

Instructions From Within

**Core Integration :
Six Pathways to Lifelong Fitness and Wellness**

Josef DellaGrotte

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Introduction

The key to the survival, health, and wellness of any species, particularly our own, is in how to access instructions from within, that is from life experience and self-knowing. This is also the basis of self-care, practical learning for improvement in the basics of body-mind maintenance for life. This may involve making necessary changes and improvements, a form of updating or reprogramming through the practice, interest and pursuit of self-care, physically, mentally, and emotionally. The concept is as old as mankind, but like love, peace and intelligent choices not often applied when most needed. No creature can maintain a lasting level of wellness without this foundation and its implementation into skillful means of living.

The paradox is this: the direction of our *selfcare* has shifted away from the natural biological into confusion and bewilderment about what we really need, and our ability to select and to choose what is good for us. In essence it is all about body-mind equilibrium, the well-functioning of the body-mind system, This setback in knowing our essential self, who we really are, and what we ought to be doing to maintain our health, fitness and well-being seems to be leading into the prospect of ourselves becoming an *endangered species*.

All human beings need at least the following essentials to maintain health, well-being and basic fitness:

- ◆ good nutrition
- ◆ sufficient exercise and relaxation
- ◆ enjoyment, love, and wholesome interactions
- ◆ mental observational skills (mindfulness) based on awareness
- ◆ intention, a sense of purpose

There are a host of other needs which must also be met — nurturance, security, acceptance, and expressiveness — but without this foundation, they all become compromised. Unmet needs are revealed in the body. There are no disguises, no hiding places. Imagine yourself for a moment an observer from a different culture, a different world. Look around, take in slowly, notice the current condition of people's bodies in posture, movement, basic fitness and feeling expression. Is this the way we were meant to be?

Growing Up Groping and Hoping

How many of us grew up believing that good health, flexibility, coordination and feeling well and fit was a matter of chance and good fortune, or something requiring too much effort and therefore only for special people; or, only for the young. In this belief system, increasing disorders, discomfort and pain were to be expected. If you made it through

your forties without pains, stiffness, and other physical disorders you were considered fortunate. A mindset of unavoidable degeneration by simply aging was a given, and still is. The result: sooner or later we mentally and self-hypnotically get pulled into medical programming, and with this the inevitable corrective surgeries, the pain pills, the medications and other continuing therapy interventions to keep us going. But will this path lead us to a better life, or one in which stress seems more intensified? We have developed the means to extend life. People are living longer but not necessarily healthy and well. The message is clear: to live longer means to learn the sustaining skills, the very means to enjoy it!

This book deals with all of these factors but the main one is about presenting a new yet time-tested model, approach and practice for lifelong fitness and well-being. You are about to explore and try out an integrated approach to good body movement and functional exercise using a pathway model on how to get back on track, to reconnect with the basic elements of biophysical and psychophysical realities, the grounding that underlies health, fitness and well-being. Without clear directional paths, the bodymind quickly goes off course. The task is to build a series of bridges that will connect and integrate concepts and practices of body movement, exercise, awareness, fitness, and intention that have a sound biomechanical and biophysiological basis and can be shown to be beneficial for as long as we live. The real validation comes only by direct experience, by trying out the process, the exercises, observing the effects, results, and any felt sense of systemic improvement—results that go beyond the myriad techniques of mere temporary relief. Only in this way can we know whether what we do is actually ‘good’ for us, beneficial and lasting. No amount of externally imposed instructions, medical treatment or makeshift modalities promising the cure to this and that; popular programs on how to stay well and fit can match the evolutionary power of ‘*instructions from within*,’ the genetically based sensory-motor feedback that every creature relies on for all true ‘functional’ activities of every day life.

My intention is to show you how to access selected and needed *instructions from within*, getting to know the map of the territory, and to recognize the common bio-physical, directional **primary core pathways** that all our generated movement energy must take. The reality that holds for all is that we, despite all our beliefs, are connected and grounded in a commonly shared world of gravity, biomechanics, and physiology. Only by interest or intention can we reframe old viewing habits from the felt experience of fresh current reality; or by getting out of the box to see that there is another way. Pathway mapping, by sensing, feeling, thinking and moving, seems to be at the heart of *homo sapiens* (the one species out of several hominids that has survived). The most plausible current hypothesis is that our survival and further development was based on our ability to both walk, track and to believe that following the path would lead to a positive outcome.

My hypothesis is that exercise based on the Core Integration pathway model will yield far more sustaining and wellness maintaining value than the current approach of disconnected exercises, with overstretching and weight-dependent strengthening, which actually generates disturbances, detours, and even dead-ends in the brain’s monitoring perception.

From this perspective, the practice of exercise as connected knowing and doing will be shown to enhance all activities of daily life, the ones that maintain us in the stream of necessitous existence. All this can be seen, understood, and improved upon when viewed through the lens of biological and biomechanical movement pathway patterning, described in the following chapters.

How to Get Back to the True Natural Body

We intuitively know that exercise is necessary, good and satisfying- much more than we have narrowly defined it and cognitively reduced its importance. More so, *exercise* as I use this reference term is a biological necessity and usually a source of pleasure, satisfaction, and enjoyment. It maintains all systems, vital organs included. Animals, birds, and many humans do it without feeling resistant or self-conflicted. When the Tao of intelligent functioning is lost, people will still exercise but view it as an unwelcome intrusion, an additional burden, a task that one must do to alleviate distress, lose weight, stretch and strengthen, stay in shape, grin and bear it walk or run. The attitude is ‘I would not do this, I don’t have time, but if it’s necessary, I’ll make myself do it.’ Much of the fitness craze often leads not to true fitness but an uncomfortable, achy, even pained body state.

‘Exercise’ for many has become a necessary intrusion, a time-consuming task, often a distasteful activity, something to do only at prescribed times because it is necessary, otherwise to be avoided. The psychological ‘driver’ has been and may still be a strange form of our mind’s ability and disposition to adopt confusing, compensative, often anxiety driven mixed messages: apparently self-motivating and yet self-punishing beliefs such as ‘no pain, no gain.’ (The human mind being what it is can easily get recruited into adopting anxiety-provoking strategies that seem to provide some temporary adaptation to insecurity — a stress relief cover up!) These responses to the stresses of life may increase distress, or do damage — constantly trying out new approaches which however never lead to either a sense of self integration or an internal state of feeling in flow, calm and clear. All these are departures from inherent psychobiological intelligence, namely that exercise that is not enjoyable is not true and sustainable.

