FELDENKRAIS AUSTRALIA
Journal of the Australian Feldenkrais Guild Inc.
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NEUROPLASTICITY:

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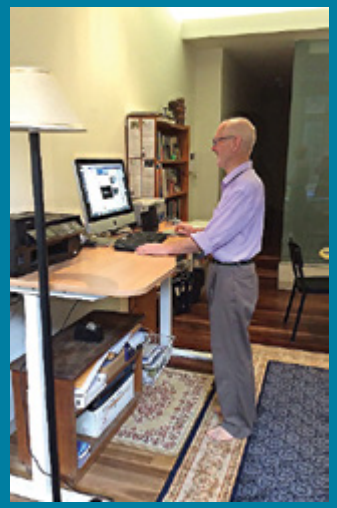

EDITORIAL

By Ralph A Hadden

It's been a year of major changes for me, mostly positive but still rather demanding. I started the year living in the leafy Melbourne suburb of Blackburn, comfortable in a roomy house with a pleasant garden. And now I find myself happily living in a small apartment right in the middle of Melbourne CBD. I'm sure my Feldenkrais learning greatly contributed to my ability to flow with all the changes. I've christened my new space by purchasing a standing desk and this journal has been composed with me standing (and sitting, it adjusts to different levels) at this desk. It has made deskwork much more sustainable.

The theme for this issue is *Neuroplasticity*. The term is almost overused now but it is an important area of emerging scientific research that does a great job in explaining what our work does at a neurological level. And the general public is interested so I'm hoping that the information in this issue will enable Feldenkrais practitioners to respond articulately to enquiries about neuroplasticity from their clients.

What I'm reading: *The Handbook: Surviving and Living with Climate Change* by Jane Rawson and James Whitmore (Transit Lounge 2015). The authors say let's do all we can to support environmental sustainability but we must also accept that climate change is going to happen, to a greater or lesser degree. So it would be wise to prepare for the calamities that are likely to occur in the coming years. Scary reading.

And for light entertainment, the latest in the *Rivers of London* series by Ben Aaronovitch, *The Hanging Tree* (Audible 2016). I've read all the books in this diverting series as audio books, read delightfully by Kobna Holdbrook-Smith.

THE EDITOR
Ralph Hadden (Sydney 1990, Assistant Trainer 2012) practises in Melbourne.

AUSTRALIAN FELDENKRAIS GUILD

ABOUT FELDENKRAIS AUSTRALIA

Feldenkrais Australia is the journal of the Australian Feldenkrais Guild, Inc and is intended for Feldenkrais Method® practitioners and trainee practitioners. The Feldenkrais Australia journal is mostly made available to members via the internet, with some members receiving a hard copy, at their request. The journal appears approximately twice a year (though only once this year).

Next issue is planned for May-June 2017; deadline for material is 31st March.

The theme for the next issue is *Sexuality*. Contributions are invited, on this or any other topic.

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Cover: Found on the website of PD Resources: https://pdresources.wordpress.com/2015/10/02/change-is-a-choice-nurturing-neuroplasticity-in-your-life/

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GOINGS ON 2017

ALL ABOUT ARMS

Public workshop presented by USA trainer, Arlyn Zones (Amherst 1983): Re-organize the way you use your arms and hands to reach for, lift up, hold on, push away, let go… The use of the arms is both simple and complex. The simplicity comes from clarifying the connection of the arms to a spine and ribs which are mobile, supportive and adaptable. The complexity comes from the need to integrate the clear use of the fingers and wrists into the action of the arms. In this one day workshop, we will explore, improve and clarify these many interesting interconnections. This workshop comes in the middle of a Perth 3 training segment. Practitioners who attend the training for a week will be able to attend the public workshop for $100.

When: Sunday 15 January, 10.30am-4.30pm

Where: Mount Hawthorn Main Hall, 197 Scarborough Beach Road, Mount Hawthorn, WA

Cost: $190, early bird by 30 December $150

Contact: Sara Elderfield 0415 363 313, sara@yogamoves.net.au

THE ART OF FUNCTIONAL INTEGRATION®: CONSTRUCTING AN IMAGE OF ACTION

Advanced Training with Arlyn Zones (Amherst 1983, trainer 1994), for practitioners. Arlyn will take some of the ideas found in Awareness Through Movement® lessons and apply them to the work in Functional Integration®. Participants will be given a few ATM lessons to study prior to the workshop to help move easily into the various strategies utilized in FI. Sponsored by the AFG (WA Div) Inc.

When: Saturday, Sunday 22, 23 January, 10am-5pm

Where: Royal Park Hall, 180 Charles Street West Perth WA

Cost: AFG member $380, non-member $560

Contact: Shelley Kiiveri 0402 957 350 shelleyk@iinet.net.au

THE ART OF FUNCTIONAL INTEGRATION®: CONSTRUCTING AN IMAGE OF ACTION

Advanced Training with Arlyn Zones (Amherst 1983, trainer 1994), for practitioners. Arlyn will take some of the ideas found in Awareness Through Movement® lessons and apply them to the work in Functional Integration®. Participants will be given a few ATM lessons to study prior to the workshop to help move easily into the various strategies utilized in FI. Sponsored by the AFG (NSW Div) Inc.

When: Friday, Saturday, Sunday 27-29 January, 10am-5pm

Where: Mindful Action Studio, Suite 8, level 2, 345 Pacific Highway, North Sydney NSW

Cost: AFG member $540 (early bird $480 by 28 December), non-member $700

Contact: Maxine Bachmayer 0417 215 661, mh.bachmayer@gmail.com

A UNIFYING FIELD

Public workshop presented by Anastasi Siotas (Sydney 1997), organized by AFG(Vic) Inc. Looking at the body as a tensegrity structure where only tension and compression exist in the system, where there are no shears, bending movements or levers, just simple tension and compression, in a self-organising, hierarchical, load distributing and low energy consuming structure.

When: Saturday 11 February, 10am-5pm

Where: Abbotsford Convent, 1 St Heliers St, Abbotsford, VIC

Cost: $150, early bird $120 before 7 January

Contact: Naomi Richards, n_e_richards@hotmail.com

DISCOVERING PATTERNS IN FUNCTIONAL INTEGRATION®

Advanced Training with Jeff Haller (Amherst 1983).

When: 12-14 February

Where: Auckland NZ

Cost: NZ$325

Contact: Bev Barclay, admin@feldenkrais-training.nz

AFG INC ANNUAL GENERAL MEETING

Details to be announced

When: Saturday 25 February

Where: Fullarton Park Community Centre, 411 Fullarton Road, Fullerton, SA

TRILOGY 1

Advanced Training with Larry Goldfarb (Amherst 1983.

When: 25-29 June

Where: Auckland NZ

Contact: Bev Barclay, admin@feldenkrais-training.nz

FEATURE : NEUROPLASTICITY

Wrestling with the fiendishly difficult DA cryptic crossword last week (The Age, Sydney Morning Herald 8 December) *I was delighted to crack one clue. 3 Down:* It helps you rethink audit of recent bank fiddle – it's typical. *The answer was, I'm sure you all got it (ha, ha!):* NEUROPLASTICITY. *(Don't worry, you have to be a cryptic crossword fanatic to figure that out, and even if you are it's rather difficult.)*

That it should be a crossword answer is an indication of how "neuroplasticity" has entered popular culture, popularised particularly by Norman Doidge in his books and media appearances. But we Feldenkrais practitioners feel that we have been "doing" neuroplasticity forever, it's just now that neuroscience is providing an explanation for what is happening in our work. Perhaps it's now an over-used buzzword in pop psychology and business management courses, but we have clients coming to us through its popularity. So I am hoping that the articles below will help us give an intelligent and constructive response to enquiries from our clients. RAH.

NEUROPLASTICITY AND THE FELDENKRAIS METHOD

By Susan Hillier PhD

Susan is a Feldenkrais practitioner (Melbourne 1991), Trainer (2013), physiotherapist and Associate Professor in Neuroscience and Rehabilitation at University of South Australia in Adelaide. She presented a workshop for AFG(Vic) Inc in November last year, Neuroplasticity, the Brain & Feldenkrais. *This article draws on her workshop presentation.*

The term 'neuroplasticity,' or neural plasticity, has become ubiquitous in the media recently. Fortunately for our species it is (and always has been) ubiquitous in our nervous system.

At the most basic level, the term alludes to the brain's capacity to change – plastic means change or adaptation in this context. Most biological tissue is plastic - changeable - in response to use (or disuse), up to a point. Why the term has captured the imagination of the public is that there was a widely held belief that our nervous system (brain and spinal cord in particular) was fixed, unchangeable and finite in structure and

therefore in function. This was in keeping with old theories of brain organisation (such as hierarchical and reflex models) which led to narratives of hard-wired, reflex modulation, 'inexorable development and decline' models – somewhat suggestive of the fixed, hard wiring of the electrical system of a house. These reflex models were never satisfactory for the human condition as they could not explain our capacity for learning, for invention, for adaptation at will. Nor could they explain our feed-forward/feedback, interdependent relationship to the environment and the activities that we engage in.

Susan Hillier's Neuroplasticity workshop at Balwyn Community Centre for AFG (Vic). November 2015

What neuroplasticity offers us are some clues about the physiological (i.e. cellular) changes that underpin these human behaviours – learning, memory and adaptation and the relationship to task and environment. Somehow we need to understand the cellular

experience to believe the behavioural… personal experience is not convincing enough.

So what does this mean for us as Feldenkrais practitioners? It means we can talk somewhat sensibly about the experience that we offer on the table or the floor and its likely impact at a cellular or nervous system level. If that helps convince people, that is marvelous.

Can we use it to market ourselves? Well up to a point. People are now ringing me asking if I "do neuroplasticity therapy". This is a nonsense interpretation of the term, but some practitioners of other modalities are promulgating this. My flip (but unspoken) response is "Yes… and so does my piano teacher". It is what the brain does. Full stop. It changes. Whether we do anything or not. In fact if we do nothing, the brain changes and not for the better necessarily.

There are basic principles of neural firing at a synaptic level that supposedly underpin memory and forgetting, learning and un-learning. The strength of connections (communications) between neurons in a simplistic way matches the strength of the thought, or act or percept or emotion. If we practice those connections,

the thought or act or percept or emotion gets more predictable (habitual); if we don't practice, then the thought or act or percept or emotion is less likely to be repeated, or is lost. And the thought or act or percept or emotion can be maladaptive. Neuroplastic change is not especially related to 'good' or 'bad'. It is simply change, based on what is practised. Neuroplasticity is quite ecumenical in that sense. If you practice the piano only using two fingers, that is what you get good at. If you practice feeling pain, likely you will get really good at feeling pain. If you practise attending to your foot, you will get really good at noticing your foot. And because we have rivalry for brain activity as a feature of the neuroplastic suite, you will probably get good at attending to your foot at the expense of attending to something else.

