes some of our abilities. NASA studies have shown that in general, longer naps are better. But they also found that some cognitive functions benefited more from napping than others¹⁶. Working memory performance benefited from the naps, but vigilance and basic alertness did not benefit very much: "Working memory involves focusing attention on one task while holding other tasks in memory and is a fundamental ability critical to performing complex work. A poor working memory could result in errors." NASA found that the total amount of sleep during 24 hours remained the most important factor for vigilance and alertness, which involve the ability to maintain sustained attention and to notice important details. They also found that naps didn't work as well for volunteers attempting to maintain a conventional biphasic (day versus night) sleeping schedule.

As we get older, we sleep for shorter times overall and spend less time in the deep slow wave phases of sleep. This trend continues with age, diminishing the amount of deep sleep achieved within an already foreshortened period of daily rest. So we may conclude that a lifestyle relying on the phases of deep sleep alone to achieve fundamental relaxation of our bodies is simply not sustainable. We lose that mechanism of deep rest we enjoyed in youth and needed for recovery in the traditional life of warriors. Totally embracing rest fades in a steady and relentless

decline running entirely counter to the escalating pressure and strictures compelling our modern society. So our days must preserve two essentials:

- i) First, we need to ensure that we approach each night of sleep in a mood that is fully relaxed.
- ii) Second, we need to institute a routine that incorporates conscious replenishment and rejuvenation so that there is a portion of each day in which we bring ourselves to a completely natural equilibrium. Call this a time when we access our personal 'elevators'.

Sleep Inertia & Micro-sleeps

The very process of waking can bring its own difficulties, especially if it occurs at a time other than between two of the body's sleep cycles. Sleep inertia¹⁷ is the feeling of grogginess experienced after awakening. It reduces your ability to perform even simple tasks and can last from a minute to a few hours, but typically lasts ¼ to ½ an hour. The severity of sleep inertia is dependent on how long you have been asleep and the stage of sleep at awakening. Effects can be severe if a person is very sleep deprived or has been woken from a deep sleep stage. However, sleep inertia can usually be reversed within 15 minutes by activity and noise. Sleep inertia can impair motor and cognitive functions. It can affect a person's judgment and control functions. Sleep inertia can be very dangerous for people who drive in the early morning hours and shortly after waking up from a sleep, say within ½ an hour or so.

People who are particularly fatigued may experience micro-sleeping. This occurs in brief, unintended episodes of loss of attention associated with events such as blank stare, head snapping, prolonged eye closure, etc. It may occur when a person is trying to stay awake to perform a monotonous task like driving a car or watching a computer screen. Episodes may last from a few seconds to several minutes, and often the person is not aware of them. The more sleep deprived a person is, the greater the chance micro-sleeping episodes will occur. A person's eyes may remain open throughout the experience. It is more common pre-dawn and mid-afternoon.

Inner Contentment

To become fully rested, we need to begin each night of sleep in a condition of natural relaxation - Ensure that we make the effort to spend quality time relaxing and setting our minds and bodies off on a course that facilitates the immediate achievement of deep rest in the first half hour or so of sleep. Also, we really need to institute a routine which matches the bodily circadian clock since this is the cycle through which biochemical recovery of our systems is controlled – through which the immune system achieves its regulating functions. Underlying changes in our bodies over the years impose sleep deprivation that we must counteract. Also, we go through a daily cycle of hormonal balance that has evolved to prepare us for coping though each day under the expectation of natural sleeping. The diurnal cycle is easily perturbed by anxiety, stress and chemical imbalances. So, consciously incorporating activities into each day to promote replenishment and rejuvenation is essential in limiting our swings away from equilibrium. In addition to sleep, we need to relax and to meditate. We need to reach out for wisdom and make it our enduring science¹⁸. In this technology-fired way of life we need definite habits in order to achieve proper;

- Nutrition
- Sleep
- Exercise, and
- Relaxation

These are sometimes called the four pillars¹⁹ we need for a personal lifestyle designed to help us cope with the demands of living and to promote happiness and longevity.