In order to return to the essential bodymind, our real nature, the prerequisites are curiosity, interest and then intention. Can you imagine anyone, anywhere (barring fanatics, rigid, self-immolating fundamentalists, and psychotics) who would not be interested, or would not choose (were the option made available) this path, prospect and potential, namely being in good condition, mobile, fit, enjoyment — loving, and free of aches and pains most of the time?

With 80% of the population experiencing episodes of pain severe enough to stop you in your tracks; enough to ruin many daily life activities, it’s time to look for another way. And it is available. But to access ‘instructions from within’ requires a map and paths. These instructions are provided for nearly every creature on planet earth. Sometimes we call them instinct, or nature, but they come down to this:

- ◆ Our basic biological setup is such that we have the means to do what is necessary to live, work and enjoy; but these means must be properly activated and brought into use through engaged practice.

- ◆ The activation comes from some kind of nervous system tuned and responsive to the forces acting upon it, called gravity, including all the forces of challenges and demands acting upon us.
- ◆ The system figures out how to direct forces so that we can get what we need, want, and choose (barring the unavoidable: inescapable injuries, earthquakes, floods, genetic mistakes, disorders, and debilitation).
- ◆ The way this all gets worked out is through our brain's capacity to organize experience in patterns, and to direct all movement through the most efficient and safe pathways.

Somatic Intelligence

All of the above assumes what I will call *somatic intelligence*, an internal body-based network of knowing. Somatic intelligence is functional, and is awakened whenever intention is required to perform any act or action which will lead to the outcome so intended. Its opposite would be to continue acting in a way that does not work.

Intelligence is by its very nature functional, and probably shared with many developed creatures, large and small. But now we know that we can cultivate greater levels of such somatic-functional intelligence by learning how to use the skills of awareness. It is as if on this computer there is a very advanced software program but the owner never uses it. The program is called awareness of intention — how to track, check in and follow through. Awareness is a natural human potential that also requires cultivation and development. It is the ability to observe connections that change our perception of not only externals, but also of internal self image. Intention is the conspicuous act of moving toward a certain result or goal, or even deciding to be in a process that is based in the here and now. It is not expectation.

How does all this become actualized?

We must have somatic markers, the means, and a sense of direction and purpose in the form of intention, organization, basic movement skills, plus a map, paths, and practices that have been part of the human condition, our survival, our growth and development.

- 1) Get to know yourself by doing connected movements along known and repeatable biomechanical paths that tune your bodymind to a graceful flow with gravity.
- 2) Practice making internal connections, sensing the right moves, the right amount, the felt sense and observable effects of what you do. The best insurance available is getting your daily requirement of exercises, pleasant and stimulating to do, making you feel truly self-esteemed, secure and confident.

3) Have some kind of structure — a daily program, a routine, a period of time for yourself that cultivates body awareness, lengthening and strengthening — a set of bodymind wellness-fitness practices and exercises that will not only maintain, but improve you and keep you fit for life!

We are given the means to achieve this: an entire integrated organic setup, and a great guide called **Central Nervous System Intelligence**. But CNS-I must have input (experience), must be able to sense differences in quality, and have its naturally installed working operating system in place. Neural ‘software’ can then perform the following:

- ◆ Kinesthesia: sensing, feeling, knowing, and connecting through the core of your body.
- ◆ Strength and fitness through the basic primary exercises needed to maintain good posture, stability, mobility, aerobic (cardiovascular) activity and endurance. (One of the best, and most universal is brisk fitness walking, fully described later on.)
- ◆ Relaxation response, whenever you need or want, through breathing, through mindfulness-awareness, through rhythmic movement activity, through pleasure.

Summary

It is somatic intelligence that does the work of integration. But to activate this kind of intelligence — instructions from within — the CNS-I must recognize the core paths of connected movement knowing. This requires the right organization and preparation in the body-somatic system. While we can use thinking to perform good movement and life promoting functional actions, these same actions are in a real sense being performed from within. Without clear intention, direction and organization, not much happens.

Instructions From Within

Chapter Three

The Six Primary Core Pathways : A New Map of Movement, Direction, Mobility And Postural Stability

The Way : Connecting the Body Back to Itself A biomechanical directional 'energy' map of body movement

Whatever we are thinking about, planning to do, from getting up to going out, walking, exercising to all general activities of daily life, the CNS must recognize the appropriate **final common pathway** of expression and enactment. That is it! If the perception, intention, and the movement pathway of biomechanical organization and execution are synchronous, then what we do not only works, but is also satisfying, establishing a pattern of action which can be reliably called up again. If the action is not 'integrated,' not in sync with body structure and functional pathways of enactment, there will be trouble. The body CNS cannot lie. If we violate physical laws and displace our center of gravity we will fall. Here is our Core Integration mapping of how forces move through the body in the three planes of movement, represented by six primary core pathway structural-functional actions.

A core pathway as we have described includes a place, a location, a structural section of the body related to the center of gravity plus a functional movement of 'energy' (forces) passing through the center and linking everything in its path-in short, core interconnection and integration. While the *center of gravity* can be determined with absolute mathematical accuracy, the movement and shape-defining dynamics require some form of CNS-involved learning and perceiving process. Anatomical analysis based on the body-sectioning approach will not suffice. To make the core concept real, and to be able to work with the map and the paths, the core has to be accessed, fleshed out into anatomical components and markers, recognized by the CNS, then activated into functional movement, and tested for real observable results.

How do we know when our movements are synchronous with the core? What can we use as somatic markers? Points of reference? Indicators to tell us we are 'on the path?'