If we are going to use these understandings, we need to look to the literature to understand what underpins neuroplastic change in a way that serves us well as humans. We are still not good at 'measuring' neuroplasticity. We are still stuck in the research rut that we can really only infer learning (change) has happened based on the observation or measurement that behaviour has changed. We can try to link that to changes on neurophysiological measures or neuroimaging but it is still pretty inexact. Why do we believe CT Scans more than we believe our own experience (that is a question for another day).

Anyway, what we currently understand that seems to promote neuroplastic change is based on a few key principles. And note a lot of this comes from animal models so is simplistic.

Firstly, things like repetition and intensity matters – that is to say how many times or how much we practise, and that the practise needs to be challenging. Nerves that fire together, wire together. Secondly, specificity seems to matter – what you train is what you gain. Two fingered piano practice doesn't improve your five fingered skills. Thirdly salience also seems to matter – if what you practice has meaning to you, this seems to improve the chances of change. This links to motivation and engagement as well as intention and attention. Finally, age matters – there is no doubt that younger brains are more plastic. However this is offset by experience, where older brains have learnt how to change. This is supported by the evolving understanding of cognitive reserve, meaning that it matters if you have trained your brain to be a good learner in your more formative years.

As Feldenkrais practitioners, you should now be seeing the genius of Moshe, as ATM and FI have these principles as a basis. We are interested in repeated explorations of moving and sensing, in relation to meaningful functions, where we attend and engage, where we use experience and novelty in equal measure. We explore change by becoming aware of the process of change and the need or potential for change. Beautiful stuff.

A lot more could be said about long term potentiation or depression, synaptic hypereffectiveness or supersensitivity, cortical and functional reorganisation, connectomics* or the role of the support cells in their care of the neurons during processes of change. But I am not convinced it is germane to our work. Our work is experiential and our role is to inspire our clients in their capacity to change, using their experience as their evidence and their guide. Norman Doidge is a terrific "inspirer" – we have to translate his text into individual empowerment. Otherwise this area will become dogged by passive techniques and medications and widgets that only serve to lose the pivotal element of self-efficacy that underpins positive brain changes.

Onward and upward, with our faith in our human potential strengthened! Like our synapses.

NEUROPLASTICITY AND THE FELDENKRAIS METHOD *By Susan Hillier PhD*

Further reading – some of the above comes from sources such as the following article:

Principles of Experience-Dependent Neural Plasticity: Implications for Rehabilitation After Brain Damage. Jeffrey A. Kleim and Theresa A. Jones. *Journal of Speech, Language, and Hearing Research*, February 2008, Vol. 51, S225-S239. doi:10.1044/1092-4388(2008/018)

*__Connectomics__ is the production and study of connectomes: comprehensive maps of connections within an organism's nervous system, typically its brain or eye. (Wikipedia). ■

YOUR BRAIN ON FELDENKRAIS
Principles of Neuroplasticity, Learning, and the Feldenkrais Method

By Wildman GCFT, PhD

Frank Wildman (San Francisco 1977), American practitioner and trainer, is well known to Australian feldies for introducing the Feldenkrais Method® to Australia, from 1979 onwards, and directing the first few training programs offered in Australia. Based in Berkeley, California, he has taught in and directed many training programs and advanced trainings all around the world. Frank has written books and produced numerous CD and DVD programs. He offers here some thoughts on neuroplasticity for Feldenkrais practitioners. This is the first in a planned series of articles by Frank on neuroplasticity. RAH.

Frank's website: http://feldenkraisinstitute.org

Neuroplasticity has been the big hot topic in new learning theories and movement sciences, seeming to hold out the promise of great specificity and understanding of how people could move more easily, learn faster, or simply feel better. Psychologists and movement scientists became interested in applying principles of neuroplasticity to their work with patients.

> "The delay between thought and action provides the basis for awareness."
>
> Moshe Feldenkrais

> "If you leap too quickly, you can't look before you leap."
>
> Norman Doidge, MD

Many people think movement sciences began with physical therapy or athletic training, but actually it was entirely developed in the field of psychology with an understanding that you don't just move better and you don't just overcome trauma or pain, you have to *learn* how to move better and *learn* your way out of pain. (When I first taught the Feldenkrais Method in Australia, there were no physical therapists or sports people who were interested, so I taught a 2 year program to psychologists and counselors at Sydney University.)

As a Feldenkrais practitioner and trainer, I also felt that applying the principles of neuroplasticity could be of tremendous benefit for improving movement. However, I have also begun to feel that understanding the principles of the Feldenkrais Method might be sufficient to help us understand how learning and the brain and body work together.

The New Phrenology

In the early parts of the last century and before, it was widely believed in scientific circles that bumps on your head directly revealed characteristics of your brain and personality. Today, researchers consider the flashes of blood going to different parts of the brain as a far more direct and accurate representation of the various brain states that define who we are and how we could reach further to discover our potential.

Recently, the art of brain imaging, through fMRIs (functional magnetic resonance imaging) has become more precise and differentiated. A lot of research has been done on states of mind while meditating, be it Buddhist style meditation or general mindfulness meditation. There are also many studies of physical exercise in relation to brain states, but mostly these studies have been done on mice, rats, and more recently on some larger mammals and primates. (There are no surgical procedures required for an fMRI. You simply lay down in the imaging device and have electrical and blood flow light up different areas of the brain depending on what the animal has been exercising.)

Even though fMRIs have become much more precise, a study published last month in the Proceedings of the National Academy of Sciences "uncovered flaws in the software researchers rely on to analyze fMRI data. The glitch can cause false positives — suggesting brain activity where there is none — up to 70 percent of the time…. When you divide the brain into bitty bits and make millions of calculations according to a bunch of inferences, there are abundant opportunities for error, particularly when you are relying on software to do much of the work. This was made glaringly apparent back in 2009, when a graduate student conducted an fMRI scan of a dead salmon and found neural activity in its brain when it was shown photographs of humans in social situations. Again, it was a salmon. And it was dead." [Citation: New York Times, *Do You Believe in God, or Is That a Software Glitch* by Kate Murphy, August 27, 2016, http://nyti.ms/2bs6jev]

Despite this potential for glitches, in recent years, fMRIs have become more discrete, differentiated, and practical—and have gone a long ways in confirming the principles of Moshe Feldenkrais' Method. An essential component of the Feldenkrais Method is neuro-differentiation, which Norman Doidge, MD describes as one of the key ingredients of neuroplastic healing in his book, *The Brain's Way of Healing*.

Why Do We Have a Brain?

Brains came into existence because of the need for animals to move. The environmental pressure was Move or Die—sense a danger, a food source, or a mate, figure out how to escape or connect, or risk not surviving.

For an organism to move, it has to first sense where to go. In other words, it has to find an orientation, which could be completely unconscious in simple organisms. But no matter how simple or complex the life of an organism becomes, its survival depends on the ability to detect pressure, temperature, nutrient flow, light, vibration, sound, oxygen content of any given locale, etc. Sensing and determining where to go and how to move occurs after detection of the environment. The more complex the possible orientations of an organism, the more combinations of sensations can be focused on actions in the environment that lead to survival.

YOUR BRAIN ON FELDENKRAIS *By Frank Wildman*

The brain begins as a set of small neurons, ganglia, which forge a connection between sensory input and motor output. (There are lots of ganglia in the human body, acting as a chain of neurons that go down the front of our spine, as well as ganglia that exist just below our brain.) Every animal has to constantly sense fluctuations and changes in the environment and translate that information into movement. When you watch the big cats chasing antelopes or other prey, you can see both animals constantly recalibrating not just how fast to run, but what quick pivots and dodges must take place.

Illustration by Corlis Schneider in National Geographic October 2, 2014

So what does this have to do with the Feldenkrais Method?

After studying many disciplines known as "body work" and with a background in dance, sports and a life-long interest in movement, I found nothing more thorough than the Feldenkrais Method to explain how we can change the way we move, which might involve changing the way we think, feel, and act.

"A brain cannot think without motor function."

Norman Doidge, MD, *The Brain's Way of Healing*, p.169

"My fundamental contention is that the unity of mind and body is an objective reality, that these entities are not related to each other in one fashion or another, but are an inseparable whole. To put this more clearly: I contend that a brain could not think without motor functions."

Moshe Feldenkrais

A Radical Idea that Moshe Feldenkrais Used Constantly

If you accept the idea that the brain exists and evolved because of the needs of the animal to move, then awareness of and through movement becomes the key to improving movement.

This radical idea involves using sensation to help us orient, coordinate, guide, and assess the results of a movement. It's the opposite of "Just do it" or the belief that repetitive routines are our best guide to improving our physical capacities and our psychological functions.

Awareness vs. Mindfulness

I think it's critical for Feldenkrais practitioners to honor and understand the critical difference between awareness and mindfulness. Mindfulness has been widely accepted for some years now. You can be mindful about whatever you are doing, from putting on your clothes in the morning to driving a car or a bicycle to giving Functional Integration lessons. Being mindful means paying attention to whatever you sense, feel, think, or act on, but if you can't organize your attention and you can't make distinctions in an increasingly refined manner, you are simply paying

attention to things you are already capable of doing. If you can't be mindful of something, how do you learn to become so?

Feldenkrais was ahead of the curve by working with the concept of awareness.

Awareness involves the appreciation of distinctions. You might only be aware of one thing at a time. It's a highly specific and therefore a highly differentiated use of our mind. Moshe discussed awareness as knowing the difference between one thing and another. Without the ability to sense differences, we can be as mindful as we would like, but it won't increase our awareness.

Mindfulness through movement is what's used nowadays in yoga, Pilates, and other disciplines. For example, yoga nidra is the trendy new idea for people who use mindfulness with yoga. You just lie on the floor on your back, get comfortable, and then listen to the instructor talk to you. Yoga nidra is described as the practice of conscious sleep. Most people fall asleep, but the yoga nidra teachers insist that the learning is deeper when you are asleep, although there is no evidence for this. For many people, their favorite part of a yoga class is savasana. [Citation: Well and Good, *Could Yoga Nidra Be The Key To Wiping Out Stress and Anxiety… For Good?* by Erin Magner, December 6, 2016, http://www.wellandgood.com/good-advice/yoga-nidra-trend-la-nyc/]

But to be aware of something requires more differentiation and precision in your attention than mindfulness. Personally, I think that Feldenkrais' intuitions about awareness came with a powerful understanding of the evolutionary road that could be traveled for a long distance.