But as we found in Camelot, we are motivated best if our personal needs are met. Even if those not be satisfied completely, there will be regular and specific activities that give us peace and satisfaction. We must use our 'elevators' as insurance against an otherwise out-of-control routine. Who has control over your day and the pressures you feel? Do *you* have real control, or only influence over a bit part in the main play? Think about how you do spend your day. Is there no time for yourself, none for contemplation, and only a fleeting moment for your family? Of course! We all fall into the same trap in order to keep a schedule. But it is crucial for our sanity, health and longevity that we have a daily plan designed to provide the elevators we need, not what others are prepared to give to us. Otherwise, we are caught in a crystal prison; eating, sleeping and sprinting in a marathon without end.

You cannot always stop during a leg on the marathon, so a useful technique is to search for aspects of the routine which give joy or fun though they are not a part of your dedicated relaxing activity. These sweeteners you place among the drudgery are called 'meliors' by social ecologists. The concept originates with Stephen Boyden²⁰ and has been discussed in several places by Peter Ellyard²¹ from the viewpoint of designing new communities and also of structuring individual lives. In its fundamental, the point is that the social environment constructed around you – in which you live and work – is full of stressors that you cannot just out-run. Notice this is a very different concept from the common dictum 'control stresses'. It acknowledges that a state of bliss isn't consistent with realistic levels of productivity.

It's difficult to conceive and plan a workable daily pattern and almost impossible to defend it. We cut back on sleep. We don't exercise. We try to shortcut meals and a lot of us try to find extra hours for the day in the 'can'; in sugar, fats, caffeine, alcohol and nicotine. These and other things have become addictions for survival – not addictions of habit but truly, addictions of survival. In the midst of it all, your being is not nourished. It shrinks away into the darkness; leaving you hollow like the encouragement received each day when you sacrifice yourself a little more to serve the social machine that became your supreme master. The task of escaping the grind is not simple and requires continued effort²². There will always be grist for the mill; our challenge is to ensure we are not it.

It is incredibly difficult to serve two masters; perhaps it's impossible²³. Certainly that is so in a society constructed around material assets and technological compulsion, generally without any consideration for personal needs of the individual. If you like, we seem to modify our own reality²⁴ to accommodate the inwardly directed pressures from an external social world. We hide inwardly by adopting the face of reality constructed for us by the dynamics of our social interactions. Perhaps we deal exceptionally well with interpersonal demand but so frequently we don't maintain fortifications to protect and nourish our inner selves.

When we consider stress, it is essential to differentiate stresses according to origin. Are they intra-personal; so generated directly by social relationships in the present? Or are they introspective, coming from memory and self analysis? There is typically a trend from one to the other as we get older and become less gregarious or more selective about our human interactions. This is not a beneficial trend since the introspective or non-social stressors are particularly invasive.²⁵ By ignoring those,

we imperil our physical health – and the research indicates this to be especially true as age advances beyond 55 years or so.²⁶

Whilst we are driven by necessity to cope with the aggressors from our social reality, we tend to lapse into complacency with respect to the private universe, our realm of self – our true ‘needs’. Just as we need muscles to lift and defend our bodies, we need an organization of self elevators to defend and promote harmony within. If our true personal needs aren’t met, we have no way to harvest from our human existence; to enjoy the full and enriching experience it offers. This is not simply a spiritual ideal, but an entirely practical requirement. Each of our biological processes requires organizational stability and replenishment. A building erected only for financial or fashionable reasons, thrust together and not maintained, will fall apart in a short passage of time. So will you, if you allow your foundations to rot. For any plan of prevention, you need to understand what comprises the essence of your life and health. Once you recognize each piece and its crucial function, you will understand your building and how to maintain it, keeping the structure sturdy through the years.

OUR PRIVATE RHYTHMS

Nature has provided us with three interlinked rhythms that are each intended to help maintain a proper biological balance or homeostasis. Where psychological issues have greatest importance is the diurnal cortisol cycle. We really do need to manage this cycle carefully. And, our behaviors at waking and in preparing for sleep are paramount to the control that can be exercised. Self-sensitive control of mood and behavior; exercise, stimulation and meditation are the other natural tools available.

