Encore-Life: An Introduction

"The demand for an additional performance, usually expressed by applause."
www.Encore-Life.com

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Introduction

Life may be thought of as a trajectory, a movement through space from beginning to end. There are trajectories for individual lives, plotting all the bumps and jolts among the inspirations and soaring achievements. There are different measures for the peaks and valleys of these trajectories such as home size, happiness, family involvement, income, wealth, health, mental acuity, physical activity, and so on all plotted along the advancement of age. Yet, our time in history and our society present us with expectations related to these life trajectories. I find it interesting that many of these trajectories look similar, the old familiar bell-shaped curve rising to mid-life and then falling thereafter. With ever-increasing longevity we expect the fullest measure of life to come in the late fifties through the sisties. In practice, however, the top of the generic trajectory seems often to come during the late thirities and the forties. I find it remarkable that many I know who are in their late twenties and thirties are already showing, and more shockingly accepting, a decline in health and fitness and physical activity levels and self-confidence and energy, all accompanied by a progressive rise in weight. I hear those in their fifties and sixties already talking of aging in terms of senior moments, declining energy, increasing depression, decreasing sexual activity, encroaching decrepitude. What a word that is … decrepitude. To embrace the language of these "de-things," *de*cline, *de*pression, *dis*ability, *de*pendence, *de*crepitude, is self-fulfilling prophecy often passed off as humor. I reject aging humor! I do accept mortality; it gives us urgency and motivation.

I want to show adults of all ages that we can and must reject these expectations and in doing so we will live richer, happier, healthier lives. For all the physical and mental aspects of our lives we must imagine a bundle of life trajectories that continues to rise throughout our lives: health, happiness, mental acuity, … all the things that mark quality of life. Oh, yes, I'm well aware that aging has a physiological and biological impact. Still, I insist that there need be little, if any, sense of decline and we should *de*ny all those "*de*-things" our culture and perhaps our friends identify with aging.

In difficult economic times many are facing the likelihood that they may have to work well beyond their expected retirement age. Yet, it is important to recall that the very idea of retirement is a relatively recent development and one limited to only a few societies around the globe. Quality of life is clearly associated with contributing to others, with feeling needed, with having purpose, with feeling well and sharp and alive. While work is not always identified with these qualities, it often is and most certainly it should be. There may be an unrecognized gift in continuing to contribute through work throughout life.

While it is self-evident that happiness and joy of living correlate with good health, with being physically active, with mental acuity, it is important to note that far too few of us are able to live in ways that

create these qualities. I want to talk to you about a number of things, each essential to understanding how to live an ever-increasingly happy and satisfying life.

Brain

Let's talk about brains. The brain is composed of neurons or nerve cells, which are the nervous system's basic functional units. We are born with over one hundred billion neurons. Each neuron has a cell body and tens of thousands of branches called dendrites which receive information from other neurons. Each neuron also has a primary axon that can travel long distances in the brain that sends data out of the cell to communicate with other cells. When neurons communicate with other neurons the points of contact are called synapses. Each neuron makes up to ten thousand synapses with other neurons. Scientist, V. S. Ramachandran wrote, "A piece of your brain the size of a grain of sand would contain one hundred thousand neurons, two million axons and one billion synapses, all 'talking to' each other."[1] Try to comprehend the billions of synapses that are constantly fired just to keep our bodies in quotidian operation. Someone calculated the number of possible permutations and combinations of synaptic firings that may occur in a single brain. The result is a number greater than the number of particles in the entire universe. Our brains are perhaps the most complex objects in existence.