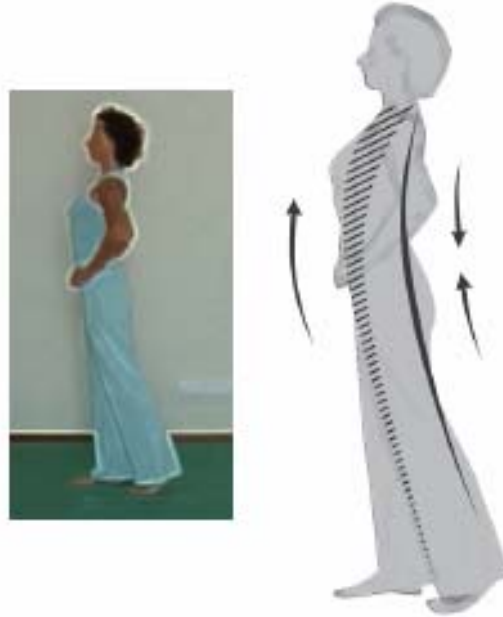
'Embodied' refers to a real, describable, demonstrable experience without which the primary core pathways concept remains abstract and inaccessible. It is like trying to learn

to walk, ride a bike, swim a bike by reading a book or watching a video. At some point you have to actually put it into practice. Core directional pathways as I have mapped them visually describe how gravity-based movement energy travels through the center of the body in the most efficient ways. The energy comes from simply generating a force—almost any movement action, physical or intentional. The rest is in the individual's social and biological learning process and the body's condition in relation to responding to gravitational forces using body levers, bones, joints, muscles and connective tissue following some pathway of movement organization. The basic inescapable rule of all good, healthy, and efficient movement is that it not only follows the best pathways close to the center of gravity, but continues through whatever body connections there are to all other sectors in order to fulfill its functional intention — necessary, curious, creative, or just playful.

The nervous system includes spinal cord activation (a mini-brain in itself) and uses the forces generated by movement activities to maintain movement balance, speed, and efficiency — the grounding mechanism that governs how we do what we have to do, what we want to do, and whether we come out feeling better or worse. Movement actions and forces seek paths of smooth, oscillatory flow (resonance). They communicate and are connected in to the CNS system of scanning and tracking. Something is minding the body in its daily adventures. The core, therefore, includes balance, structure and function, and also maintains bodymind equilibrium.

In order to get around, do what our needs fulfillment requires of us, do what we want, what we enjoy, and in all this feel some quality of satisfaction, fulfillment, confidence and security within ourselves, you can do it intuitively, hope it is in order, or upgrade into conscious intention using the mapped out, anatomically based primary and secondary pathways.

Primary Core Pathway #1 The Back Path (Extension and Elevation)



As one of the oldest developmental movements, but not the earliest to get activated, the back path provides the major support for almost every major functional activity.

Seen through the lens of real engaged structural and functional movement from foot to head, *extension*, in biomechanical terms, provides a very limited view of the full functional and postural expression of this path. (The technical language required to explain it is mostly of interest only to trained therapists and movement educators.) Everyone can access the back path effectively once the program is activated and can be seen ‘on screen.’ For in CNS reality the back path of extension is a connected path, a sequence of organized muscle participating responses, fascial shaping, and bony stations of force transmission. With any activation of push, gravity initiates a vector of force which contracts calf, hamstring, and gluteal muscles which are pre-programmed (unless disconnected by other factors) to find their way uppassing through the pelvic joints, the lumbar spine, the lower ribs, into the mid and upper spine, connecting into the shoulders as well. Some path!

The back path seen through the ‘bodymind’ of the central nervous system is a gravity propelled connected sequence involving bony stations (somatic markers), muscle chains (which are not felt, but can be seen in action), myofascial lengthening and spread, like a sheet or sail, or like a tent pulled up into a ‘tensegrity’ shape (see Buckminster Fuller, the architect of the term), giving rise to body form and definition.

The pathway describes how and where the energy of transmission travels. Just as our marvelously moving animals know how their bodies work best (and do not need to know

the names of their muscles), so we do not need to know or even feel the specific muscles that must lengthen and contract in order to perform an action. Again, from the brain's perspective, as CEO of the bodymind operating system, particular muscles in the chains are not felt unless we are focusing on them, isolating them, and working them to the point of *burn*. Your CNS system, representing the essential self, only needs to recognize the pattern, the image, direction and the easily perceived points of connection along what it recognizes as a directional pathway of action.⁵

But even this is not so simple. In reality to erect yourself, your system tries to activate a combination of back and front paths to maintain balance and support. The back path seen from the fully connected chain begins through feet and legs, angles the pelvis in a specific direction slightly forward, and erects the spine according to its joint configuration.

How do you know you are on the back path and using it well?

An Exercise in Movement awareness

Simply place one hand on your sacrum (tail bone area), the other hand in front above the pubic bone. Push from the floor to lift yourself, looking up and a little back in a smooth arc. Observe if the tailbone goes up, and the pubic/pelvic bones tilt forward and slightly down.. The front of your chest/ribs can lift with a feeling of spread, up into the collarbone. You are in extension. More importantly, you are using the core back path angled trajectory of elevating, lengthening and strengthening.

Another internal image is to imagine two rubber balls one on top of the other in your center. As you roll the bottom ball forward, the upper ball rolls up. Try it in reality by holding two balls (or softball size balloons). It demonstrates clearly the movement direction and 'flow' you need. You can also access this sensation by cupping your hands around the leg bone (just under your buttock muscles) and roll the ball forward and back.

Primary Core Pathway #2 The Front Path of Stabilization, Elevation and True Functional Flexion



Stabilization in movement is the ‘missing link’ in the leg > pelvis > spine pathway, and the key to effective pre-programmed natural strengthening and supported upright posture.