Mental and emotional stress stimulates our sympathetic nervous in emergency situations. The response is a primeval (non-declarative) automatic and uncontrollable response to an alert of danger. This is popularly termed ‘an adrenaline rush’ or the ‘fight-or-flight response’. The body recovers from the extreme stimulation entailed by this event only slowly, in a time that can be protracted enormously by our own mental patterning or predisposition. Introspective stresses arise similarly as perceived need for self protection. They are more invasive over time. Arguably they represent disconnect between our needs and the outer world. The natural balancing of sympathetic and parasympathetic nervous systems is tipped if the body becomes chronically over-stimulated in this way. The action of the parasympathetic nervous system on the other hand is to promote normal maintenance of the body. It may be regarded as a considered (declarative) response to external change in a ‘rest and digest’ fashion. In broad generality, these two sub-systems of our autonomic nervous system command opposite effects at a bodily organ. Maintaining overall balance is critical. One effect of acute imbalance, for example, is suppression of our immune systems and consequent risk of invasion by foreign viruses and cells.

We did not evolve to live in a state of suspended animation, gliding affably from day to night through week to week and year to year. It is natural for our biological systems to fluctuate in and out of an average condition of well being. Controlling part of the oscillations that occur is the daily cortisol cycle. Cortisol and adrenaline (aka epinephrine) are the primary stress hormones. Much is written about these in popular press and it is sometimes difficult to reconcile the views proposed²⁷ as they relate one way or another to optional forms of remedy or medical response. It’s sufficient for my purpose to consider the processes only so much as they link directly to lifestyle; the biochemical aspects of stress²⁸ and general aspects of psychology²⁹.

In short, adrenaline is secreted by the adrenal glands when the sympathetic nervous system is triggered in response to a perceived crisis. The body then goes into a state of high alert. Normal functions are depressed and all resources are concentrated on delivering energy to the muscles and promoting ant healing required. Cortisol is released by parasympathetic response intended to achieve calming effects and return to homeostasis. However, a persistently high level of cortisol causes difficulties in itself. Some of the effects are elevated blood pressure, excessive eating, depression, immune suppression, reproductive impairment and increased risk of adult-onset diabetes. If you get unusually tired or don't achieve normal crispness of thought – think about the scheduling of daily tasks and get the problematic ones out of the way as a scheduled priority.

How much cortisol is good and how much is bad, since we cannot function without it? First it isn't a constant measure. Second, you must experiment to find out! In order to begin your experiments, you really won't need any more than determination. The ability to track blood pressure and heart rate with a simple device such as a blood pressure cuff is helpful. But the most instructive sensing comes by listening calmly to your body (your pulse surrounds if you are deeply relaxed). Also note how you feel; keep track of trends in the frequency of various bodily functions and; remark mentally on impulses such as snacking. A very good way to begin the process is to get right away from your normal routine for a while. Concentrate on relaxing, taking exercise; eat properly and enjoy good company. Limit social excesses and sleep well. Avoid alcohol, nicotine, caffeine, sugars and polluted environments. Just get away to basics and see how your body and mind respond. Interfere with the drum beat of your daily life and learn the meter of your basic underlying rhythm. Don't be surprised if your heart rate and blood pressure both fall so dramatically that you wonder how your system keeps functioning. Mine did, and I felt a lot better!

Our cortisol levels should follow a regular pattern, peaking as the sun rises and tapering off when it sets. The lowest point should be reached about three hours after dark, when we should be entering into the nightly rhythms of sleep. A normal span of about eight hours sleeping involves mainly physical recovery during the first half and psychophysical rejuvenation during the second half. This later process involves activity in the central nervous system which causes the immune system to be stimulated. When an individual does not achieve sufficient sleeping time, the rejuvenation processes are foreshortened. Eventually the immune function becomes compromised. Independently of all else that may affect your sleeping pattern, the persistence of elevated cortisol levels when you should be readying yourself for sleep is entirely detrimental. Not only do you not rest, but your body suffers.