It is common belief that the brain is fully developed before the age of ten and that it is in steady *de*cline from that point forward. Recent research has shown that there are periods of physical growth, an explosion of neurons, in teenage brains. These periods of exuberance may continue into the twenties. Yet, are adult brains actually fixed and complete and in an inevitable state of decline? While brains may no longer create new cells, they do remain throughout life remarkably plastic, that is, changeable and adaptable. [2]

Let me give you some examples of brain plasticity. The work of Paul Bach-y-Rita has abundantly demonstrated the adaptability of the adult brain. However, a powerful personal example drew him into his research on brain plasticity. Bach-y-Rita's 65-year old father, Pedro, suffered a massive stroke in 1959. Paul's brother George was then a medical student in Mexico and brought his father there to care for him. He knew nothing of rehabilitation and decided that rather than try to teach his father how to walk, he'd teach him how to crawl. His only model was how babies learn. Gradually Pedro improved and at age 68 he returned home to his teaching position at New York City College. He retired at age 70 but then he took another teaching position at San Francisco State, got married, and was an active hiker and traveler. At age 77 he traveled with friends to Bogotá Colombia to climb a mountain. On the mountain he suffered a fatal heart attack. Well, this is a great story, but the most astounding part came later. An autopsy including a careful examination of his brain showed that Pedro's stroke had destroyed ninety-seven percent of the nerves that run from the cerebral cortex to the spine. With only the remaining three percent of nerves, Pedro was able to recover his mobility and bodily function, to teach college, and to hike and travel extensively. This is an encore life. The lesson, the inspiration, of this life,

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[1] Based on and quoted from V. S. Ramachandran and Sandra Blakeslee, *Phantoms in the Brain* (New York: Quill, 1999), p. 6.
[2] See Barbara Strauch, *The Primal Teen* (New York: Anchor Books, 2003).

is that It shows us that human brains are remarkably capable and adaptable and that we can operate effectively on only a fraction of the brain cells we are given. That constitutes a kind of plasticity in adult brains that we can all count on. But we also learn from this example that the key to Pedro's recovery was to begin again as a crawling baby and work his way by arduous self-directed physical movement through the progress of rehabilitation. I'll return to this idea of self-actuated physical movement, but first here are some further examples of brain plasticity.[3]

Paul Bach-y-Rita builds interesting devices that his patients use to overcome brain injuries or dysfunctions. These provide input that allows the brain to rewire itself. One woman experienced balance problems after a surgery caused damage to her vestibular apparatus. Perpetually she felt that she was falling. She had difficulty walking and fell frequently. The problem was not only debilitating, it greatly reduced the quality of her life. The device Bach-y-Rita designed for her was a hat that mechanically determined balance and a system of feeding the balance information to a device placed in her mouth with tiny electrod so she could sense on her tongue this information. With just a bit of experience the woman could sense on her tongue the necessary information to allow her to feel balance. Practicing with this device led to a re-wiring of her brain and to a return to normal life without the aid of this device. There are numerous technical reasons why this worked, but this case clearly demonstrates the changeability, the plasticity, of the adult brain.[4] Bach-y-Rita has built devices that allow the congenitally blind to have experiences similar to sight.

Renowned scientist Michael Merzenich has had a long and exciting career demonstrating neuroplasty in both youth and adults. Based on his extensive experience he developed computer based programs to assist children with learning disabilities and serious disorders such as autism to overcome their problems, all based on re-wiring their brains. He has gone on to develop similar techniques directed toward adults, particularly those with inclinations towards Alzheimer's and other declines in brain function and acuity.[5]

V. S. Ramachandran's breakthrough work with the phantom limb syndrome experienced by many amputees has also demonstrated the amazing plasticity of the brain.[6]

The evidence of plasticity of the adult brain throughout life is substantial and, perhaps even more importantly, we must assume the greatest capabilities for our brains in order to live the fullest of lives.

Movement

I'm going to tell you a story you won't soon forget. I remember as a teenager while working a summer job on a surveying crew listening to the late Paul Harvey on the radio. He said, "I'm going to tell you a story you won't soon forget," and I never did. Here is my story. In a study scientists confined newborn

[3] For an account of the Bach-y-Ritas see Norman Doidge, *The Brain that Changes Itself* (New York: Penguin Books, 2007), pp. 20-22.
[4] Ibid., pp. 1-9.
[5] Ibid., 45-92.
[6] V. S. Ramachandran

kittens to the dark. They would allow them occasional exposure to the light, however, when they did so they divided the kittens into two groups. The kittens in one group were placed on little carts that were attached to kittens in the other group. Thus all the kittens were exposed to their new world experiencing the same movement around the environment. A remarkable thing however resulted. The kittens that pulled the carts, that is, the kittens whose movements were self-actuated, developed normal vision. The kittens that were pulled about the world, whose movement was not self-actuated yet identical in other ways with their paired kittens, were functionally blind.[7] The development of sight depends on self-actuated movement. We must move about the world under our own volition bumping into and finding our way around and exploring our environment for it to be visible, to be real, to us. Movement is essential to perception.[8] What a remarkable revelation!