It is the way that our ancestors maintained themselves upright especially in walking, (still used by tribal and nomadic peoples as well as in good performing athletes, gymnasts, swimmers, runners and power walkers). The front path involves using the pelvic floor to sacrum and spine connections. The legs can be involved as well as the upper body.⁶

Too much sedentary sitting — often in the wrong postural position — in combination with weakening in the pelvic-spinal core is the main factor driving postural pain. In real life daily activities, like getting up, the body seeks whatever the available programmed path may be. The efficient path, for example, from lying to sitting and standing, is done through rotation, flexion and then extension (in our pathway mapping model: 4-3-4-2-1). More simply said and understood, the CNS selects a path, usually a habitual recognized pattern of action. Our usual view of flexion is in bending the upper body forward, or shortening yourself, as in doing sit-ups ‘crunch’-mode. But crunch-mode does little to effectively stabilize, or strengthen the front path. It is a form of flexion that protects the spine, but inhibits its needed lengthening and rotation ability. Back pain can actually be exacerbated by doing too many forceful crunches, stressing and damaging discs. To sit down, and stand up, you must flex properly using both the front and back paths. Bending

with the hips alone, while maintaining a held back creates a stress. To get your back on track, and awaken your awareness of what you are actually doing, I suggest the following practice:

- ◆ In standing, place the back of one hand on the lower back, then start to bend down as if to sit or squat. Does this part of your back move into the back of your hand? Do it several times.
- ◆ Variation: bend your legs (see diagram) over as if to squat. Bring your forearms to your thighs for support, and then bend down as if to sit, very slowly.
- ◆ This time, go into a crouch, either sitting on a chair, or free-stand. Think like a turtle. Your hips are bent but you can lengthen-extend through the spine. This brings into play the deeper spinal muscles that are stabilizing the spine with the movements of mobilizing.

The pathway of flexing enters into every known form of exercise. It is a primary functional action. People compromised in flexing suffer a great deal, as they are no longer able to sit without pain. It takes assessment skill to determine if the spine is so locked or fixated, that bending forward is the compromised area, and what is involved.

However, so powerful is the primordial necessity to sit down, get up, and move around, that the body's nervous system will do everything possible to keep you going. When the stresses are just too great, the body will shut down this function *in order to protect you against further injury*.

All of these movements put you in the flexion mode. Again, many joints of the spine, and a few in the hips are involved. Flexing, bending forward, squatting are apparently simple but nevertheless complex acts. If there are no restrictions, the movement is so primordial that you can do it with ease. Overriding this automatic intelligent body response by a belief in push-pull; or the old and erroneous often misapplied 'no pain, no gain,' or the self-confusing override message of 'I can overcome this by will power;' or I need more treatment, more surgery, more something; or in the end, by denial, is a sure gateway into the hell realm of chronic pain.⁷

Primary Core Pathway #3 Turning



Turning is taking Paths 1 and 2 into new directions. We cannot live well in a single plane. We move out, up and we grow our movement expression, intelligence application potential. Path 3 is just that, a turning to right and left, keeping the forward and back features.

In a sense, Path 1 plus Path 2=Path 3. But now the vectors and myofascial spread take new shape. The way we turn right and left is preprogrammed, so you do not normally have to think about it. However, owing to inactivity, poor sitting, standing and walking, many people have lost the directional signals, sequences and markers-in short, the instructions from within. The programming through evolution, the trail and error experimentation has long been completed. But the way needs to be reactivated in every generation, otherwise it can be compromised. To reactivate it, get it back on line, we need to know how it works, try it out, and decide from the experience. By their fruits shall you know. . . .

Our life habits have negatively impacted the turning pathway, and with this there is trouble in the making. How many thousands of clients have I seen whose turning is done by twisting the trunk, constantly contracting the internal and external oblique muscles which get tighter, shorter, not stronger. In this dysfunctional use, even the diaphragm, the central breathing and a core muscle, must be negatively affected.

The brain's software imaging of turning follows a simple route: to turn left, push and stay onto the left leg, with the left hip turning left and back. To turn right, apply the same path to the right. Whatever leg you may use to start the turn, you end up on the same side leg that you are turning into.

As the same side (ipsilateral) hip is going back (into flexion), so go the same side ribs, opening into a simple spiral, connecting into and carrying the shoulder back (like path 1

action) in the same direction. All the rest will depend on specifically what you intend to do. Someone turning to the right to change a light bulb will 95% of the time, look at the light bulb, and stand on the right leg. The right hip will be set back.

If you are throwing a ball with your right arm, you may start on the left leg, but then you will shift again to the right and bring your right arm and shoulder back (as in tennis and other pathway efficient performance actions such as swinging a golf club for which you must use path 3 and the ribs must open to support and carry the shoulder, arm, and club. Otherwise you will torque the back causing eventual pain).

Turning actions are fundamental, a common denominator in all conventional exercise, in gymnastics, in yoga, tai chi, qigong, and all martial arts. The movements in these systems are often taught as discreet, without the CNS pathway and awareness connectors, the drivers that make all the difference. All the activities described — and many more in the sports field — require turning movements in which ribs must open and support the shoulder and arm, connected with and configuring to spine, hips and legs.

Turning is perhaps the most common movement people do. However, true turning requires spinal rotation, or movement through each of the vertebrae to the extent each vertebrae permits. When turning is not done this way, it remains mostly performed by other muscles which must now do double time work, with no lengthening happening. Without this individuated articulation the upper body may simply move like a block. While you can still do *exercises* this or nay other way, the benefits decrease and the stresses may increase (I have observed many people lifting weights, who do little spinal rotation with the result that the deeper core muscles of the spine get weakened, shortened, and fixed leading to reduced mobility). Easy it is to enter the ‘dark side’, the cut off of feedback, the realm of unperceived spinal compression, the slow slump downward, the eventual stenosis (narrowing), the inevitable consequence of being off the efficient paths, and performing exercise without proper preparation and awareness. By the time it all manifests there will be no obvious cause, no easily identifiable connected traces back to the original problem, no information on what to do. You can seek ‘treatment’ by various forms of therapy. You may feel relieved and feel better for a short period of time and that is all. The body will inevitably revert to its habituated posture, unless. . . .

Learning and internalizing the turning path function is the way to shift out of this limitation. The more you use the paths of connected movements in your daily life activities, the more you will feel connected than disconnected, confident than despondent, and energized rather than tired. This is the difference that makes the difference.

Following the visual examples will help give you a sense of direction. In the end, the real experience that changes the CNS-i is in doing the awareness-based lesson-exercises, the movements themselves, and learning by sensing how the whole action connects from foot to hand.

In summary: Turning is done by a simple default-type rotation that must involve the pelvis, spine and ribs. When all the components are in sync, there are no problems. Turning that is not on a smooth path can result in torque actions and consequent muscle

pulls, back pain. True turning is first done by shifting, standing or pushing off the same leg in which you are directionally turning.