So the theory is entirely simple;

- ❑ Try living your ideal life for long enough that change is noticeable,
- ❑ Find out how calm and lucid you become in that personal environment,
- ❑ Note how your body relaxes and responds to the different situation, and
- ❑ Experience the fulfillment of improving your well being.

Then work out;

- ❑ What about the new lifestyle is most valuable to you,
- ❑ What about the other lifestyle is least desirable for you,
- ❑ What foods, drinks or medications have noticeable effects on you, and
- ❑ What forms of social interaction are best for you.

Finally;

- ☺ Design a lifestyle served by as many of your own private elevators as possible, while permitting enough of the social reality to provide a degree of physical and economic comfort that you truly need.

Successful achievement of this mission is far from easy. It demands commitment and real change. Points to note are;

- You will succeed if you are hungry to succeed, not otherwise,
- You need those important others in your life committed also,
- A significant investment of time is required to feel the benefits,
- Major changes in your lifestyle will be required, and sometimes ones that you will not expect – such as different nutritional standards and patterns, attitudes to medication and pain relief, or social mechanisms.
- It is quite probable that you will need professional guidance through your program of discovery, since this is a big task.

Withdrawing from the most destructive components of your social reality is entirely the same as withdrawing from substance abuse. Those things you need to leave behind may not be good for you, but many will be acting as stimulants (or the opposite) to your psyche right now. Consider this a venture in rehab. Find out how cognitive therapy programs are organized and how they achieve their results. Next, explore how nutritional and behavioral factors can undermine those changes when written only at an emotional level^{30,31}. But above all, trust that the conclusion is well worth the work. It took me a month of cognitive therapy in a managed environment to go beyond the primary awareness, and then some months of refining my approach to straighten out all the other powerful influences that can assume control.

DRINK WATER

Waking up is something best done naturally. A rude awakening is not pleasant. You do need time to think, to prepare yourself for what is ahead and get ready to go! So it is with sleep. When you emerge from a good sleep that hasn't been compromised by events of the past day or night, you are uniquely prepared. Your cortisol level has bounced up to its natural peak ready for you to start the day, and your mind is clear. Enjoy it, take advantage of it. The day won't get any better than this.

Adopt a good diet and don't skip breakfast. Go easy on the sugars, fats, caffeine and nicotine; ensure a proper balance of protein and carbohydrate. Take time to think quietly about the day ahead, plan and start the essential routine of time management. Without this, the coming hours will degenerate into a random fluttering between all manner of different tasks and impending deadlines. Do not catapult into the fray, already in a panic attack and a building rush of adrenaline. Above all, be calm. There is absolutely no reason for a "kick-start" – nature has prepared you for that. But if your system is operating correctly, you should be ready to eat. And you will need to drink water, particularly if there is a nagging headache.

Many, or perhaps most, people don't drink enough water. Perhaps this is because they want to avoid bathroom stops or probably it is because they are conditioned to intake of stimulating drinks such as soda, tea or coffee. It is unavoidable, however. We are simply marine science laboratories on legs. Our bodily systems have to have water – in fact we are about two thirds water. As we become less hydrated, the chemicals of our bodies get more concentrated and lots of natural processes are overwhelmed. So we feel thirsty. But if we actually get dehydrated, the brain gives

up. It doesn't send warning signals anymore and we get more and more like parchment inside and out. Our blood assumes the consistency of mud. So the only way to be sure that our water intake is sufficient is to make sure that we're urinating frequently and that the urine is not discolored. It is surprising how much water is needed in hot conditions or in low humidity office environments. Remember that water is *the* liquid you need, not an option amongst popular beverages.

AGGRAVATION

Peaks of aggravating anxiety or stress have consequences that in my view do not get sufficient attention in popular discussions. They are as follows³². Acute stress enhances instinctive memory of threatening situations and events, increases activity of the immune system, and helps protect the body from pathogens. The two major stress hormones, cortisol and adrenaline, facilitate the movement of immune cells, red blood cells and their incumbent hemoglobin complexes;

- ◀ *From* the bloodstream and storage organs [such as the spleen],
- *Into* muscle tissue.