Maxine Sheets-Johnstone wrote, "We literally discover ourselves in movement. We make sense of ourselves in the course of movement."[9] We come into the world as moving sentient beings. There is then a primacy of movement. In the beginning of life we do not try to move or think about moving or take on the task of moving; we simply come into the world moving; we are not stillborn. Movement then is primal, something already there in the beginning. Therefore, we grow kinetically into our bodies. In our spontaneous movements we discover arms and legs and spines and knees and mouths, how they work, what they are for. In the course of our moving we come to know ourselves as animate beings. In these kinetic-kinesthetic self discoveries we come to awareness of abilities, of identities, of relationships. In these movement experiences we acquire the foundations for complex conceptual ideas such as containment, weight, effort, up and down, front and back, and so on. Thus, conceptual thought too is grounded in movement. Sheets-Johnstone says "everything cognitive leads back equally to movement, to animate nature."[10]

It is an odd thing, I think, that as we begin to inhabit our consciousness, our identities, our abilities, the primacy of movement slips into the background. We begin to believe that we exert "mind over body." We come increasingly to understand the body more as meat, or as a transportation vehicle for the brain or the spirit or soul. We shift to distrust what are so powerfully present in our bodies: feelings and emotions, even our subjectivity. The moving body becomes a burden, an embarrassment, or an object of pleasure and pain. Typically there is a steady decrease in movement throughout life. Certainly there is plenty of attention on the importance of movement to gain cardiovascular fitness, yet there is precious little attention given to the importance of self-directed movement in the process of continuing to discover ourselves, to realize ourselves, to creatively expand ourselves. It seems that we often elect to be the kitten being pulled around the world by another rather than risk the bumps and bruises of moving our own bodies to discover ourselves as we discover our environment.

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[7] Francisco Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind* (Cambridge: The MIT Press, 1991), pp. 174-75.
[8] Raymond Gibbs, *Embodiment and Cognitive Science* (Cambridge: Cambridge University Press, 2005), p. 49.
[9] Maxine Sheets-Johnstone, *The Primacy of Movement* (Philadelphia: John Benjamins Publishing Company, 1999), p. 136.
[10] Ibid. The discussion in this paragraph is based closely on Sheets-Johnstone.

I've noticed in the last several years that every time I go to the doctor a common intake question is "Have you experienced any falls recently?" Surely the question is an indicator of motility, that is, one's capability of moving by independent means. It also is an indicator of balance. Rivaling the brain for complexity is the neurological system that controls muscle movement. Indeed, this system is an extension of the brain into the very fibers of our muscles and joints. I am referring to the proprioceptive system. Proprioception is sometimes considered an additional sense, the kinesthetic sense. In some senses proprioception is an extension of touch in that it is by virtue of proprioception that we feel the movement and positioning of our own bodies. Proprioceptors are located in the muscles and joints to assess the position through the stress or relaxation of the force on the body of itself and its environment. As we walk on uneven or rocky ground proprioceptors in our feet, ankles, legs, and body are constantly assessing the stresses and causing an orchestra of muscles to tighten and relax so that we might walk without falling or tipping our ankles. Motility is impossible without proprioception. Remarkably proprioceptors, unlike say the light collecting cells in your eyes, are trainable; they develop with use and experience. So we may understand that it is the proprioceptors of the kittens whose movement is self-actuated that are being trained and they are then interconnected in the brain with vision. We may begin to appreciate Sheets-Johnstone's statement that "We literally discover ourselves in movement." That sense of feeling that my body belongs to me, that my body is mine, is associated with proprioception. It allows us the feeling of ourselves. There is then a primacy to proprioception. It is that given ability to bodily interact with ourselves as bodies and our environments through movement. All the other senses emerge from this kinesthetic sense. Falling, loss of balance, declining motility, then are of critical importance; such losses commonly correspond with a decline in self, in life quality. We lose ourselves when we lose our motility. And we may recall how Pedro Bach-y-Rita recovered and rehabilitated from his stroke. He did it through self-actuated movement.