Because of this focus on awareness and differentiation, Awareness through Movement lessons are experienced by many people as allowing them to feel as if they had a powerful meditation session.

Feldenkrais didn't mind if people fell asleep during a body scan, a Functional Integration lesson, or anywhere in an Awareness through Movement lesson. He did feel that people could possibly be influenced while asleep, but he questioned whether they were learning anything, except he felt they learned how to better fall asleep. What he wanted was for someone to be as completely relaxed as possible, while being mentally alert.

In my book *Change Your Age*, the body scan that I use and that I suggest could be done as a meditation is an opportunity to explore the power of awareness. For example, in the State of the Body Report, to observe your pressure where you contact the floor and where you don't can automatically lead to changes in how you lie on the floor.

THE STATE OF THE BODY SCAN: THE FLOOR AS A KINESTHETIC MIRROR

This body awareness exercise, practiced consistently, balances the body and releases tightness in all the major muscle groups. It is a wonderful starting point for making changes in your fitness, wellness, and vitality. Lying on the floor, you're able to observe the configuration and arrangement of your body in its most basic way—your posture when your body is most at rest. Imagine lying on firm, smooth sand. If you could be lifted from the sand and then could look down at the indentations you left in it, you would see a pattern in those indentations as unique as your signature. Most people don't realize that, even though they share features in common with many other people, their posture is completely unique. This "postural signature" is more than a physical signature: It is also a record of how your brain maps the muscular state of your body and maintains the habits of your posture.

Many people confuse position with posture. There is continuity in your posture no matter what position you are in. Your posture is an ongoing dynamic process that expresses itself in the way you stand, sit, or lie on the floor. This is why people tend to have tension in the same muscle groups regardless of the position they're in. Your postural habits have been set into your bones, muscles, and brain and reproduce themselves regardless of your position, but there are distinct advantages to discovering your personal posture by lying on the floor.

When you lie on the floor, you get an opportunity to feel why certain parts of your body hold on and don't let go, even when you're lying down. Perhaps there are times when you think, "My neck keeps hurting on the right side," or, "My lower back pinches in a certain place all the time," and you don't really know why. Lying down permits you to reduce the muscle tone and to remove much of the customary strain and preoccupation of your nervous system as it organizes your standing and sitting postures.

Lying on the floor also helps counter some of the habitual stimulation that reinforces bad and ineffective muscular habits. Your body's unfelt twists, turns, and habits eventually present themselves in your regular activities, from cleaning the house to skiing, but it is hard to observe those movements when you are doing the activities.

Perhaps the most important advantage to lying on the floor is that the floor provides you with so many points of contact; it gives you the opportunity to feel much more of the network of your interconnected bones and muscles than you would be able to feel standing or sitting.

In a way you have probably never experienced, this exercise will help you get a sense of what areas of your body need attention and what age you feel you are. You will learn to observe the previously unobservable.

1. Lie down on your back, with your arms down by your sides, your legs extended but relaxed, and your knees straight. Feel your contact with the floor. The aim is to lie in a position that is as close

as possible to your natural standing position—a position that approximates how you would stand if you were about to walk somewhere. Keep your arms long and make sure both legs are extended. After all, when you are standing or walking, you usually don't keep your arms and legs crossed.

2. If this lying-down position is unfamiliar or uncomfortable for your back, modify it by bending your legs so that the bottoms of your feet are flat on the floor and you can balance your legs without leaning one against the other; your feet and ankles will be about a foot apart. If you find that your neck is strained, or if it feels too arched lying on your back, raise your head with a towel or book until you feel comfortable. A towel placed under a knee that feels strained when straight can also help, but first, lie down as instructed and check whether you need these supports. You don't want to cushion yourself to the point where you cannot feel your postural signature. Once you are comfortable, feel your contact against the floor with your arms, shoulders, back, buttocks, and feet.
3. Observe your postural signature—how your body rests on the floor in the posture you have while lying there.
   - Is there some part of your body that's pushing a little heavily into the floor?
   - Is there some part of your body that seems arched or high off the floor? Notice the spaces between your body and the floor wherever they are, particularly those under your lower back and under your knees. Also notice where the floor supports you.
   - Are all of your muscles relaxed enough to allow as much support as possible from the floor?
   - As you scan the inside of your body and feel your contact with the floor, do some parts of yourself feel younger than other parts? You might find that the upper part of your body feels younger than your lower half. You might find that one leg or your head and neck have feelings that you unconsciously associate with feeling younger—for example, a feeling of dexterity or suppleness or agility. You would be a rare person if your whole body and all of its actions were aging evenly.
   - In this scan, you might find that the map of your body has many distinctions. Some parts of your body might feel twenty years younger than the rest of your body. It is common to notice how your body feels older or looks older, but it can be more helpful to notice what's youthful about yourself. By thinking of which parts of yourself feel most youthful, you orient your brain to be more youthful in all of your movements.
4. Notice the "map" of the back surface of your body against the floor that is being made as you lie on the floor. For example, you might notice that there's more weight or a feeling of greater mass on one side of yourself compared to the other. You might feel that the left side is larger than the right, or vice versa. You might notice that your right leg feels heavier, thicker, or longer. However your right leg feels, compare it to the left leg. Which of your legs do you think would be easier to lift an inch off the floor? Which leg feels younger?

   AWARENESS ADVICE: As you follow the program, you will find that your body's curvatures and sharp points of contact with the floor are changing. When your muscles are tight, your body curves more; this curvature decreases the points of contact between your body and the floor and makes each point carry more of the weight of your body. As your muscles relax, your body flattens itself more against the floor, creating more areas of contact, and the weight of your body is spread out.

At first, only 50 percent of the back surface of your body may actually be in contact with the floor if there is a large amount of space beneath the knees, the back, the neck, and the shoulders. As your muscles relax and get longer, these spaces shrink and a higher percentage of the back of your body will rest on the floor.

5. Notice how comfortable you are lying in this position. Are you at ease, or is your lower back hurting or starting to tighten? If you need to make your back more comfortable, remember that you can bend your knees and plant your feet on the floor with your legs far enough apart to be independently balanced.
6. Next, notice whether your neck is comfortable. Some people find that their neck is so arched that they're almost facing the wall behind them. This position of the neck may make breathing a little difficult. If this is the case, take a minute to place a small pillow, a couple of towels, or a book underneath your head. Find the amount of elevation that makes it a little easier to breathe and allows your neck to be more comfortable.
7. Return your attention to your body's pressure against the floor, which is also the floor's pressure against you. Observe which side of your body feels larger. If you were divided in half down your midline, is more of your body mass on the left side or the right side?
Then imagine that you are lying on a balance beam. If you fell asleep on this balance beam, which way would you roll off?
Which side of yourself feels younger? Why?
What associations do you have with that side of your body?

As you imagine lying on the balance beam, you might feel that your pelvis is rolling or turning one way and your head and neck are going another. You might find your chest turning one way, as if on its own. These tendencies reveal your rotation habits—how you turn your body and orient your body when you're standing. These tendencies can be hard to feel when you're upright, and that is the advantage of the floor. This kinesthetic mirror

reveals some things about your body and its organization that otherwise you might not notice.

8. Now let your mind focus on determining which are the areas of greatest contact between your body and the floor. The back of your rib cage? Your pelvis? Your head or your heels? When you put your attention on these contact points, your body will reduce the sharpness of those pressure areas and distribute your weight more evenly on the floor.
   Just making this observation of your contact with the floor, of your back against the floor, leads your mind to reorganize the way you are holding your body on the floor and to spread your body's pressure from just a few areas to a more even distribution across your whole body. In other words, the awareness and observation of what you're doing actually creates a change—and you become more relaxed.
9. Put your attention on the places that are in contact with the floor but only a little bit, such as your heels or your calf muscles. As you observe these areas, notice whether one of your legs is straighter than the other one. You might find that the back of one knee is closer to the floor com-pared to the other one, or that one leg is turned open, meaning that it's rotated externally compared to the other one. One of your legs or a foot might be pointing straight up to the ceiling, which means that the muscles are working to hold the leg internally. You might be able to relate the sensation of your legs turning in or out to the sensation of which way your pelvis would roll if you were lying on a balance beam.
10. Finally, observe changes in the areas of pressure and your sense of position from the left to the right side of your body and note the percent- age of your body that's resting on the floor. You don't need to move anything or adjust your body; just observe. This is a meditative and very practical way to relax. The closer you get to the floor with your muscle tone, the more relaxed you are and the more your muscles unwind. If your muscles are wound up, they act like a bowstring. As you wind your muscles up (pulling back the bowstring), the bow of your body gets larger and your skeleton is higher off the floor. Unwinding your muscles allows your body to release into the floor.

Exploratory Movement and Brain Fitness

An exploratory movement is a movement you perform when you don't know exactly what you are going to do so you have to think about it and feel your way through it. One example of exploratory movement is the kind of movement we all performed as babies trying to find where our hands, mouth, and feet were. Much more of your brain is used, and a far larger range of neurons are activated, when you're exploring a movement.

As you keep practicing what you already know—that is, doing performatory movements—you use fewer new neuromuscular connections.

I call the combination of simultaneously thinking and feeling as you move "flinking," as a way to urge my students not to compartmentalize these mental and physical activities. As happened when you were a child, the greater the area of your brain that's involved in your movements, the more fit your brain becomes and the more it retains and generates new neural connections. The more you use your body awareness, the more you integrate the body and mind and the more proficient your movements and actions become.

For example, imagine that you are preparing to do a dead lift—lifting a weight off the floor until you are standing. If you are like most people, you have one way of performing this action and think that, if you made your muscles stronger, you could lift more

weight. However, a completely different and healthier approach would be to explore how many ways you can coordinate your pelvis, legs, arms, and shoulders as well as your balance, timing, and breathing—in other words, your whole body—to lift the weight. This approach would make you not only stronger but better able to bend down and pick up anything, because you would have expanded your neuromuscular repertoire for bending over to pick things up. Exploratory movement is more likely to lead to a more fit bodymind.

I feel that fitness is a matter of deep evolutionary biology. To understand the relationship between our genes, neurons, and entire body, we must be aware of and adapt to changing environments. Altered environments facilitate the evolution of new species, new actions and behaviors, and may require a large variety of postures and actures. Developmental processes offer a creative ingredient shaping which forms, features, and habits evolve.