This relocation of crucial resources is needed to defend against infection or injury of the muscles and supply more oxygen to them. It also facilitates the removal of carbon dioxide generated in the muscles by physical work. What this means is that while our muscle tissues are being pumped up to full capability, our circulatory system is depleted and our brain in particular has a diminished supply of oxygen. Oxygen is very important to the functioning of the brain, especially the cognitive functions. So if you get all anxious and stressed up, you won't be as effective mentally during that time; and neither for quite a while afterward. You will also become unusually fatigued and deflated emotionally. Quite apart from the scientific aspects of all this, I have been able to train myself to monitor the patterning in quality of conscious thought as days unfold. This tells me a great deal about my effectiveness as the manager of this operation and it also alerts me to changes.

If you pride yourself for mental or skill-based effectiveness, it is entirely against your interests to allow anxiety and stress to upset your work pattern. One stressor that we all identify is conflict, but impotent annoyance is perhaps more telling. Then there is the perennial usurper – concept shifting. When you are flipping between subjects and tasks, most of your effort goes in the switching process and not into completing any one task or meeting any given objective. This is a terribly destructive habit to adopt yet it is a high fashion trumpeted by managers as multitasking. There is an emerging body of research that indicates a loss of between 20 and 40 percent in worker efficiency: although the management philosophy does achieve a wider spread of nominal task execution with a reduced workforce base. Clearly, the more mental switching we do, the less efficient and more frustrated we become.

III. CHRONICLES

A durable principle of organization and individual training for many years has been the concept of time management. Its intent is to reduce inefficiency by allowing an individual to program time into blocks of synergistic effort. Unfortunately the procedures have become so elaborate, as different physical methods of tracking time have emerged, that the purpose is somewhat lost. An individual spends time managing a scheduling process, rather than spending time scheduling a process for achieving outcomes more effectively. There is a crucial disconnect here. We each need to manage our intentions and review the outcomes.

One of the principles underpinning effective 'time management' is to identify time traps. For example the colleague who always stands conspicuous inside your office and simply will not shut up. Just such a person whom I know appeared recently in a brief TV interview citing the real inconveniences experienced by air passengers as a result of security imposed in the wake of terrorist scares. Thankfully the program edit crew could decide what length to make the segment. In real life it would have made a miniseries, I'm sure! Interruptions and poor preparation are the main time traps, whether you or another are the cause. If you then measure your day against the specific objectives that you had set, the result is frustrating. Maybe you will get those things finished off tomorrow or next week! However if you measure your day against how satisfied you feel about its achievements, the result will be devastating. If you go another step and make the measure your sense of fulfillment and well being, then you have a problem indeed. Though, it would not be fair to add those dimensions to a judgment of success in time management – or would it?

OUTCOME MONITORING

I believe that we should each replace the concept of time management with 'outcome monitoring'. In effect, we should say to ourselves that we have three groups of objectives for which to set milestones in each day;

- ❖ To achieve a set of defined tasks effectively and completely,
- ❖ To end the day feeling good physically and spiritually, and
- ❖ To ensure that our immediate companions in life do so as well.

This is very different from considering time on a day by day basis, but it still is time management at its core. Rather than thinking short term or tactically, you are now thinking strategically. The timescale on which you are working is your life time.

Of course it's easy to set up a program or a list of intentions. That has no practical use unless the outcomes are reviewed. This concept is outcome driven. Thus we have the next set of factors to review;

- ❖ Did my physical tasks for yesterday get done properly and satisfactorily?
- ❖ Do I feel good now as I look ahead at today and is my community happy?
- ❖ How is my general well being trending at the moment compared to past times that were especially difficult or incredibly good?