- ◆ Turn to the right, look around, point a finger in that direction and you will find yourself weighted onto the right leg (the normal body thinking way of stabilizing and using movement close to center of gravity). Do it 3-5 times going only onto the right leg.
- ◆ Slow the movement down so that you can by sense perception determine how the leg connects into the hip, then into the upper body. Use your hand placement to follow the direction of the movement. Stop, pause. . . .
- ◆ Then try it to the left a few times for comparison. Then combine both going right and left.

Turning paths are more complex because your system has to learn a more developed use of paths 1 and 2 in a diagonal-spiralic direction. (The CNS is always interested in more learning that has benefits from function to fun.) How? This path has a front and back. If you turn right, using and thrusting from your right leg, you can use the front path for stabilizing, i.e. controlling the alignment and thrust, but the left side of your back, path 1 is also involved. If you do not use enough of the front path, you overwork and strain the back muscles, as most golf players, dancers, even runners do. You start to have pains in your back, and visit a doctor or chiropractor, perhaps get some relief, and the pain recurs . The reality is that turning also involves a front spiral pathway. The real balance is in the coordinated action of both pathways.

The True vs Faulty Path #3 Movement Movement Lesson

If you lie on your back, push off with the right leg, and take the left knee towards the left shoulder, the left groin should remain soft to the touch. If you feel muscles contracting as you touch this area, it tells you that your body is habituated to using the oblique muscles and the iliopsoas in a way that inhibits spiralic spinal rotation.

Part of the training to change this dysfunctional, limiting, habit is to develop a new feel, to access the muscle-movement flow in the true path #3. This is the core of the core movement, and once learned will be there for life.

Pathway #3 is just short identification code that helps to develop your sense of connected points and direction.

Turning can be done standing, sitting, lying, prone. You know you are on it because it takes you to one side, the other, or both. [See the appendix for lessons on DVD, CD, and audio, on turning in all directions, including from back to front, or front to back.

Primary Core Pathway #4 The Diagonal (Grand) Spiralic



In some ways, this pathway is the most practical with the greatest potential for sustaining exercise, posture and fitness, yet paradoxically is less used! First let us get the map of the path.

The Diagonal Spiralic integrates features of the other paths, and like path 3 involves turning, twisting, and elevating but uses the opposite leg as the thrust leg. This path allows for so many functional movements and exercises as basic as sitting, and as developed as walking, swimming, gymnastics, and many sports activities from tennis to basketball — just to name a few. We call path 4 the ‘grand spiralic’ when used in full body integrated activities, exercises or engaged performance actions such as walking, swimming, jumping. Its main feature is that it provides both support and transmission of forces into the upper body; therefore it is the main movement template for maintaining upright posture in all human beings. The graphics and the photos will convey the images and the connections. You can initiate the path from the feet, the legs, even the hips, or the shoulders. But it follows an invariant core pathway.

If one hip is rotating forward, and you are pushing off from the same leg as rotates the hip, then the direction of force passes through front path on a diagonal. That means the other hip has to go back. If you get this action clear, you will see by the arrows that the force being generated is going to turn and lift the ribs on the opposite side of the thrusting leg up and back. Well, that is easy so far. But since there are many, many muscles and joints involved just doing this, it will take some practice to get the feel.

The *diagonal spiralic* has the effect of really engaging and directing the vector of force through the legs and levering these through the pelvis into the ribs and spine. Good walking form does all this. Good sitting posture would also benefit from spiralic exercises in sitting. Poor sitting disengages the path and puts the system to sleep, often in a slump, or, in static held positions which overtask the back muscles. What gets lost in disconnected sitting, as well as standing and walking, is the functional activation of the spine to rotate and to provide levering through the ribs.

What is behind back pain, spinal stenosis? The compression collapse syndrome, because the spiralic action involving the stabilizing muscles of the spine is missing. (For those who know some anatomy, the deeper multifidi muscles of the spine, the ones that also work together with the great front abdominal-spinal stabilizer, the transverses abdominis.)

It is only a matter of 1) staying on the path; 2) getting to use it until it becomes as natural and familiar as apple pie; and 3) then using it in any number of activities which have to engage your #4 path.

Of course, grand spiralic is constantly interfacing with the back path, the front path, and participates with its close, almost twin relationship, the turning path. Therefore it is not a path that can just live on its own. It too is interconnected as are they all. From a biophysical-biomechanical perspective, it is universally consistent, observable everywhere; in everyone the pattern can be found and activated. The variation is only in the style of use.

Brief Lesson-Exercise

The Grand Spiralic Path #4

- ◆ Standing, or sitting: press-thrust gently through the right leg allowing it to straighten more . . . and while still weighted on the right leg, bring the left front hip bone back, left knee slightly bending forward, left heel lifting, several times until the image connections get clear.
- ◆ Continuing with the press-thrust, place both hands under the left lower ribs, assisting them to open in back, and direct your left elbow back. The left ribs can now expand back, supporting and moving together with the left shoulder gliding back, directed back through the left arm and elbow. Do several times then rest and observe.
- ◆ Now press-thrust through the left leg, and continuing as above, direct the diagonal spiral action into the right hip, under the lower right ribs, expanding up into the upper right ribs, the right shoulder and right arm going back — several times, then rest and observe.

- ◆ Combine both of these to create a sense of walking in place, just lifting one heel at a time.

This is the basic ‘template’ for the spiralic path. When our pre-programmed intelligence perceives this pattern of action, and recognizes that it is right, both functionally and structurally, the reprogramming is complete. To maintain it, it has to be used; otherwise the previous ‘adaptive’ habit pattern returns. This spiralic pathway carries with it and engages the spinal vertebrae, creating needed movement and a free supply of the movement supporting energizing vitamin: elevation. It comes with the package. You do not have to lift yourself up by your shoulder or back muscles. The lift is generated by a levering effect starting with the hip joint, the rotator muscles, through the front path, using some back path, and even a touch of lateral, as we shall soon see.

The spiralic path is necessary for true upright walking, and for active sitting as well. Using it properly means getting a sufficient minimum daily supply of not only posturally elevating, but also strengthening movement exercises.