How to seed your lessons

This is the first part of a series of articles on neuroplasticity and the Feldenkrais Method. So let's consider someone who is injured or has pain issues, all or most of which take place on one side of the body. For example, "my right knee hurts and I can't run anymore, it hurts to walk down stairs, and my right shoulder hurts when I lift almost anything." What I found to be extremely useful was to avoid the trap of trying to help someone to improve the way they function. Instead, I try to improve the person's sensory awareness, in particular regarding laterality, by deepening the sense of left and right and increasing the sense of mid-line. I have discovered with most people with these typical pain problems on one side find that the pain is immediately ameliorated or can completely disappear in a fairly short amount of time.

And what does the client learn? Besides their pain being gone, they have a deeper sense of themselves. By approaching issues of pain and function with a more rigorous understanding of neuroplasticity, we could be more precise and effective.

As Charles Darwin wrote in The Expression of the Emotions in Man and Animals, "certain states of the mind lead to certain habitual movements" and that can be the key to meeting the challenges we face in our Feldenkrais practices.

I am currently teaching workshops with a physician who specializes in neuroplasticity. We take only 10 practitioners at a time and explore the technical details of how to use neuroplastic principles for specific issues in the Feldenkrais Method. ■

THE DANCER WITHIN
Rewriting the story of Youth Scoliosis

By Seth Dellinger

Seth (Baltimore 2016) is a newly certified Feldenkrais Practitioner working in Washington DC. A former composer and musical improviser, he has led experimental vocal workshops for singers and actors. Dellinger leads a creative movement research group with contemporary dancer Juliana Pongutá. www.movelikeachild.wordpress.com.

Daniela Picard (Stockholm 1991), originally a student of Yochanan Rywerant, is an Assistant Trainer with 27 years of Feldenkrais practice in Germany and now in Israel. Drawing on the extensive experiences of her busy practice with diverse groups of clients, from toddlers to managers of Volkswagen, Siemens and other large corporations, she currently offers online mentoring and a variety of online classes to encourage and empower Feldenkrais practitioners to develop their own handwriting and have a successful practice.

Seth attended one of Daniela's classes on the subject of working with young clients with scoliosis. Iraina, the mother of one of Daniela's clients, also participated in the class and, along with Daniela, agreed to be interviewed. What follows is the story of her family's ten-day visit to Daniela's home near Tel Aviv, Israel, and the transformation that unfolded for her daughter, Liliana. The change of scoliotic habit described in this story is what we nowadays call neuroplasticity. RAH.

> The object of this learning is to remove outside authority from your inner life and eliminate the old habit of listening to others about your own comfort and convenience.
>
> Moshe Feldenkrais

The Family

Iraina and Igor are intensely proud of their daughter, who I will call Liliana, just as any parents would be if their child had just won a national literary prize.

This girl's "little book" was judged to be the best of the submissions by all children in her age group in the small Eastern European country where her family lives. At school, she is known as an enthusiastic participant in a student painting club. She also loves to dance.

But this picture was entirely different only a short time ago.

Liliana, who today is 12 years old, was only 8 when her parents began to notice that "something might be wrong" with the shape of her spine. Eventually, doctors would tell the family that she had a rapidly developing case of scoliosis and "something had to be done about it." Otherwise, they warned, there would be dire consequences for her health and development. Surgery might be necessary.

The Cheneau corset

Soon the girl was wearing a Cheneau corset that severely limited the mobility of her pelvis and torso for 22 hours a day (for example, she could not fold at the hip joints to reach down and pick up something off the floor). Five days a week

she would travel an hour by train with her grandmother to a "gym" where she would receive an hour of treatment from a physiotherapist and spend another hour in an F.E.D. machine; this meant standing in a cage with her arms draped over bars overhead while cushioned prods pushed into her chest, sides and backs at mathematically calculated angles, quantities of force and durations as prescribed by the assessment of the physiotherapist. The goal of all of these treatments, of course, was to make her spine straighter.

Liliana's parents were uncomfortable with many aspects of the treatment, but felt that they had no choice. Physiotherapy, the F.E.D. machine, and the Cheneau brace were the most highly recommended treatments available, according to the clinicians that they had spoken with, and they had been said to produce good results. On this basis, Iraina and Igor tried to convince their daughter that the intensive routine was the best thing for her.

But, to Liliana, it didn't make any sense. "Because at that age she had no pain," her mother explained. "She had no problems. She did not at all understand why she should do something so exhausting, stressful and time-consuming. She felt like an object - taken from one place, moved to another, and all the adults

FED machine

around her always telling her what to do, what not to do. And she thought, "Why?! I don't have a problem!'"

However, after many months of therapy, Liliana was no longer pain-free. Meanwhile, everyday activities like changing her clothes were an ordeal because of the corset. And the doctors had forbidden her to carry any weight - not even her school bag. When the family would visit with other families with children, Liliana just watched while the other kids ran or played with a ball, activities where her corset was an extreme handicap.

Mindset

In addition to the physical limitations of the brace, Liliana also began to develop what her mother called a "victim mindset. It was as if she was also wearing a corset on the inside." The parents noticed changes in the girl's attitude towards herself. "She began to think that she had a deficit, that she was an ill person. She developed the idea that she couldn't do anything, that she needed help with everything. I didn't like this at all. She was developing limitations in her mind. I was still worried she would need surgery, but I was also worried now about the long-term effect of the corset on her self-confidence."

At a certain point, the girl began to show signs of passive resistance. "She stopped going along with the treatment. She began to tell us that she didn't feel well or had a headache or stomach ache" Iraina remembers.

The mother began to look for alternatives, asking all her acquaintances for any potentially useful information. One day, she heard from some friends who had attended a workshop with "a lady who recommended a very soft approach to working with the body. They were very impressed and suggested that I talk to her to see if there was something she could do for my daughter. I contacted her because I trusted these friends."

This lady was Feldenkrais Assistant Trainer, Daniela Picard. Daniela had been teaching in Eastern Europe, but she lived quite far away from Liliana's family, in Israel.

Daniela

In their first conversation with the "lady with a soft approach", the family began to see that there was, in fact, a very different way to look at the girl's situation. "I told her the status of the kid, what we'd already tried, and how she was doing at that moment," Iraina said. "I think that Daniela saw my daughter a couple of times by Skype also. I wasn't looking for promises - just different ways to approach this thing. I felt that maybe this would be a better way when she told me that my daughter wouldn't wear the corset anymore and that she would be more flexible. At that moment, I had been imagining my daughter would wear the corset for the next 10 years and I was afraid of how this would affect her, so this really opened up new possibilities."

Iraina also remembers that Daniela explained "her philosophy that scoliosis means to stay fixed in one position out of the thousands that are possible. Somehow I found a meaning in that." Up until this moment, Iraina had had a very different idea about scoliosis, based on her interactions with the various professionals that had treated Liliana. "I simply thought that if you have scoliosis, you are an ill person. You have a handicap. Something is wrong with you."

The father, Igor, a family doctor, was also curious about what Daniela had to offer, but wanted more reassurances about this alternative approach that was not backed up by doctors' recommendations or extensive documentation. In one interview, he asked Daniela, "What kind of exercises will you do? Let me understand what you do in a more practical way." The parents were surprised when Daniela described how she might teach the girl to "hide a love letter under her bottom when the teacher is walking by", "reach up to change a light bulb," or "pick a banana from a tree."

At this moment, the couple stood at a crossroads. "We thought, 'we may have an opportunity here,'" said Iraina, remembering their first conversations with Daniela. "We were so scared about the future. On the other hand, we felt very responsible to make the right decisions for our daughter and not to lose time. We worried that making the wrong decision might ruin her life."

Working with Daniela would mean that the family would have to travel to Israel, so exploring this new approach meant taking a serious leap of faith, not to mention substantial costs.

The mother and father didn't always have the same opinion about what might be best for their daughter, Iraina remembers, "but our common ground was that we both wanted what was best for her."

Daniela remembers the same thing, and says that the parents' attitude was an important factor in her feeling that she would be able to help. But she was careful. "I didn't promise a thing," she says. "I just said that I would do my best."

"I told Iraina that her daughter would learn to find support *in herself* - through her vertebral column - instead of in the corset," Daniela recalled. "Having an object that supports and corrects you takes away the possibility of you doing that for yourself. It takes away from you any possibility of improvement."

In the end, Iraina and Igor decided that they would both travel to Israel, and accept Daniela's offer to stay in her house for ten days while she worked with Liliana. "There were a lot of costs, but what counted more in our decision at that point was the possibility to find a valuable, sustainable solution," Iraina remembers. "That was more important to us than the budget or the time we would spend. We said if we go there and it doesn't work, we'll just come back home and return to what we've been doing. There was nothing to lose."

Ten days in Israel

It was an immense pleasure to spend two hours in an online video conversation with Daniela and Iraina as they remembered the events of those ten days when they became close friends and Liliana rediscovered the joys of childhood.

But, at first, the situation did not look very promising.

Despite having been liberated from her corset, past experience led Liliana to be highly skeptical. "If Daniela asked her to do something, like lift her arm overhead, she would do it," Iraina remembers, "but *nothing* else. She was not 100% present in the experience." Daniela wondered initially if the girl had a mental impairment because she seemed so detached and passive, but this didn't fit with the impression she had received by observing the girl during Skype conversations before the visit.

"It was as if the experience of her previous treatments had led her to put her intelligence in a corner," Daniela says. "Her eyes had a kind of fear in them, as if she thought she would be beaten. Later I saw the videos of how an F.E.D. machine works - which is a terrible thing to see - and I began to understand where this feeling may have come from. But, at that moment, all I knew was that she reacted with fear any time that I tried to touch her or asked her to try something out."

Iraina remembers that "when Daniela started to dig a little bit more, asking how she felt about different things, at a certain point she didn't want to cooperate at all." Daniela faced a professional challenge: here were Iraina and Igor, who had not only paid for ten days of treatment, but taken the time and additional costs to come to Israel to do so. But here was Liliana, whose attitude Daniela summed up as "Don't 'therapy' me! Let me be!"

"Looking back from the perspective of today, this wasn't the first time in my life that someone chose me to be the person whom they showed this strong kind of opposition because they felt that they were not in danger," Daniela says.

