## Movement, Plasticity, and Life Cycle

Sam Gill

The ubiquity of mobile phones worldwide has enabled some studies that reveal rather interesting insights. While we may be worried, or not given the popularity of Facebook, about individual privacy, I understand that these studies examine billions of bits of information generated by mobile phones and that no one is ever identified. Sure. I heard about one recently. What is the predictability of where any of us is at any given time and place in our personal world. Apparently our phones leave tracks like GPS maps as we move around throughout our days and lives. I have no idea how this study was able to establish this, but the results were that our movements are over 90% predictable. At first I was incredulous, then angry, then I reluctantly accepted the results. I get my schedule set and pretty much keep to it. I go to the university on a schedule. I go to the gym on a schedule. I almost never shop for anything other than food, but I do that on a fairly regular schedule. I have rehearsals and give privates and so on and most of it, I realize, is very regular; predictable. Clearly my cell phone records, if singled out, could probably find me with much greater than 90% accuracy.

It seems to me that human movement during our life cycle changes both in style as well as in quantity. I was thinking about this this morning while doing a Zumba class (one of the few classes that isn't so demanding that I can actually reflect in this way about what I am doing). I noticed that, while I could do all of the dance steps fairly well, that I had trouble with movement that required me to bend down extensively and especially rapidly. I noticed that other dancers close to being my chronological peers had the same tendency. Even for someone as active as I am, there are types of movement that are more difficult, that even hurt.

It is also rather obvious that in early childhood movement is constant and full. I find it fun to see that most little kids simply run everywhere they go. They simply love to run. When they get in school however they are usually told to sit down and shut up so they can learn. Then they are given "recess" to burn off all that kid energy, that is, the seemingly innate love to move lots and rapidly. By middle school recess becomes "physical education" and kids begin to change their attitudes about moving. Some like it and lots do not. By the high school years many kids find themselves almost immobile. In teaching dance to high school kids I find that a rather large percentage seem to feel physically exhausted most of the time. I have learned to keep them constantly moving and I mean constant because the shortest pause results in about half the kids sitting down. High school kids beg for breaks so they can sit or lie down.

The higher the level of education the greater time commitment sitting to read and write and attend class. College students elect majors and this often means that most of their classes are in the same building. Most colleges have given up any physical education requirements, however, most have recreation centers for physical activities.

By the time we take jobs, most of us find that our jobs require extensive periods sitting, often at computers whose screens cannot be adequately seen without hunching over which results in the

kyphotic posture that is the emblem of our age. Weekends become our respite for moving physical activities, yet television and other forms of entertainment often are done in a sitting position.

It is a given expectation in our culture that we decrease in motility as we age and we often attribute that to chronological aging. I am frankly embarrassed at how often I hear people in their 50s who talk of the many things they cannot do and willingly attribute it to their chronology. We identify aging with increasingly bent posture, increasingly reduced and restricted motility, with reduced physical flexibility, and decreasing travel or increasing difficulty traveling.

As life is inseparable from self-movement, we can see that the patterns of our culture have strong tendencies to progressively decrease self-movement beginning at a shockingly young age. A reasonable question Is this: Is it possible that many of the physical signs of aging, the seeming steady decline of brain/body acuity, are the result of a culturally encouraged lifestyle that practices a decrease of movement corresponding to an increase in chronology? I think there is much evidence that the answer to this question is a resounding YES.

This is the age of plasticity. Just in the last several decades neuroscientists have discovered that, while it was thought that our brains were physically complete at around age 7, they in fact continue with periods of rapid growth (called exuberance) through the teens and into the early twenties and that neuroplasticity is possible throughout life. Stroke victims who were formerly thought to be "permanently" damaged were not given much physical therapy. It is now widely accepted that the brain can repair itself (and there are many theories and understandings of how it can do this) and all of them are connected with bodily movement. As infants we discovered ourselves in self-movement; yet, one of the major points I have wanted to make in this section is that we continue to do so throughout life. Moving, self-moving, demanding self-movement, is essential to retaining vitality, health, longevity, acuity.

I want to Mali West Africa a few years ago to study dancing. The people that were studying dancing in Bamako that I connected with were young people in late teens and early twenties. I danced with them and the dances they were learning. It was amazingly hot and the dances were remarkably physically demanding. I recall that my t-shirt simply dripped with sweat all around the bottom rather like I had just pulled it from a bucket of water. I loved these dance sessions which we did a couple hours twice a day.

Yet a very strange thing happened. When older people were around, they occasionally came up to me and squatted down or got down on their knees and put their hands on the claves of my legs. This sort of freaked me out. I had no understanding why they were doing this. I asked my Malian friend to give me a clue. He told me that the older people didn't quite know what to make of me because although they could tell that I was an older person, I danced like a young person. While they would normally consider this rather inappropriate (I can appreciate that), that because I was an American they accepted it and that their touching my legs was a way of showing their respect for me.

Later I had the great pleasure to see older Malians dance. Unlike me they did not dance with the huge energetic movements that are distinctive of young people. Rather they danced with the most amazingly refined and controlled, often quite small, movements. It was marvelous to see really. I saw it rather as though they had taken a lifetime to extract the very essence of every element of movement so they could do it in very small controlled ways without actually losing anything from the movement at all. Their movement simply got more precise and sophisticated with age, as we would think certainly it should, and transformed into something appropriate.

A few years ago I went to a faculty showcase for the dance program at CU. One of the dances featured a number of the dance faculty. Their dance was a kind of "skit" it seemed to me, rather than a dance, in which they played the parts of dating youth. It was indeed comical, but the comedy was that of middle aged bodies acting as adolescents. It irritated me because it seemed a poor excuse for people who know an amazing amount about dancing, yet finding themselves older now feel they need to do comedy rather than to create dancing appropriate to their age and present ability. I recently heard that one of the older dance faculty members is present at classes she teaches, yet the actual teaching is done by her graduate student assistant. All this bothers me, because it indicates that even among dancers, there is an acceptance that motility declines with increasing chronology.

About a dozen people have sent me a YouTube video of a 92-year old woman dancing salsa that does the splits and lifts and turns. The video clearly has, as they say, gone viral. Why? Only one reason, the woman belies our widely held expectations about age and motility. Were she 55, this video would get few hits. This video is about as popular as the merengue dancing golden retriever and the diaper-clad salsa dancer. And the reasoning is rather the same. We just don't expect what we see. Older people who still move are candidates for Ripley's "Believe It or Not."

Still, given that we are interested in dancing as a form of movement, it remains, particularly in the many social forms, one of the movement forms we have available to us where age need not be a limiting factor. The Boulder Denver salsa community draws dancers from the late teens through ... hmmm ... my age. In my performance group our youngest dancer is 16 and are then spread through the twenties on up.