In summary: *The Diagonal Spiralic* (Core Pathway 4) is the key to most of the strengthening movements you need to stay integrated and fit.

Primary Core Pathway #5 The Common Lateral (Side Bend)



The fifth pathway describes the earliest evolutionary developmental movement, using a distinct levering action that allows for uplift, balance, stability with an accompanying myofascial spread most readily observable when you are standing.

The body standing shape and form is then unmistakable. The key is the side-balancing action (seen in the lower lumbar region of the spine and the sacro-lumbar connection. (Let's look from the glasses of primary biological origins: If you were a fish, or a lizard, or even a bear, you would move with a side-bend, a sidewind 'resonant' wiggle.) If your lateral movements are in sync, you will notice a cantilever, as one side moves down while the opposite moves up. The combined action is like two circles rotating in relation to each other, consistent with the structural form of the pelvis, ribs and spine.

In this way, the body again uses leveraging forces to balance its actions of right to left locomotion and still stay in the middle. Path 5 permits a thrusting action through the leg-hip-lower lumbar that immediately translates into more sustained uplift. We cannot afford to weaken or lose this primary movement pathway function because the consequence is a gradual contraction of the lower back muscles, log-jamming in the myofascial tissues, compression of the discs — the onset of that never-causatively explained disorder called 'degenerative disc disease' — and the inevitable stenosis, the narrowing that used to be mistakenly cited as the cause. Any well-trained movement therapist can detect right away the distinct configuration: the absence of the cantileverlike motion in the lower back which renders a person unstable, susceptible to falls (most therapists sadly do not think this way). Walking becomes more difficult, and back pain more likely to be activated.

Another view of the lateral is in skiing. There you can see all the side bends and how they allow for fast motion, turns, and stabilized mobility. The lateral actions should involve the entire spine, even the base of the neck.

Trained race walkers also use this lateral feature together with the other pathways to achieve a smooth but powerful glide that permits efficiency and greater endurance.

Primary Core Pathway #6 Opposite Lateral Shift (Side Bend)



This path, the complementary twin of path 5, provides the movement for balancing and shifting. As with paths 1-2, and 3-4, so paths 5-6 also belong together. Lateral bending and shifting are two aspects of the entire set of lateral actions which can be and are combined with the other pathways, depending on what you intend to do.

Try doing a few of the path 6 side bends you see. One of the more obvious effects is the ‘lengthening’ you will experience on one side. The pathway is identified by a simple formula that is constant:

- ◆ Shift yourself over to one leg. Press, thrust and straighten onto that standing leg; then bend your upper body, even your arms, to the opposite side.
- ◆ Observe the sensation of the uplift on the standing leg side, especially if you reach up with the same arm. (You can also use a fitness band, as illustrated)

This is the difference in the otherwise commonality between path 5 and 6: bending to the opposite side of the standing, thrusting leg.

Remembering the History : ‘All Roads Lead to Rome’

The expression derives from the most advanced system of roads ever developed in the ancient civilizations, enabling people to get to central places faster, easier and safer. Roman engineers developed six-foot-deep core-solid roads — some still in existence today — that permitted smoother, faster travel. These roads went out from the city, the hub, in several directions, to all important arrival destinations and primarily north, south, east and west, especially for delivery of goods and military movement readiness as the original city-state grew into a large empire. This was the first approximation of the modern highway and the railway systems.

The concept is clearly the application of man’s mapping-tracking CNS-I ability to road construction. All paths must work together, because in reality, the map is never the real territory. Just as herds of animals learn or instinctively move in sync, or like the

coordinated flight of flocks of birds, there are times when humans in migration or travel must also move in sync. But for the most part we are individuated, and must first be in sync with ourselves. The pathways are the foundation for many journeys, beginning with the most basic: getting up, getting down, sitting, walking, and yes, even washing dishes!

Because all the *core* pathways of true functional-structural movement support lengthening and postural uplift, they are the most important we need to use and do well. Erecting ourselves without effort is the natural effect of good learning. The spine needs to be erected from below to above through the levering transmissions along specific bonejoint articulations. The body engages each time we get up, stand, walk, and perform many daily life activities, to say nothing of exercise, and sports. But we also need to bend forward, come down the floor or ground.

Think of an activity as simple as lying on the grass or on sand. What goes up must come down, and vice versa. The pathway of flexion by which we bend forward, descend, come down to squatting, sitting, or any other function that is so related. The pathways of the spiralic rotations not only turn you, but lift you up and bring you lower, right and left, by either erecting or elongating the spine, while the spiralic line could be done in side-lying positions, for example in swimming, or crawling any kind of activity in which you might not necessary be standing up.

Nevertheless, the spiralic line must generally follow the line of thrust from the foot and leg, through the hip joint (trochanter), sacro-lumbar joints moving up into the spine. Most important is that this vector gets directed through the deeper intrinsic muscles of the spine, (the 'multifidi), with the felt effect of the ribs being levered, until the 'configured' shoulder blades respond. While the vector works, the connective tissue lengthens and spreads, completing the resonant motion flow, the river of movement arriving into the vertebrae of the neck, activating and awakening the head, the teleceptors, the entire sensory-motor apparatus of perception. The same myofascial motion flow may then also traverse through the arms and hands.

It is in the course of structurally set and functionally learned varying degrees of rotation that the grand spiralic pathway comes to totally support the body in motions such as walking, swimming, and other activities. All the parts are like one community, in common, connected purposeful motion.

These fundamental pathways are the ones we use most of the time. If we simply learned these major routes, just as we learn the streets and roads that take us to our respective destinations, we would be able to feel integrated, confident, and congruent with our intentions. We would be able to get out of bed smoothly, stand up, walk, sit well and carry on basic activities of daily life. Once connected to our selves in this basic gravitybased foundational way, it is no longer such a leap to add in greater complexities from sports to performance such as playing music with instruments that have also to be connected in to the core pathways. Our interest in mastering skills that involve positioning of the body in different ways is now facilitated.