I think she felt that she was safe enough with me to show this. It wasn't open aggression, it was a passive-aggressive thing. And I don't force people. Many adults allow this to happen, but children are in a position to be more easily forced and then it's my responsibility. If I force a child, I do a very bad thing. The child learns that being forced is part of the experience of life."

But what could Daniela do? The two tools that Feldenkrais practitioners learn in their trainings, the hands-on work known as Functional Integration and the verbally guided lessons called Awareness Through Movement were not an option with Liliana. But as she interviewed the girl, she thought, "if she continues to move like this, she will never improve, and I wanted her to experience something constructive, something creative, and, of course, to improve!"

So Daniela continued to talk with Liliana and her parents, joined them for sightseeing trips during the day and slowly gained the girl's confidence. Liliana asked Daniela to read her stories before bed. "She was afraid of monsters coming to get her during the night.

So she would ask me to sleep there, but after an hour, she would send me away. So I felt that she trusted me, but I was a bit like her boxing bag."

"On a human level things were fine, but professionally it was difficult. I had over twenty years of experience, but actually you are never prepared for a situation like this." Despite everything, Iraina and Igor kept an open mind. "There was no pressure from them for me to produce a result. I don't think it was easy for them to deal with the situation because they were very curious, but they never said, "what have you accomplished today?"

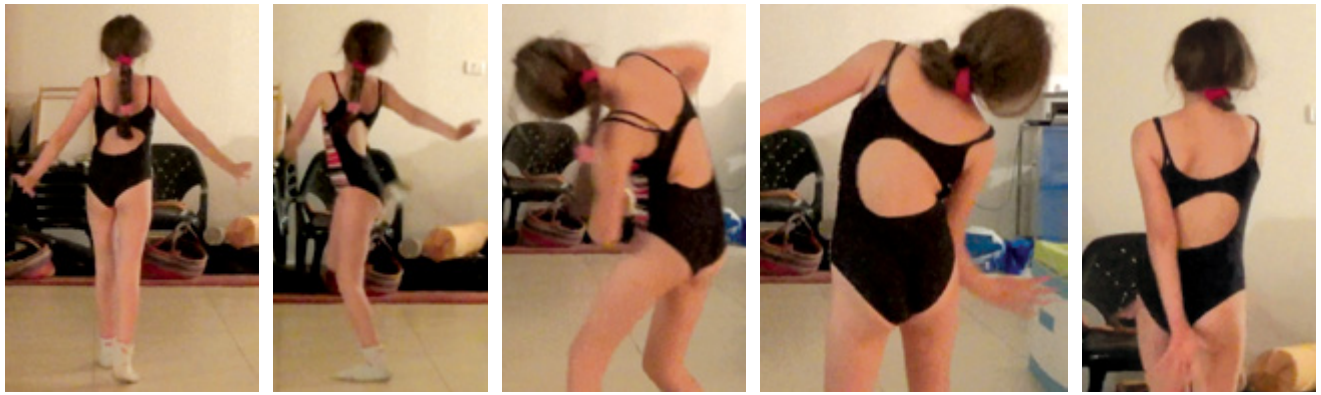
Iraina remembered a similar thing. "I think that week was one of the most difficult weeks in our family's life and one of the most difficult weeks in Daniela's life. I felt this. That's why I felt so grateful at the end because it was a completely different experience than the ones we'd had when interacting with the other therapists. We were there 24 hours a day. Many more things besides her back and the scoliosis came to the surface."

The breakthrough came when Daniela asked Liliana a very simple question: "What do you *love* to do?" At first, Liliana spoke about drawing and writing little stories, but then she mentioned something else: "I love to dance," she said.

The dancer within

Daniela lived in a spacious house at this time and so the adults cleared a space, about 80 square meters. "I think this was the moment when everything clicked for her," says Iraina. "It was a very nice, large space, just for her. She was so happy. Imagine, she had been stuck in that corset for a year. Now she had all the space in the world to move."

Room to dance



Earlier in our interview, Iraina had held up Liliana's corset for me to see it and rapped her fist against the side of it so I could hear the sound of its hard plastic shell. Her daughter "always used to move like this," she said, holding her arms stiffly at her sides and leaning her spine left and right like a stick as walked.

But now, "suddenly she had the possibility to move in any way that she wanted!" Iraina said, jumping out of her seat and beginning to dance, her face illuminated with joy. Liliana had brought some of her favorite pop music and was now allowed to play it as loud as she wished, and simply move. "Daniela danced too. We all danced. It was so much fun! We were in a very good state of mind. And I think this was really the moment that our daughter showed herself to us."

Daniela also remembers how Liliana changed at this moment. "I think she felt appreciated, not pitied. I think she felt this with me, with her mother and with her father."

So this was what the girl would do for the rest of the visit. She danced. And danced. And danced. And suddenly new things were possible. As the grown ups watched, Liliana showed her creativity in inventing new patterns of movement. She did not move randomly but began to create her own little choreographies for the songs she loved the most.

Iraina describes what changed: "A channel opened where things could be introduced to her that were relevant. A door had opened and new things could be allowed to come inside. Daniela could improvise and include things that she thought were valuable for our daughter, making it look like a dance move. *She didn't tell her what to do*, but along with the free movement that she was already doing, she would make suggestions or challenges. 'What if you dance and do *this*? Just try. Can you do it?'"

Daniela remembers, for example, that the girl did many movements with her right arm only, so she asked her to do a special dance with the left arm. At another moment, she asked Liliana if she could dance while sitting in a chair.

Something new was emerging in this girl, like a stem breaking through the surface of soil and beginning to reach upwards toward the sun. And this change permeated through the whole family, something that wasn't a mistake, according to Iraina.

"Daniela treated our family as a system. We were all together and we all wanted to be part of this. We could have stayed outside, but we preferred to be part of the process. I was really grateful for this experience which was also sometimes a very difficult one. Because we were forced to put into words some things about the dynamics of our family relationship. Today, we no longer impose anything on her from this point of view, which is a very big step forward for us as parents."

Before the visit was over, the grownups gave Liliana unexpected and wonderful news about the future "treatment" of her scoliosis. Igor and Iraina would

clear a space in the home where she could play her music and dance. Daniela had said that she should be allowed to dance as often as she wished.

"I think that's the moment when she really relaxed," Iraina says. But, Liliana had also discovered something else about herself. Daniela asked her, "When you get home, would you like to take some dance lessons?" And she said "No, I don't want that. I do not want someone to tell me how to dance. I want to dance like *myself!*"

The grownups had learned something also. "I understood that this freedom is very important for her," Iraina says. "And, later, we saw it in another situation when she returned to painting. We think she has some talent in this area and my husband and I both suggested that she take a class or have someone show her some techniques. And she said, 'No, I want to do this *my* way.'"

Iraina reports that her daughter still dances every day. Two years after the trip to Israel there has been no noticeable advance of her mild scoliosis and her daughter fully participates in all her school activities, including sports. Her confidence grows daily. After winning the prize for her short story, Liliana told her parents that one day she would like to write a full-length book.

And she never returned to therapy. She never again wore the hard plastic corset. In fact, after the trip, Liliana made a surprising discovery. One day she tried to put it on - but her shape had changed so much that the corset no longer fitted!

Lessons

Looking back on what happened, Iraina found many lessons in the story of how her daughter danced her away out of her Cheneau corset. "As a family we learned not to make decisions based on fears of a future nightmare, not to just take the first thing that was being presented to us by the experts because we were scared." When she and her husband decided to take the extraordinary step of flying to Israel to meet Daniela, it was a "meeting of availabilities on both sides."

"Usually, when a doctor or therapist meets a patient, it is a meeting of limitations. The patient goes there with the limitation of having pain in the neck, without the availability to show something else. And there is the limitation of the doctor who is so sure of what is to be done and won't see anything in any other way. So you should only expect limited results!"

"But," Iraina continued, "Daniela didn't take that classical approach of repairing individual body parts. She had a broader approach. I felt that she brought real value to all of our interactions. It wasn't just about Liliana's back or it's position. It was about her whole life."

Daniela explains, "If we take the entire situation into account perhaps we can find out something about what might have triggered a child's situation and use those hypotheses to create experiments. But we should never have only one hypothesis. We formulate several hypotheses and test each one while paying attention to the whole system to see where doors might open that allow for trying something new and possibly improving something."

Iraina, who is a young business coach who also works with children facing challenges in school, thinks that the world would be a better place if more adults would adopt Daniela's systemic approach. "We should look at the whole environment and try to understand the relationships and the dynamics involved. And when

you look at a person, you have to include everything - emotions, thoughts, feelings, her relationship to herself and the world around her - not only the body. If you only try to heal the body and only focus on the body, you probably won't create lasting change."

"I think this is the only way that you can help a child who is facing difficulties, by allowing yourself to go into their flow, not by staying so strictly with what you previously had in mind. What you know as techniques, methods, instruments, these are like the colors of the painter. You have them at hand, but you decide whether to use them and in what combination according to what is happening at the moment."

"And if you work with adults, remember - there is always a kid inside!"

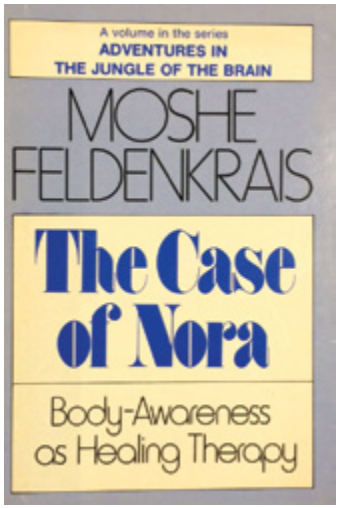
Lessons for practitioners

Looking through the lens of the Feldenkrais Method, Daniela also sees many important lessons, especially for upcoming practitioners. "Sometimes it makes no sense to practice the 'outer form' of the Method," she told me, referring to Functional Integration and Awareness Through Movement. "The biggest gift that Liliana received, something so few of us get, was our *attention*."

Daniela did, in fact, show Liliana some small pieces of ATMs, but they were always dressed up as games, like asking the girl to hide a love letter under her bottom. Iraina later told Daniela, "she only took from you what was playful." Liliana's main motivation to revisit the movements that she had learned in Israel was that she understood that they could help her improve her dance improvisations.

The case of Liliana recalls *The Case of Nora*, the case study written by Moshe Feldenkrais about his work with a woman recovering from a severe stroke. "He did not just do ATM and FI with Nora," Daniela points out. "He was thinking creatively and situationally, and this is what we must do also. Youth scoliosis is a complication that begins very early and the response of the adults involved determines *so much* about the quality of that child's life, continuing into adulthood - physically, emotionally, psychologically and socially. A Feldenkrais practitioner can be that little girl's co-pilot, and positively influence her destiny."