Now I am well aware that a great many people who are incapacitated or who have impaired movement live wonderfully full lives. I recently read about a woman who lived 60 years in an iron lung. She wrote a book about her life and it was indeed a full and rich one. In no way do I intend to suggest that people who have impaired motility cannot live full lives. However, I am saying that one should use one's given capabilities to the fullest measure. Self-actuated movement, motility, is one of our most important capabilities to live our lives to the fullest and to achieve to the greatest capacity our potential. I am merely encouraging this.

Body-mind

There is a certain vogue now for brain studies. The engaging and informative book *How the Brain Changes Itself* by Norman Doidge is a best-seller. Numerous neuroscientists are now publishing books on how to keep the brain active. This is newsworthy stuff. For example in May, 2009, NPR did a segment on Richard Restack's new book *Think Smart: A Neuroscientist's Prescription for Improving your Brain's Performance*.[11] All this is to be applauded. And it is amazing how little attention many adults

[11] Richard Restak, *Think Smart: A Neuroscientist's Prescription for Improving Your Brain's Performance* (Riverhead, 2009).

give to keeping the brain functioning well. However, in this wave of interest in the brain, the rest of the body seems often forgotten. As Sheets-Johnstone puts it, "there is in present-day western society a tendency to be mesmerized by brains, so mesmerized that the larger creaturely world of which humans are a part is forgotten, egregiously slighted, or arrogantly distorted."[12] And, indeed, Restack's prescription is for such things as playing bridge, learning a language, and playing video games. He does describe a category of sensory memory which may be more based in body, yet he recommends little to nothing that involves self-actuated and mind-demanding movement.

Encore

We have all had that experience of witnessing something so exciting, so entertaining, that we cannot allow ourselves to feel satisfied. In such cases we demand an encore, an additional performance. More! More! The most common occasion for an encore is our demand of an additional performance of others such as musicians and entertainers. However, we ought to find our own lives so exciting and amazing that we demand an encore of ourselves. I call this living an encore life. It doesn't matter our age, we should demand that each thing we do feels like an encore performance, that is, one more great moment following all the other great moments in our lives. We must think of our lives as a string of creative vital engaging performances. I'm not thinking of performance in the artificial sense of putting on a false show. No, I'm thinking of performance as realizing ourselves as fully as our potential allows so that each thing we do, each thing we experience, prepares us for what comes next, an encore.

As with great musicians and entertainers, every piece of music, every performance, is an opportunity to live in the moment and experience the joy of doing what one loves. In performing one more time in some way better than the last, every time becomes an encore. This is how our lives should be lived. Should we accept anything less?

How to create vitality in your life

To live an encore life, we certainly need to be as healthy and fit as possible. Now of course we all know the basic rules—eat right and exercise. These are difficult enough to accomplish; surely we don't need more. Yet, remember that one abiding lesson to learn from the examples I have given is that self-actuated movement is foundational to discovering self, to perception, to who we are as human beings. We simply must move.

I have another story to tell you; a personal one. Years ago I owned and operated a dance studio. We specialized in African and Latin American dance and music forms. Our studio location in south Boulder was near an alternative high school. We sometimes rented this school's auditorium/gymnasium for events and performances. Eventually we did a trade with the school because they needed studio space. Recognizing the wealth of talent we had in our teaching staff, the principal of the school requested some of these artists teach classes to the high school students. The students enjoyed African drumming and African dancing. The principal knew that I taught salsa dancing and one day she suggested that I

[12] Sheets-Johnstone, p. 77.

might consider teaching a class. My immediate feeling was, "No way!" I imagined a group of unruly and lethargic kids impossible to get to focus on anything. Still, I thought about it because it is important to do service work in the community. Reluctantly I eventually agreed.