To summarize: we can get by and meet our *mdmr* (minimum daily movement requirements) with just these basic primary core functional movement exercises. When we move and exercise in the context of natural life-satisfying activities, i.e., that have value, meaning, and reward both in terms of basic satisfaction of needs as well as creative and challenging endeavors, we are enhanced in the very quality of our being. And psychophysically-in the bodymind of self-knowing! The poets of embodiment spirituality remind us, like Kabir, to use the body itself as the gateway, that “there are no hidden mysteries’ in mantras, or in sacred places. The real connection with the mystery of life lies in sensing, moving, feeling and doing!

Josef Dellagrotte : Biographical Journey

A Time of Awakening



My path of discovery and new knowledge began in the university setting of the 1960’s, one of those neo-renaissance periods in which I both learned as a student then later taught as a professor. The integrative thinkers of that time went by the term ‘interdisciplinary.’ It was the beginning of a movement that would take many academics out of the closed box of their own fields and specialization into new ways of thinking and perceiving. Though I tried to embody the new thinking in the academic courses I taught (the field of the social sciences, and in my area of special interdisciplinary interest, ‘psychohistory’), the compartmentalized academic disciplines had trouble trying to accommodate this cross fertilization. Academics feel safe in familiar territory. The curiosity to cross boundaries seems natural to me, but can be threatening to many in established disciplines and set ways of seeing. But the proliferation of more and more disparate fields of study was generating a reaction.

I had crossed over into relatively uncharted territory following new paths that brought me into contact with emerging new age, new generation thinkers and explorers who were also bridging fields of knowledge still kept separate by habit and tradition. The theme of a unified or inter-connected field of knowledge went under the term ‘integration,’ or ‘systems thinking.’ While some were now more open to these new approaches, others viewed these with distrust. The universities, the professions of psychology and physical

therapy were experiencing the challenge of change, but still without a clear model or vision.

Rediscovery of the Body Arts and Sciences

In 1968, I was introduced to *hatha yoga* by a teaching colleague, an historian whose wife discovered yoga to be more interesting and rewarding than the mental, body disconnected world of academic discourse, and began teaching yoga. At that time yoga was still new, considered esoteric but with a rich tradition, and represented both an internal feature — going within, relaxing, and an external one — moving one's body in a slowed down, slow stretch-concentrated way. It offered an increasingly attractive mode of body-mind conditioning. This was a change, a personal paradigm shift in itself.

Slowing down movement into meditative mode shifted my self-perception as well. I had discovered another quantum psychophysical universe. Soon after, I was introduced to yet another form of yoga known as *tai chi chi kung*, a Chinese form based on yoga principles but emphasizing movement flow, also taught by someone in the university's art department!

The Rolfing Experience

Then a major breakthrough! Encouraged by a colleague in the business school at the University of South Florida, I applied to do a practitioner training with Ida Rolf (a biologist and founder of an alternative New Age system called *Rolfing*) to be conducted at Pigeon Key in Florida. I managed to get a six-week leave for 'research,' and off I went with a few others in my area — a psychiatrist, a psychologist, and a non-degreed person — looking for something new, weekly by small plane or long drive down to the Florida keys. The training: a shift of perception, another realm, away from the academic model, a new form of body rethinking work that addressed muscle and tissue to awaken consciousness in all sectors, physical, emotional and mental. This came to be known as 'body-mind,' 'psychophysical,' even psychosomatic bodywork.

I was in a new, yet strangely ancient and familiar place, trying to make sense out of my academic training and this new emerging world of wonder. Similar to the European Renaissance of centuries past, we were in a new age, excited in learning more about the newly rediscovered world of the body-mind connection, the somatic arts and sciences with one of its pioneers. Ida Rolf had created a system designed to restore body function through what was called *structural integration*, a method involving ten intense one-to-one bodywork sessions conducted by a certified Rolfer. This psychophysical approach allowed and even stimulated emotional release in many. The theory was that emotional hang-ups are held in body tissue, and that through physical manipulation, release of all kinds might occur, revealing what had long been denied. The assumption and the attraction of the method was that through the physical, all problems could be brought to the surface and hopefully reintegrated.

Ida was attempting to put together a formularized bodywork somatic strategy that she claimed would restore the body to its natural condition before corruption from negative, neurotic adaptation. The process also claimed to break up fixed habitual mental-emotional self-images. This new modality offered a body-mind treatment therapy that was more structured and body-centered, but not contrary to the then *scream it, shout it, act it out, force it out* techniques for physical-emotional release, like Gestalt, that were capturing public attention. Rolfing involved skill, but not subtlety or refinement, still a forceful method of bodywork. But for someone like myself, an intellectual interested in pursuing just how far the integrative and interdisciplinary model could be developed, the training seminar was yet another world of openings.

The Feldenkrais Experience



Moshe Feldenkrais

During the training, Ida would mention others she admired, one in particular, Moshe Feldenkrais from Israel, a well-respected scientist-engineer, a graduate of the Sorbonne, a former associate of Frederick Joliot Curie of the Marie Curie Institute in France, turned by life's challenging lessons into a displaced conventional, a career changeshifter, transitioned from engineering into somatic practitioner and pioneer. Feldenkrais had developed a new method that was not easy to understand, but yielded results unobtainable in the conventional therapeutic world. He further confounded his conventional supporters by claiming he was 'not doing therapy' but only helping people to restore and further develop their bodymind potential through real education: self-learning.

Feldenkrais observed with his science trained perception that therapy — even the best of approaches — was not enough to overcome the power of habitual body and indfixations. The *Feldenkrais Method*, as it is now called, emerged as yet another modality in the project of improving not only the compromised body and posture state, but also the mental-emotional anxiety-driven state of human beings. The components of the process were called *awareness through movement* and *functional integration*. The first refers to movement lesson-exercises guided by a certified teacher. The second, *functional integration*, involves hands-on contact and guidance, easily construed and experienced as therapy, but intended to be teaching by manipulation.

With no set number of sessions, the method suggested something radically new, a major departure, a method that had 'no fixed principles,' no fixed techniques, no expected results, only a process. Feldenkrais often looked like Zen, a method with a quasiprofessional training process that had no preconceived preparation, a dearth of clinical supervision, and no testing of practitioners. Its attraction was, for many of us, a breakout from conventionalized textbook learning and public education, something with

an eastern approach, but clothed in western garb, a good basic integrative combination of semiscience, physics, evolutionary physiology, biology and all. Here was a bridge between passive treatment (chiropractic, acupuncture, massage, Rolfing, etc.) to engaged learning.