"The first thing I always make clear to the family is that my *client* is the child," Daniela says. "Just because the parents paid, this does not mean that they are directing me. Scoliosis has many possible triggers, including emotional ones related to conflicts in the



family. Maybe a turn in the spine begins when a child is always turning away in order not to see something or hear something or not to be seen. It might be so small that it is just with the eyes, but this can grow into a serious limitation.

"When Liliana's family were in my house, I could feel the tensions and I saw that the girl was naturally prone to make herself small. I have photos of her wearing this corset, with the knees together in a way that would make you think, 'oh, poor girl!' But three days later she was a queen. She was a lucky one because her parents understood many things and *changed* many things. She discovered herself, a new feeling for herself. The more she can take it into life, the more we are sure she will never have a problem again."

In her nearly three decades of practice, Daniela has come to a particular understanding of how to effectively work with clients with scoliosis. “Scoliosis patterns are found in normal movement. There are many ways to create these patterns in ATM. For example, when I lie on my side and take an arm backwards, I make myself into a hunchback - but, one second later, the hunchback goes away! There are 1001 possible ways to create scoliosis. The problem is when we become stuck in just one pattern and don’t know how to move out of it again. So, for these clients, we must help them restore the diversity of movement necessary to ‘make’ every kind of scoliosis.”

Daniela is currently creating a series of ATM classes to demonstrate how it is possible to deliberately move the body in and out of dozens of kinds of scoliotic patterns. She is also planning a multi-day masterclass where she will be able to demonstrate directly how she works with clients with scoliosis But, she says, the story of Liliana already provides the example of an important shift in emphasis that could open new possibilities for any practitioner.

“What I think is important is that in a very short time you can get beautiful results if you know what to address, if you know what questions to ask. Whenever I see posts online by Feldenkrais practitioners describing a client with a certain situation and asking what to do, I always say, “I can’t tell you what to do, I can only tell you what questions to ask.”

“When we work with a child, or even an adult, we can’t always know what triggered the situation that they find themselves in. But that’s not what’s important. *Our main job is to strengthen the inner authority of the person and we don’t do this only through ATM or FI!* We might use those tools, but most of all, we just take an interest in the person and see them in the context of their whole life. And you don’t need to be a psychologist to do it. You just need to trust in your senses and your creativity. Then you will be able to take what you learned in your training, and what you learned from your life experience and find the right path for the specific person. It’s the thinking behind the doing that is really the heart of our Method.”

Readers who are interested to access free video replays of Daniela’s classes, including the seminar about youth scoliosis, can contact Daniela at post@daniela-picard.de

AWARENESS THROUGH MOVEMENT, SELF-DIRECTED LEARNING, ATTENTION, AND NEUROPLASTICITY

A collection of quotes related to simple musings compiled by Zoran Kovich

Zoran Kovich (Melbourne 1991, Trainer 2014) completed a masters degree in cognitive science in 1995, focussing on the relationship between movement, learning and thought. From 1990 to 2009 he taught Feldenkrais-based courses in university performing arts programs. Zoran maintains a practice in Sydney and since 2005 has been facilitating a variety of regular, ongoing post-graduate programs for Feldenkrais teachers. In 2017 he is offering courses exploring the importance of developing attentional skills in ATM practice. RAH.

If we are to take Moshe Feldenkrais at his word concerning what is important in Awareness Through Movement, then promoting ongoing personal growth through self-education is primary, and improvements in movement are merely incidental. One of the many essential skills needed for self-directed learning is the masterful use of attention. Below are some extracts from Moshe's publications on this topic.

THE ELUSIVE OBVIOUS

I believe it is more important to learn the way to learn new skills than the feat of the skills themselves; the new skill is only a useful reward for your **attention**.

By shifting our **attention** to the means of achieving instead of the urge to succeed, the learning process is easier, quieter, and faster.

Do not concentrate, for this means literally not looking around. Concentration is a useful principle sometimes in life, but in learning, **attention** must be directed alternately to the background and the figure. In learning, you have to know first the trees and then the forest where they belong. The shifting from figure to background and vice versa becomes so familiar that one can simultaneously perceive both, without any bothering or striving to be efficient.

I use the word "awareness" as conscious knowledge, and it is not to be mixed up with simple consciousness. I am quite familiar with my house and my library, but I am not aware of how many steps I have to climb to get home. I am conscious of leaving and returning home all through the years, yet I am not aware of the number of steps on the stairs. If I pay **attention** once and count the number of acts, such as shifting the eyes and performing whatever movements may accompany them in my head, arms, and legs, then I become aware that before I was only consciously mounting the stairs. Once I am conscious of how I am shifting my **attention** from one step to the other I am aware of them and I also know their number.

...when your **attention** and awareness are improved ... your judgment will be better, as your sensitivity will increase with the reduction of your efforts.

...spatial awareness is but another facet of your kinesthetic sensation. In well learned intentional movement, **attention** glides so easily from internal contact of muscular sensation to spatial or external contact that we do not feel we are doing it.

We turn our head right and left when there is the most insignificant change in the environment attracting our **attention**...

AWARENESS THROUGH MOVEMENT, SELF-DIRECTED LEARNING, ATTENTION, AND NEUROPLASTICITY

By Zoran Kovich

THE CASE OF NORA

The ability to learn a skill such as right/left orientation needs the childish state of mind, that ability to play while learning the ability to pay **attention**, without intending to learn. It also needs, among other requirements, the ability to feel differences; that is, the ability to distinguish between one sensation and another very similar one. It needs **attention** with intention.

The child does not exercise in the sense a grown-up does, by repeating an action in order to improve it. The child's **attention** is directed by curiosity.

Do you look mostly forward and ignore anything to your left and your right? Do you listen to the space behind you? Do you normally sense what is above you without something attracting your **attention** from above? Well-organized, adroit people do not focus continuously on the ground they tread but only from time to time. Most of the time their senses are diffused, and they see almost everything from left to right. Their ears hear what happens behind them.

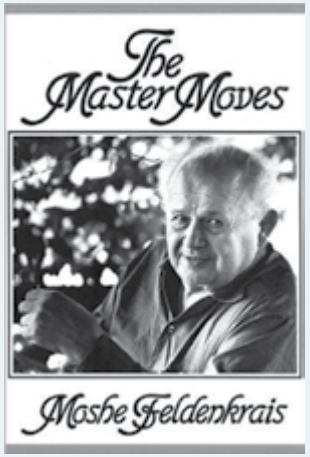
[Group classes are guided] by using speech, though not in the usual way of requiring people to obey instructions. [People in group classes] are not expected to achieve anything; they only have to pay **attention** to the sensory experience of attempting to move.

Here is a particular instance of something very general and fundamental. [A] ...child directing his **attention** to what his eyes see withdraws his watchfulness and becomes oblivious to the greater part of the space around him. Later, he will learn to listen to the information of both his ears and his eyes. He already can **attend** to strong or to optimal stimuli with both senses, but he will have to learn a lot before he can use his undivided attention to detect minimal or barely perceptible changes. He will then listen to his ears and check with his eyes for accuracy and detail.

When we **attend** to what we see, we withdraw **attention** from the greater part of space. A wild animal that has not the awareness of a samurai, knowing what happens behind it and above, cannot last very long. You and I can do what a trained samurai can do. We can restrain and extend our awareness to the objective reality all around ourselves.

If you continue the exercise and rely on your ears exclusively until you can manage for a couple of hours without injuring yourself, you will realize how poorly we use ourselves even when our eyes are open. You will experience not only wider **attention**, but the tonus of your entire being will be heightened to buoyancy and freshness of both subjective and objective reality. Some esoteric disciplines believe that the entire consciousness is raised to a higher level.

THE MASTER MOVES



What I did now was the worst thing a teacher can do. I stretched your **attention** to the point where one of you yawned. And since that person is not sillier than you or I, I assure you that in a minute many of you will yawn because your **attention** is tired out. So if I continue, you will increase your effort and strain and stop

learning. Then you will say, "Oh, yes, I don't remember what he said. He was interesting. That's all (laughter)."

...pay **attention**, which parts actually produce these movements?

...pay **attention** to your breathing...

...pay **attention** again to the parts of yourself that must cooperate.

...if you learn actions symmetrically, you actually hamper your dominant hemisphere from doing its best. Because as soon as the dominant side turns on, you shift to the right, non-dominant hemisphere. But the right side is supposed to do a Gestalt, and the details are removed from your **attention**. Trying to do everything symmetrically makes us symmetrical idiots.

We dedicate time and money to learn, and yet two minutes, an hour later, we haven't got the faintest idea what we have done, nor any idea of what we have learned; why is that so? Because the average human being, in our culture, is unable to fix his **attention** on something for more than three-quarters of an hour usefully. If he does more than that daily he just stuffs himself like someone overeating. The brain gets overfed, and therefore unable to digest anything. You see, Gurdjieff said the mind, our brain, our whatever it is, is just like the digestive function. We eat the same things, which contain a lot of nutrients, yet we grow very differently. When we eat food we first select what we eat, break it down with the violence of our strong teeth, then assimilate what we can out of it, and throw away what is impossible to assimilate.

What we actually count [when we count] are the number of shifts of **attention**; whatever we do, whatever it is, your fingers, your eyes, your hands, we count the number of shifts of **attention**.

We can not shift our **attention** to something that is outside our ability to feel. Now would you please sit, and touch the middle toe, and count one toe to the right and one to the left. Note the clarity of that compared with the wooliness of shifting **attention** to something which you don't perceive clearly.

You can feel it and if you pay **attention** you will find that you know it.

LEARNING TO LEARN BOOKLET

You will get to know new skills as a reward for your **attention**.

A performance is nice to watch when the person applies himself harmoniously. This means that no part of him is being directed to anything else but the job at hand. Intent to do nicely when learning introduces disharmony. Some of the **attention** is misdirected, which introduces self-consciousness instead of awareness.

Do not concentrate if concentration means to you directing your **attention** to one particular important point to the utmost of your ability. This is a particular kind of concentration, useful as an exercise, but rarely in normal occupation and skills.

The best and most useful **attention** is similar to what we do when reading. When we see the whole page, we cannot perceive any of the content, although we can say whether the page is in English or some language we cannot read. To read, we must focus on a minute portion of the page, not even a full line -perhaps, merely a single word, if it is a familiar one and rather short. If we are a skillful reader, we keep on picking out word after word, or groupings of words, to be attended to by our macular vision, which is only a minute portion of the retina, with sufficient good resolution to see small print clearly.