Then;

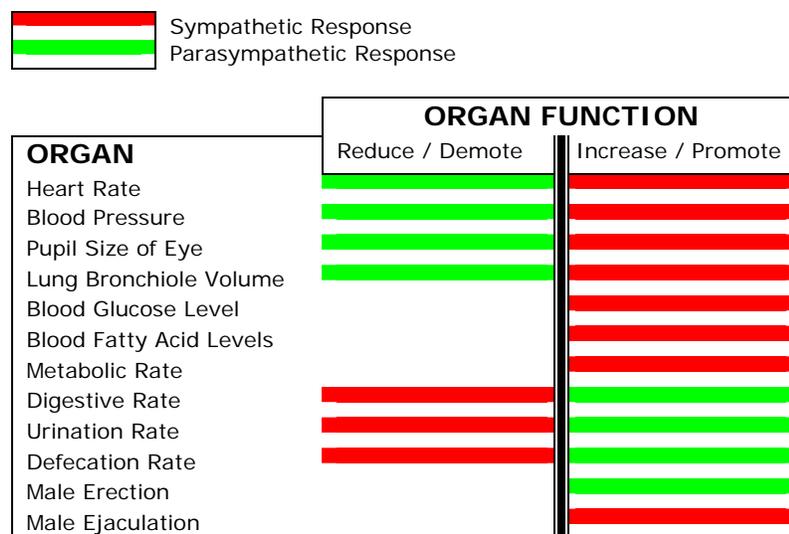
- ☺ Review and modify the design of your lifestyle to ensure that your private elevators function, while permitting the degree of physical and economic comfort that you truly need. Establish a dialogue with yourself.

Crucial to being able to achieve benefit from 'outcome monitoring' as I have posed the task is that we keep a journal. There needs to be a dialogue between mind and body. The elevators used to enhance our private being must not be altered, softened or abandoned in the face of obstacles from the social reality around. This will take strength and it requires a level of wisdom or serenity that many don't know. Those outside aggressors will try to force us into their race. They will coerce and will threaten so we do step into their cage. Just remember what a private elevator is; it's not theirs. Also, it won't be private if it does become theirs.

Keep your journal as a matter of routine and be honest with yourself. You cannot remember what you never knew or noted down. So, always collect precise technical data from your regular medical visits. Some trends are incredibly slow, but they catch hold with an iron grip after a decade or so of unchallenged stealth. You know a

lot more about the subtleties of your feelings than your doctor ever will, so you have to be proactive in understanding the trends – in making the trends your friends. Remember where I started my exploration – with the diagnosis of a malignancy which was making life unbearable, compounded by excessive chardonnay making it absolutely wretched. When life is really bad, you feel all there is to feel. When you begin to recover and start feeling very well, you forget about those feelings. You forget how bad things were and you begin to underrate the devils that brought you down in the beginning – or you substitute another ‘more acceptable’ dependency. This is the major reason why so many people fail after rehabilitation programs. The method of X-Anonymous for example is to keep the memories alive through weekly meetings where you and others turn the coals of the fires in which you burned. This focuses intent by staying forever locked into conscious awareness of the dark side of your soul. I do not agree with the approach. It is intrinsically destructive to one’s emotional self, dissipating and depressing. Far better to find a positive and enjoyable way to hold the reigns as you ride forth in a new world of measured fulfillment.

The general technique I prefer is to use a personal method of journaling which keeps me in dialogue with myself. The actual technique has to become compulsive and not simply impulsive. I don’t make it into an orgy, but I make sure to keep aware of my elevators, noting in particular experiences and actions that lift my spirits to a more enlightened or exalted level. A broad record is all that’s needed – just for recalling how you feel and how your body responds at different times to different events. Be clear about exciting and fulfilling events as well as the opposite, both at work and elsewhere. Try to figure out how quickly you recover from falling into particular troughs, as well as how long feelings of elation survive. Establish if you can, the times and circumstances in which you have best mental capability and alertness. How is that altered by taxing events or euphoria? There are times in the day when each of us feels tired, but not necessarily for obvious reason. Think about the causes. Be mindful also about periods when experiences were not imprinted clearly on your memory or when, perhaps, you functioned more or less automatically. Get hold of the basic patterns that are you.