Feldenkrais was interested in *awakening the brain* using movement awareness as the instrument and the process. By reference to his own journey from science to the somatic arts, he exemplified a way to cross boundaries and integrate the body-mind through movement. Nothing he discovered was new or unknown. Feldenkrais extracted good working principles and re-synthesized fashioning them into his own method.

I studied with him for nearly a decade. The processes and principles method he introduced remains as one of the foundations of my own practice and system of *Core Integration*, which followed from my own training in principles of physical therapy, muscular, and myofascial, further supplemented with training in body-centered practices (from Gestalt and psychomotor psychologies to meditation, Buddhist-oriented to Taoist practices; training and teaching of yoga, qigong, tai chi, athletics and sports including true upright power walking.

As with all learners, some settle into a practice, never move much beyond it, and hopefully improve as much as possible within the limiting potentials of the box. My road is different. Something within, that hidden voice, has continuously moved me on to further reaches and developments, always keeping to the path that allows for continuing integration.

Along the way I have been occasionally tempted by the sirens of mostly proprietary methods that claimed to be the one true, the most valuable and promising. But something within always hesitated to join the sales pitch team. I found myself listening more to the observations of such folk as the wise Sufi, Omar Khayyam, who wrote: “When I was young I heard great argument on this and that . . . and always left by the same door wherein I went.”

There is also another view: no one walks the path of discovery without these antecedents. And if they have been embodied, then they remain a part of you. That is what *integration* is all about — a state in which enough previous experience, perception, skill, application, thinking process, and even affect are working together synchronously.

While incorporating and honoring all that I have previously learned from the rare, true masters of their art, and several fine teachers, I found myself moving into further dimensions of *integration*, listening, by slowing down, to my own intentional voice, instructions from within. This dimension of my work took me away from the growing community of somatic practitioners, settling into comfortable, technique-oriented standardized practices, into another level. In this new style of practice, I began to feel more open, creative, better in myself. This way of practicing offered improved, simplified, easy, clear, and less convoluted lengthy and time-consuming applications

typical of the modalities in which I had been trained. And the best benefit of all: no body pains from overworking oneself for lack of both movement skill and awareness.

What began with body-mind and movement integration emerged over time into **Core Integration**. It contains the best of what I have learned, continues to grow and change, and now has very grounding features, invariants like Newtonian science, gravity and biomechanics, but also the creativity of working with each individual's specific needs in the context of their body condition and configuration. To be successful, to fulfill the intention, this book need only point the way and outline the paths to getting back to body and biological basics. We have made it both comprehensive and specific. This book is about the background, the method and the means — a traveler's guide and handbook for a new, yet anciently known way of maximizing the quality of body wellness and fitness while living on planet earth.

Core Integration DVDs and Audio CDs

designed and guided by Josef DellaGrotte

DVDs

Core Integration-1: The Foundation Course *(80 minutes, 30 lesson-exercises)*

Mostly floor lesson exercises including 10 basic lessons for better walking and sitting, designed to modify problem causing movement habits and to improve body flexibility, fitness and wellness. Based on the Principles of Dr. Feldenkrais 'awareness through movement' and the six primary core pathways.

Introduction to the Six Pathways: Active Sitting; Walking; Turns, Twists & Spirals; Shoulder-Arm; Spine Strengthening; Breathing; plus How to Continue

Core Integration-2: Gym in Your Pocket *(60 minutes, over 60 exercises)*

A clearly guided, safe, effective and superior form of exercise program for proper strengthening through lengthening and resonant motion flow for optimum posture and muscle toning. How to use paths and fitness bands for easy daily exercise — anytime, anyplace, anywhere.

Introduction, Core Back Path, Core Front Path, Spiralic Turning Path, Diagonal Grand Spiralic Path, Lateral Path, Side Bending, Lateral Path-Opposite Side Bending, Shoulder-Arm Paths (Upper Body), Leg-Hip-Spine Excursions (floor), Advanced Integrative Strengthening (floor), Pocket Band Exercises - Anywhere, Anytime (airports, airplanes and office)

Core Integration-3: Yoga through Core Movement Pathways *(60 minutes)*

A new approach to yoga postures using the Principles of Dr. Feldenkrais and Somatic Science. Emphasis on awareness of lengthening, stretching, strengthening and relaxation. Yoga principles integrated with the six primary core pathways, the biomechanical basis of energy flow — a new approach to improve all yoga practices. Special section on improving sitting meditation postures plus sun salute, spinal twists, forward bends and others.

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Learn true upright and efficient walking, normal or fast-paced. Learn by internally feeling the movement actions and integrating the entire body in walking.

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(5 lessons, single cassette 70 minutes)

Reduce shoulder problems and learn the most efficient uses of the shoulders and arms in turning, reaching, typing, lifting and playing sports.

Turns, Twists and Spirals *(5 Lesson-Exercise, 74 minutes)*

This series shows you how to access the fundamental features of true human movement: resonant flow and spinal lengthening using rotation through the spiralic pathways, taking you into easy and enjoyable turns from right to left, back to side, and front to back, increasing your mobility.

Psychophysical; Somatic Integration using Breathing *(4 lesson-exercises, 50 minutes)*

Learn the process of true breathing as spinal lengthening. Link breathing with feeling states. Integrate emotional energies in the body. Learn the path of intentional choosing and its felt benefits.

Improving Your Vision Fitness *(3 CD set - 12 lessons, 154 minutes)*

Josef DellaGrotte and Ernest Loewenstein, PhD, Optometrist created this program of 12 lesson-exercises designed to actually improve visual functions from reading to peripheral vision and peripheral awareness. The program connects eye movements to the core movement pathways, especially in relation to the spine, neck and head. It helps improve your posture in sitting, working at a desk, reading, with a special practice for seeing better while driving. These exercises reduce visual stress syndrome, tired eyes, eyestrain, neck strain and headaches. This program had a pilot study group and has a proven track record of success. It works.

For a brochure or information on ordering any of these DVDs, CDs or additional copies of this book, call or write:

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