The good way of using our **attention** is, for the most part, similar to reading. One should perceive the background (the whole page) dimly and learn to focus sharply on the point attended (concentration) rapidly

before the next so that reading fluently means reading 200 to 1000 words a minute, as some people can. There, do not concentrate but, rather, attend well to the entire situation, your body, and your surroundings by scanning the whole sufficiently to become aware of any change or difference, concentrating just enough to perceive it.

AWARENESS THROUGH MOVEMENT

There is an essential difference between consciousness and awareness, although the borders are not clear in our use of language. I can walk up the stairs of my house, fully conscious of what I am doing, and yet not know how many steps I have climbed. In order to know how many there are, I must climb them a second time, pay **attention**, listen to myself, and count them. Awareness is consciousness together with a realization of what is happening within it or of what is going on within ourselves while we are conscious.

To achieve a tiny step forward in awareness, such as the understanding of right and left, man must at one time have paid **attention** as he moved, alternately to what went on inside him and in the world outside. This shifting of the **attention** inward and outward creates abstractions and words that describe the shift in the position of his personal world relative to the outer world. Clearly the development of this awareness is bound up with considerable birth pangs, and the first glimmerings of awareness must have bewildered our ancestors many times.

To learn we need time, **attention** and discrimination, to discriminate we must sense This means that in order to learn we must sharpen our powers of sensing and if we try to do most things by sheer force we shall achieve precisely the opposite of what we need.

When learning to act we should be free to pay **attention** to what is going on inside us, for in this condition our mind will be clear and breathing easy to control; there is no tension engendered by stress.

At the end of a lesson that has been properly carried out, you should feel fresh and relaxed as after a good sleep or a holiday. If this does not happen, the movements were probably made too quickly and without **attention** to breathing.

The speed of the exercise should always be adjusted to the breathing rhythm. As the body gains in organization, breathing will automatically adjust itself to the various movements.

...you will have to pay close **attention** to detect it.

...your **attention** is focused on the means by which the action is performed, not on the intention of performing it.

It is easy to shift your **attention** from the aim of a simple action to the means of its performance and to carry out the latter. In a complicated action, the greater the desire to achieve its aim, the greater will be the difference in its performance according to which of the two modes of thinking are adopted. A too-strong wish for the aim often causes internal tension. This tension not only hinders your achieving the desired aim, but may even endanger life—as, for instance, in crossing a road, when the aim is at all costs to catch a bus on the other side and **attention** is diverted completely from the surroundings.

Gradually, by paying **attention**, it is possible to cease ... superfluous and unintentional muscular effort.

Try to recall whether you noticed at the checks carried out earlier after each series of movements that one arm and one leg became progressively longer than the limbs on the other side of the body. Do not try to overcome the sensation of difference between the two sides of the body but allow it to persist and continue to observe it until it lessens and finally disappears. If no

disturbance is encountered that interrupts **attention**, such as annoyance or a high degree of tension, then the difference should remain noticeable for many hours, or at least several. During this period observe which side of your body functions better and on which sides movements are carried out more smoothly.

Raise your head and repeat the previous movement, paying careful **attention** to all details.

Let your **attention** move systematically from one point of the body to the next, but without losing sight of your body as a whole. The sensation conveyed by your whole body will form only a background and will be less clear, of course. It is somewhat like what we do when we read: We see the whole page at a glance, but this impression is not sufficiently clear for comprehension; we can grasp the meaning only of those letters and words that we have seen clearly.

Only the experience of change and close **attention** will convince us to think and direct ourselves differently. Only when this experience of change causes us to discredit and inhibit the accustomed pattern, which now appears invalid to us, will we be able to accept the new pattern as habit or second nature. Theoretically, all that is needed is an effort of the mind, but in practice this is insufficient. Our nervous system is so constructed that habits are preserved and seek to perpetuate themselves. It is easier to stop a habit by means of a sudden traumatic shock than to change it gradually. This is a functional difficulty, and that is why it is important to pay close **attention** to every improvement and to assimilate it after every series of movements. We thus get a double effect on our sensing capacity: the inhibition of the previous, automatic pattern of movement, which now feels wrong, heavy, and less comfortable, and the encouragement of the new pattern, which will appear more acceptable, more flowing, and more satisfactory. The insight thus obtained is not an intellectual one—proven, understood, and convincing—but a matter of deeper sensing, the fruit of individual experience. It is important to know and understand the connection between the change and its causes in order to encourage one to repeat the experience with sufficient accuracy under similar conditions to reinforce its effect and impress the improvement deeply on our senses.

Using muscles without observation, discrimination, and understanding is merely machinelike movement, of no value except for its produce; it could also be obtained from a donkey or even a real machine. Such work does not call for the highly developed human nervous system. The reception of abstract mental impressions remains a mere mechanical process unless time is allowed to let the individual become aware of the fact that he is paying **attention** and that this **attention** is sufficient for understanding. Without this, the impressions will remain a mere recording. The result will at best be a mechanical repetition of the mental process, but without its becoming an integrated part of the personality.

We have earlier referred to the concept of internal and external contact, which includes the transfer of conscious observation from the sensation inside the body to its changes in space outside it. Consider what a painter does when he studies a landscape and tries to draw it on his canvas. Can he do it without paying **attention** to the feeling in his hand as it directs the paintbrush? Can he do it without an awareness of what his eyes are seeing?

We have all experienced an occasion while reading when we had to go back and reread a passage because we read it the first time without paying **attention**. Although we probably read every word the first time, and even formed the words voicelessly, we did not understand or retain anything. What are we actually

noticing during the second reading? Does it really make that much difference that we should observe the workings of our mind while reading?

You will now learn that conscious **attention** to the spatial relationships between moving limbs makes movement coordinated and flowing, and attentive systematic scanning of a part of the body can relax superfluous muscular tension there. Mechanical action does not teach us anything and will not improve ability.

Most of the change has taken place on the side to which conscious **attention** was given. Must we assume that mechanical repetition has no value except to the extent that it stimulates circulation and uses the muscles? Is this why people who do gymnastics all their lives are not much more successful in any constructive activity than those who do not? There are people, on the other hand, who continue to observe the feeling in their body as they did during their period of growth, and they thus continue to learn and change and develop throughout their lives.

Pay **attention** to the movement itself and to its quality, not to moving farther...

The difference that you feel derives from nothing but the changes in the working and organization of the muscles produced by your simultaneous **attention** to their working and the spatial orientation of the parts of your body that you were watching.

These changes have, in fact, taken place in the upper part of your nervous system and not in the muscles themselves, and cover the whole right side. You will therefore be able to observe a corresponding difference in your face, and the right arm and leg will feel longer and lighter. If you look in a mirror you will see that the feeling is not imaginary, for the right eye will really be opened wider, and the folds in the right side of your face less pronounced than in the left.

A person who lies down on his back and tries to sense his entire body systematically -- that is, turning his **attention** to every limb and part of the body in turn -- finds that certain sections respond easily, while others remain mute or dull and beyond the range of his awareness.

THE POTENT SELF

Constant unwavering **attention** is difficult to maintain for long periods...

...we can learn to influence the nervous system by acting on its envelope [the autopoeitic body]. Mental processes are set going together with body action, and by the alternate switching of our **attention** from one plane to the other we obtain a unique mental motivation and feel the muscular sensation of such an act. It is through a series of such successive approximations that we can make sure of the correct use of the internal mechanisms of which we have no direct feeling or knowledge.

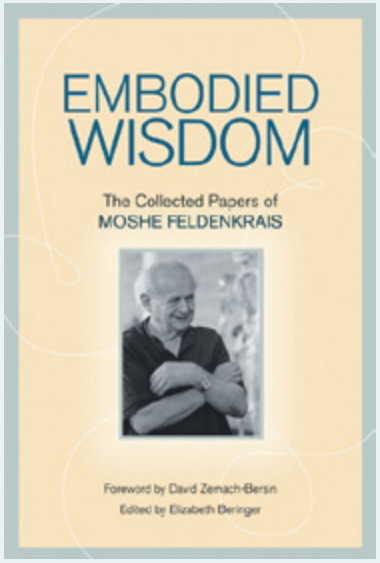
Attention is to be focused now on the way of directing oneself in action. The dynamics of an act change very considerably with the body image of the person. Thus, the person may act with his feet being in the limelight of his **attention**. The feet at once become contracted and play the leading part in the action. The rest of the body adjusts itself so that the feet may follow exactly the trajectory that is mentally projected as a goal to be achieved.

While trying new modes of doing, until the one which is reversible is mastered, direct your **attention** to the sensations of the body. ... [pass most of your time] in quiet **attention** and in a mood of playing about.

BODY AND MATURE BEHAVIOUR

Focusing **attention** on the process of adjustment, rather than on any one particular adjustment, soon proves to

By Zoran Kovich



be a fruitful approach. Not only does it bring within its scope all human activity that needs apprenticeship but some adjustments usually thought to be of little or no importance are given their rightful place.

Direct **attention** to the soma and psyche makes complete functional maturity possible; moreover, re-education is considerably facilitated, hastened, and made to last-or, less dogmatically, has a better chance of lasting.

MIND and BODY (from Embodied Wisdom)

...the lesson is so arranged that without concentration, without trying to sense differences, without real **attention**, pupils cannot proceed to the next stage. Repetition, just mechanical repetition without **attention**, is discouraged, made impossible in fact. Many exercises consist in attending to the means of achieving a goal and not to the goal itself....

BODILY EXPRESSIONS (from Embodied Wisdom)

...movement, by itself, is of small significance beyond certain improvements in circulation and other minor bodily benefits. Hence, the change occurring in two identically moving sides came from paying conscious **attention** to one side and becoming clear about its spatial orientation. It is significant that the change takes place only in the side on which one has focused - a fact which indicates that the change has occurred through extrapyramidal pathways of the nervous system. ... The significance of what this technique causes to happen in the central nervous system is underlined by the fact that one can obtain the same changes on the opposite side of the body by purely mental effort: namely, by directing one's **attention** methodically back and forth to the kinaesthetic sensations of one side then another-without any movement whatsoever.

...there are certain areas of the self-image upon which this exercise in conscious **attention** has special effectiveness.

...we rarely make it a matter of conscious **attention** to see if there is a direct correspondence between our actions and what we intend. Usually, we do little more than move according to the self-image that was formed in us from birth up to about fourteen years of age.