Then you have a handle on two important components of self-awareness that will become essential to your well being. First, you can plan your activities so that the cycle in your cortisol level rises and subsides as it should. In particular, you can

interpose relaxing events into the day (probably later in the day) to facilitate the cortisol decline required for entry into a proper restful sleep. Additionally, you can plan to deal with stressful events at a frequency and timing (probably early in the day) that allows you to recover the normal regulated cycle by nightfall.

The second aspect of self-awareness is the subtle responses of bodily functions that can be tell-tale signs of the mode in which your autonomous nervous system is operating from one period to another. You can guess pretty accurately whether the sympathetic nervous system is ascendant or whether you are in a composed state guided by the parasympathetic nervous system. Its not high science, I admit, but those measures in the chart here are indicators that you can come to understand. Such an understanding is a powerful way to decide, before anything gets way out of hand, that you need to ease off from serving the aggressors of your social reality and promote the elevators on which you rely.

TIME ALLOCATION

A final thing to muse about when in that calm time just after awakening is the allocation of time: Just how do you use up the number of hours and minutes lived each week? Most people work 40 hours a week or more and take about two hours per day in getting to and from work; a total of 50 hours (say). Clinically, we need about 8 hours sleep a night and have to spend about an hour a day on hygiene matters; another 72 hours. Thus, 122 hours of 168 available are already allocated, leaving only 46 to spend. But you haven't eaten, exercised, done some chores or spoken to anyone. You have only just woken up, and there isn't any time at all for thinking or meditating! No, this isn't a joke. It is serious; only about 27% of time isn't pre-committed. When you have got through the things you must do, there is only half of that (12%) available to spend on your self. Take a look at the list below. The numbers aren't friendly at all.

WEEKLY ALLOCATION OF TIME		
SPACE 41%	BODY 47%	SELF 12%
40: Working 10: Commuting 14: Chores 5: Communication	56: Sleeping 16: Eating 7: Hygiene	7: Relaxing 7: Community 2: Exercising 4: Meditating
69 HOURS Servicing Resources	79 HOURS Routine Investments	20 HOURS Discretionary Options
PROMOTE MELIORS	PROTECT ASSETS	RIDE ELEVATORS
MANAGEMENT PRIORITIES		

So this is where you have to start managing the situation. The trend, left to continue, is anything but your friend. A normal response is to cut down on sleep as a means of freeing up hours - but the job is ever more demanding, isn't it? Another thing you can do without changing much is to make eating one of your self investments, rather than a deliberate and controlled investment in health. Result? A nation of sleep deprived and overweight people! In fact sleep deprivation is endemic and obesity poses the greatest domestic shadow today on the USA.

IV. REFLECTIONS

If there were a simple 'no-brainer' solution here, there wouldn't be a problem to discuss. Everyone would be happy, living longer, and healthier. In fact our society is generally anxious and depressed; living longer because of medical intervention and; decidedly unhealthy physically and spiritually. Are you aware for example that although death rates from various cancers continue to fall, the age-adjusted incidence rates³³ continue to rise? If we are tending to fall ill at a younger age, something about our environment is increasingly to our detriment. There isn't reason to attribute our illnesses to the natural environment, so it follows that our problem lies in the social environment. We are just making ourselves sick!

It's almost self obvious that we need to definite habits in order to achieve proper;

- Nutrition
- Sleep
- Exercise, and
- Relaxation

Whereas many writers attempt to give fixed rules about all of these, even Nutrition has a personal measure. Not so much from a basis of culture or belief, but because some foods and some preparation or preservation styles will likely have adverse effects on how you feel. Others will turn out beneficial to your general wellness. Similarly, Exercise rules depend on the person. But the concept objectives and the broad considerations are nonetheless valid. These are elaborated in many places. I have tried to speak to areas where I have found populist writings unrewarding. Even so, we have remained at a signpost saying "You Take Care".