So how to teach salsa dance to teens; this was my problem. I knew there were likely to be many more girls than boys. I thought partner style salsa would be difficult to both teach and to keep the class focused. How would I ever keep track of various couples? At the time I was dancing a style of salsa that I loved known as *rueda de casino*. It is a style danced by partners, but done in a circle. Like square dancing moves are called that all the couples must execute simultaneously. There is a good deal of rotating around among partners. Thinking about this I began to see the possibilities of teaching this form. Everyone was dancing together doing the same thing at the same time. Everyone was dancing with everyone else so I wouldn't have the problem of students getting stuck for a long time with someone they didn't care to be partnered with. So I gave it a go.

The end of this story is a long way in the future, many encores away, but I can say that teaching that course initiated one of the most fun and rewarding and meaningful experiences of my life. I found all the students engaged and excited. They learned much and enjoyed themselves. They performed at the end of the term for the whole school and were strongly supported and proud of what they learned. Soon thereafter a group of young women came to me to start a *rueda* performance group. They were amazing and learned quickly. I took them to Vancouver to compete in *rueda* competitions two years in a row and they did very well.

I have returned many times to that school to teach, each one more exciting and amazing than the last; each an encore experience. Based on the knowledge and experience gained over the years I founded, with my daughter Jenny, a not-for-profit organization called SalsAmigos to teach this dance to lots more young people. We received a two-year grant from the City of Boulder to develop this program. My research at the University of Colorado began to include inquiries into what value this dance form has to human development. My research has shown that it has amazing possibilities. It is self-actuated movement that is physically and mentally challenging. I have written a whole series of lectures presenting the scientific evidence to support the belief that SalsAmigos dancing has many benefits for young people and should be an important part of any school curriculum.

Encore-Dancing

This is the background to my development of Encore-Dance. Now I fully understand that there are a great many human activities that keep us vital throughout our lives and I am not suggesting that Encore-Dance is anything magical. Well, yes, I am certain that it is magical, but not the only magical thing around. I just want to talk about some aspects of Encore-Dancing so that you can appreciate things about it that are important to an encore life so that you may find them in activities you may be doing or want to do.

First, Encore-Dance is a development on the Cuban salsa dance form called *rueda de casino*. It is done in a circle which means that everyone is doing the same thing at the same time. Moves are called, yet the

dance is totally improvised. This means that one must be on the beat, salsa-stepping in the rhythm of the music. At the same time dancers must listen for the calls and execute the called-for move immediately. These moves are done with a partner, so there is physical contact between partners. Thus the mental and physical challenge is coincident and dancers will experience thinking with their moving bodies rather than using their minds to control their movement. There can be no pondering.

In Encore-Dance all dancers do moves as both leads and follows and this means that every movement is done in an ambidextrous way. It is amazing how the brain can wire a single movement pattern in mirrored executions. This is clearly powerful for developing right and left brains, although we well know that they work quite differently.

Encore-Dancing is done in a group and there is a good deal of movement from partner to partner around the circle. This creates a sense of team, community, cooperation, and inclusiveness. There is no attention given to who is more experienced or more graceful. All assist one another in keeping the circle moving.

Obviously Encore-Dancing is wonderful exercise. The dance is done at the rate of about 6,000 steps per hour which is a good mile and a half brisk walk. It keeps the blood flowing, the body moving, and everything nurtured. Most exciting about the fitness aspect of Encore-Dancing is that it is so engaging that few experience it as physical exercise at all.

Encore-Dance is movement. I have espoused the benefits of movement from the earliest stages of our development. It is movement that is varied and demanding and surprising and engages the body and brain equally in a creative, social, and magical way.

But most importantly, Encore-Dance is a load of fun.

In combining challenging brain activities with physical exercise and improvisational movement, Encore-Dancing is a wonderful way to live an encore life.

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