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Think and Thrive Part 1: The Mobile Brain

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“Mind doesn’t dominate body, it becomes body — body and mind are one.”

— Candace Pert, PhD, **Molecules of Emotion** (1997)

In 1972, Candace Pert, a brain biochemist, made a landmark discovery that shattered the cherished belief held by most scientists that the body and mind are separate entities. When she isolated and identified the opiate receptor, she provided conclusive evidence that small neuropeptides are the biochemical messengers that link the brain to all of the organs of the body. These neuropeptides **act with intelligence** in that they communicate information, and are responsible for monitoring all of our conscious and unconscious activities. Pert called these messengers *molecules of emotion* because “emotions are at the nexus between matter and mind, going back and forth between the two and

influencing both.” The ramifications of her discovery are enormous. The traditional way of seeing the mind and body as split has given way to an image of a network linking all of our systems and organs. We are left with a *mobile brain*, a bodymind system that moves throughout the body, rather than only in the head.

What does this mean to the average person who is struggling with everyday stress? Quite simply, it means that your thinking can affect how you feel. What is just as important to realize is that **neglecting your body has a huge effect on your thinking and performance**. Ironically, we take better care of our cars than we do of our bodies. We do frequent oil changes, check our brakes and tires, and respond to strange noises under the hood by visiting our favorite mechanic. We put powerbars on our computers to prevent damage from power surges, and install virus scanning software to avoid viruses. Yet, when it comes to our bodies, we consistently give up our sleep,

eat junk food, and use stimulants to get enough energy to last out the day. Then we wonder why we make poor decisions, feel overwhelmed, and are irritated by our co-workers and loved ones. The bodymind exacts a price when it is abused and neglected for too long. In the short term, it leads to poor thinking and lots of mistakes. In the long term, it leads to chronic stress, and eventually illness. In this and the next three newsletters, we will explore the effects that sleep, food, and attitude can have on thinking and performance.

Scientists measure our brain performance in terms of intelligence. The latest genetic research has shown that intelligence is largely hereditary. The majority of genes for intelligence are carried on the X chromosome. So a daughter, because she carries the XX chromosome pattern, has intelligence that is a combination or blend from both parents. A son, on the other hand carries the XY chromosome pattern. As a result, he inherits his intelligence from his mother. This is one case in which all of the men reading this can now justify heaping either blame or

praise on their mothers. This also calls for a word of advice for all of the men out there actively seeking a spouse. If you are choosing a wife because she is good-looking rather than bright, and are assuming that your children will have *her looks* and *your brains*, then perhaps you need to think again. A match like this could have you praying for girls, or condemning your sons to low parental expectations. Intelligence as determined by your genes acts like the hardware in your computer. It has set maximum capacity limits. David Perkins calls this *neutral intelligence* (**InfoMine**, Vol. 3, No. 4), and, like most psychologists, he assumes that this intelligence stays constant throughout our lives. Biochemists, however, know that neural intelligence is not constant. Lack of sleep, poor diet, lifestyle habits, and chronic stress can adversely affect neural intelligence. Seeing the brain as a bodymind, or mobile brain, allows you to optimize your neural intelligence.

The first step in optimizing your neural intelligence is to reformat and internalize a fundamental truth. Sleep matters. Good sleeping requires the foundation of having enough sleep. Stanley Coren, who wrote **Sleep Thieves**, says that today's society subscribes to a myth that permeates the workplace. He quotes a busy manager of a mutual fund who echoes what most people believe: "Sleep is a waste of money. The only way to make money is to be awake all of the time. That way you are ready when opportunity comes, and you can make the right decision at the right moment." Coren says that the contrary is true. These statements would be more accurate if they read: "Sleepiness is a waste of money. The only way to make money is to be rested enough

so that you are actually awake when opportunity comes. Only then can you logically select the right alternative at the right moment."

Coren's studies on sleep and sleep deprivation suggest that most of us generally require 9-1/2 to 10 hours of sleep a day for optimal performance. This can be in one continuous session, or in two parts consisting of 7-1/2 to 8 hours at night and 1-1/2 to 2 hours in the afternoon. We can get by with the 6 or 7 hours that most of us manage to get, but this does not allow for keeping a reserve handy when stress or illness occurs. Coren bases this on our evolutionary pattern from when we were hunter-gatherers. Having two teenagers, I know that persuading them to get to bed early is next to impossible. To help them overcome their sleep deficit, I allow them to sleep in on the weekend. Yes, you can catch up on sleep, and it is important to do so. Forget getting to the mall early; instead steal that extra couple of hours of sleep. The only thing that seems to make an impression on my teenagers is Coren's data that indicates that you lose *two points of IQ* for every hour that you are sleep-deprived. This reminder carries a lot more clout at exam time.

Coren actually put his theory to the test by looking at the traffic accident statistics in Canada for the Mondays before and after the shifts to daylight savings time. He found that in spring, when we lose an hour of sleep, there is a 7% **increase** in traffic accidents, and that this increase is gone the following week. He says: "Presumably, the increase comes about simply because the additional hour of sleep debt makes us that much more inattentive and clouds our judgment a bit more. In the fall, when we gain an additional hour of sleep,

the pattern is reversed." He found that the fall data showed a **decrease** in the traffic accidents of about 7%. He suggests, "... that extra hour of sleep nibbles away at our existing sleep debt and makes our attention a bit better and our judgment a bit more accurate." Coren concludes that our society must be carrying a heavy sleep debt, when one hour of sleep loss results in a 7% increase in the chance that we may have an accident.

Thomas Edison has a lot for which to answer. His invention of the light bulb forever changed our sleep and work patterns. If you are still not convinced, and feel that you just don't have the luxury of time to sleep more, try something on a small scale. Go to bed just 15 minutes early, and do this for an entire week. My bet is that you will notice a positive difference. It might be a *smart* move.

"In the end I find I can't separate brain from body. Consciousness isn't just in the head. Nor is it a question of mind over body. If one takes into account the DNA directing the dance of the peptides, body is the outward manifestation of the mind."

— Candace Pert, PhD, **Molecules of Emotion** (1997)

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