There is good reason to pause and amend our personal situations. One thing you can do for yourself is to ensure that the time you allocate to various activities in life are those that will sustain you; make you grow mentally and emotionally and; keep you healthy through your allotted span. Make sure that all time available to spend on yourself is given to true elevators that will enhance your life. Regard sleep and proper nutrition as essential assets, things to be done prudently and at sufficient quality for a good solid reward to follow. Ensure that the time you allocate to your space, the place which provides physical resources and territory, has the best possible outcome in terms of emotional and physical investment.

Yes cut back on commuting and the like, if you can. But take proactive steps to ensure that work time and work relationships in particular are beneficial to you personally. Set out to achieve greater pleasure and less stress while engaged in work activity. Don't let yourself go into burn-out. Explore and apply the concept of 'meliors' to offsetting or meliorating the negative results of stressors within your social reality. You do have to live in your society and can't engage the mindset of a hermit. So, for example, look at the hot air surrounding you; blowing your hair and tugging at your clothes. Don't cower and expose your back. Go and get the best hot air balloon available and float above the melee.

Take time to think when you wake. Review the day ahead and make a sensitive plan of action for yourself. Remember; if you don't feel well, you aren't. If you don't feel really well and relaxed, then there are things to improve. But be realistic since there will always be fluctuations. At the bottom line, however, we should strive to stabilize our body in the parasympathetic response mode and avoid introspective stresses – especially those arising through our basic motivational needs.

Kuperee
(to contemplation)

Life begins in trust and innocence,
a moment naked before the chase.
Purpose molded and wrought by heat
in direction shaped with relentless haste.
Striving for a place we won't belong:
where fire is smothered by darkness
without any tracks leading back,
and none ahead to strike upon.

Stay awhile and feel the touch of distance
since wisdom resides at this desert's edge:
on a beach renewed by wash of legend
as time floats idly at distant horizon.
Observe how frail and intricate forms,
though brushed upon shifting sands,
forge into solid enduring hearth
with strength to bear our dearest plans.

The rock may stand aloof and proud
independent and tauntingly free
as its base erodes in wake of pretense.
But small pebbles enjoy safe connection
in potent bond secured by difference.
Variety that nurtures and guards the land
awaits the dawning blush in our assent
to undertake the burden of custody.

So play amid the shimmering visions
that glide on the heat across the plain.
Thrill to the vibrant rhythms of nature
tallied in the beat of drumming rain.
Let the powers arouse every sense.
Hold the passion for living:
the deep agony in human despair
and the ecstasies equally intense.

- CMP

Lake Innes, 21st June 2007

- ¹⁴ Society for Neuroscience "Brain Facts – Sleep" 2005, p. 25 www.sfn.org
- ¹⁵ "Power Nap" http://en.wikipedia.org/wiki/Power_nap
- ¹⁶ NASA "Naps" http://science.nasa.gov/headlines/y2005/03jun_naps.htm
- ¹⁷ "Facts About Sleep"
<http://www.rta.nsw.gov.au/roadsafety/fatigue/factsaboutsleefatigue.html>
- ¹⁸ After Plato; "Wisdom alone is the science of others sciences."
- ¹⁹ "4 Pillars for Healthy Living" <http://www.biohealthinfo.com/index.html>
- ²⁰ Stephen Boyden and Megan Shirlow "Ecological Sustainability and the Quality of Life" in V. Brown (Ed.) 'A Sustainable Healthy Future, Towards an ecology of Health' La Trobe University 1989, p. 33
- ²¹ Peter Ellyard "Ideas for the New Millenium", Melbourne University Press 1998, pp.166-185
- ²² *It's all grist to the mill*, a phrase meaning 'every little helps to move toward a conclusion'.
See <http://www.phrases.org.uk/meanings/206900.html>
- ²³ Thomas Merton, French Clergyman (1915-68); "A life is either all spiritual or not spiritual at all. No man can serve two masters. Your life is shaped by the end you live for. You are made in the image of what you desire."
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- ³⁰ Kathleen DesMaisons; www.radiantrecovery.com
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- ³³ Leukemia and Lymphoma Society "Facts 2005" www.lls.org