To complete and clarify one's self image by paying **attention** to the spatial and temporal orientation of one's body can bring about a growth in self-knowledge.

Without conscious **attention** to what one is feeling during an action and without applying this **attention** directly to the entire movement resulting from these actions, no development will occur-simple mechanical repetition will never make this come about.

> The faculty of voluntarily bringing back wandering attention, over and over again, is the very root of judgement, character, and will... An education which should improve this faculty would be the education par excellence.
>
> William James
> Principles of Psychology, 1890

AWARENESS THROUGH MOVEMENT, SELF-DIRECTED LEARNING, ATTENTION, AND NEUROPLASTICITY

By Zoran Kovich

Moshe was not alone in his appreciation of the significant role attention plays in learning. As historically tends to be the case, empirically derived practice precedes explanation, and it is only in recent years that scientific research is gathering evidence that supports what all experienced, wise teachers have known for centuries -- that attentional abilities matter in life-long learning. If we assume a materialist conception of mind, then neuroscientific research is unveiling that which has been the case all along: learning is identical to the functioning of a neuroplastic brain/nervous-system, and attention -- a phenomenon yet to be adequately explained neuroscientifically -- is a major 'driver' of neuroplastic change. Below is an edited extract from *Train Your Mind, Change Your Brain* (Ballantine 2007) by Sharon Begley (pp.156-160).

Even though neuroscientists don't exactly know how mind influences brain, they have evidence that it somehow involves paying attention. ... Because a conscious, awake mind is bombarded by countless bits of sensory information every second, billions of neurons are 'tickled' all the time. ... Without attention, information that our senses take in -- what we see and hear, feel, smell, and taste -- literally does not register in the mind. It may not be stored even briefly in memory.

What you [sense] is determined by what you pay attention to. ... Basically, neurons compete. ... Paying attention physically damps down activity in neurons other than those involved in focusing on the target of your attention. Everything we [sense] has a multitude of attributes... Attention can strengthen the activity of one bunch [of neurons] compared to another. ... The intensity of activity in a circuit that specializes in a particular ... task is amplified by the mental act of paying attention to what that circuit specializes in. Remember, the [sensory] information reaching the brain hasn't changed. What has changed is what the ... person, is paying attention to. Attention, then, pumps up neuronal activity. Attention is real, in the sense that it takes a physical form capable of affecting the physical activity of the brain.

Attention is ... indispensable for neuroplasticity. Nowhere was that shown more dramatically than in one of Mike Merzenich's experiments with monkeys. The scientists rigged up a device that tapped the animals' fingers one hundred minutes a day every day for six weeks. At the same time as [the their fingers were being tapped], the monkeys listened to sounds over headphones. Some of the monkeys were taught - pay attention to what you feel on your fingers, such as when the rhythm changes, because if you indicate when it changes, we'll reward you with a sip of juice; don't pay attention to the sounds. Other monkeys were taught pay attention to the sound, and if you indicate when it changes, you'll get juice.

At the end of six weeks, the scientists compared the monkeys' brains. ...every monkey, whether trained to pay attention to what it was hearing or what it was feeling on its fingers, had the exact same physical experience -- sounds coming in through headphones plus taps on its fingers. The only thing that made one monkey different from another was what it paid attention to.

Usually, when a particular spot on the skin suddenly begins receiving unusual amounts of stimulation, its representation in the somatosensory cortex expands. ... But when the monkeys paid attention to what they heard rather than to what they felt, there was no change in their somatosensory cortex -- no expansion of the region that handles input from the finger feeling the flutter. Yet the only difference between the monkeys whose brain had changed after tactile stimulation and monkeys whose brain remained the same after identical stimulation is that the former paid attention to the taps. ...in those monkeys that paid attention to the

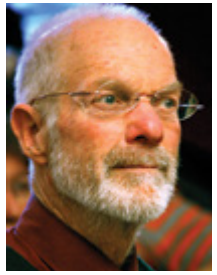
sounds, even though their fingers were stimulated, this finger region didn't change at all. ... All that stimulation made no difference because they weren't paying attention to it." But in monkeys that did pay attention to the fluttering on their fingers, their state of mind made a huge difference: the amount of cortical area devoted to the fingers increased two-to threefold.

The same thing held true for listening. In the monkeys who paid attention to the sounds, the region of their auditory cortex that processes the frequency they heard increased. But in monkeys who heard the exact same sounds but who paid attention to the finger flutters, their auditory cortex showed no change. "It's a beautiful experiment because it's showing the pure effect of attention... The stimulation was the same. The only thing that was different was what the monkeys were paying attention to. ...

Looking back on the discovery of the importance of attention in neuroplasticity, Merzenich and a colleague wrote in 1996, "The pattern of activity of neurons in sensory areas can be altered by patterns of attention. ... Experience coupled with attention leads to physical changes in the structure and future functioning of the nervous system. This leaves us with a clear physiological fact ... moment by moment we choose and sculpt how our ever-changing minds will work, we choose who we will be the next moment in a very real sense, and these choices are left embossed in physical form on our material selves.

...attention works like a gate, to open and let more neural information in. People think attention is some kind of a psychological construct, but you can touch it. It has an anatomy, a physiology, and a chemistry. ... In many ways, attentional training can be thought of as the gateway to plasticity. Attention seems to develop over the course of many years... Drawn-out development is the mark of a brain system that displays

high levels of neuroplasticity. Attention should therefore be trainable... The ability to pay attention selectively, ignoring distractions, develops throughout childhood at least until adolescence... So does the ability to shift attention quickly and efficiently. Indeed, the strength of brain signals associated with the perception of something to which you are not paying attention decreases with age, reflecting greater ability to suppress unattended inputs. ■



NEUROPLASTIC (?) ATMs and FIs Or those that "evoke the nervous system"

By Ralph Hadden

Each issue of *Feldenkrais Australia* has a theme and for each issue I ask for suggestions of ATMs and FIs relevant to that issue. Last year's journal, for example, had the theme "The Hand" and I published ATMs for the hands, contributed by Australian feldy readers and international feldies on Facebook. So, this time around, I floated a request for "neuroplastic" ATMs and FIs. But I got a mixed and questioning response. "All ATMs and FIs are, or can be, neuroplastic", was the general tone of the responses.

Lesley McLennan (Melbourne 1991) expressed it rather well, in a discussion on the *Feldenkrais Practitioners Around the World* Facebook page. Here is an extract from her comments: *As I understand it, it is highly UNLIKELY that any neuroplastic change will occur if I already do movement sequence relatively well – because no change may be needed! No matter what the lesson, it may not be novel for me, I may not increase my attention level adequately and enough neurons may already have fired and wired together – for whatever sequence is being done. Neuroplasticity does not lie in the lesson but in the needs of the individual…* (you can view this discussion by going to Facebook, Feldenkrais practitioners around the World (https://www.facebook.com/groups/233328146712410/), and searching under the term "Ralph Hadden". It's worth joining this page, by the way. Many useful resources and interesting discussions are posted there.)

So, on thinking it over, I have put a question mark next to "Neuroplasticity", rephrased my ATMs and FIs request and revised my criteria. I recall that trainers Julie Peck and Arlyn Zones ran an Advanced Training in Melbourne in 2010 entitled *Evoking a Response from the Nervous System*.

I reported on this workshop in VIC NEWS August 2010. Here's an extract:

Julie and Arlyn invited us to consider FI approaches that evoked responses in the nervous system. That is rather than directly modeling an action for the client, by moving them through that action we explored less direct, but in many ways more powerful, ways of working.

We viewed several videos of Moshe doing FIs in Amherst. Their common theme was, it seemed to me, that Moshe worked mostly around the head and neck, and around the feet, that is at either end of the body, but the results were improvements in the organisation of the entire body.

Julie and Arlyn taught several "evoke nervous system" type ATMs during the workshop and there was also a group brainstorm in which we composed a list of our favourite ATMs of this 'genre'.

So, guided by Julie and Arlyn, my re-phrasing uses their workshop title. My criteria for these ATMs and FIs are that they are less directly physical and more indirect, utilizing the responses of the nervous system to produce useful learning and change. They all seem to involve smaller movements &/or more visualizing &/or more sensing. What do you think? Are there any

other lessons you would add to this list? Would you have different criteria?

ATMs

Here are the lessons Julie and Arlyn taught in that 2010 *Evoking a Response from the Nervous System* workshop:

Alexander Yanai 175 *Turning in the heels, part 1*

AY 433 *Edges of the Feet*

AY 100 *Cardinal Head Movements*

AY 110 *On the Back; Twisting the Spine with the Head Fixed*

Moshe at Esalen (?) *Arch back, head back, drop jaw, protrude tongue*

AY 112 *A Plane Dividing the Body, part 1*

Last day of Amherst 1980 *Review of Principles*

And here is the list from the group brainstorm from the same workshop (and I'm sorry, I don't have sources for some of the lessons named):

AY 14 *Rolling the head between the hands*

AY 29 *Minimal lifting*

AY 124 *Dominant hand*

AY 337/346 *Knots / Knots-crotches*

AY 359 *Tanden with leg bending*

ATM book lesson 9 *Spatial Relationships as a Means to Coordinated Action (nose clock, paintbrush)*

AY 256 *Lines crossing and balancing the body* (Julia Broome taught a very nice version of this at Melbourne FIG in May 2010)

Eyes "around the room"

Bell hand with rolling

Pushing through the foot to the diagonal- rolling along the diagonal lines (worms) (?)

Dominant hand exploring the face

AY 180 *Breathing rhythmically*

AY 378 *Bending the toes*

AY 26 *Pearls and eyes*

Some other suggestions:

Felicia Trujillo proposes the term "neurological gestalts", a term she coined in the 1980s. As an example of this sort of ATM she says: … *but also moves like mini-raises of the head 20 times whilst only thinking of the left side = immediate changes to the left side*.

There is quite an interesting discussion on the *Feldenkrais practitioners around the World* Facebook page in response, too much to include here. Follow this link (https://www.facebook.com/groups/233328146712410/search/?query=ralph%20hadden) to read the discussion.

Get the good side to do it badly. This is an approach I learnt from Ruthy Alon, almost thirty years ago. It can be utilized in many ATMs and also in FI. Explore a movement, discover it is better on one side, do the movement on the less good side, observing the difficulties. Then get the better side to do the movement again, imitating the difficulties of the 'bad' side. Return to moving the 'bad' side and very often you discover the 'bad' side has improved.

This can be used in FI with someone who has had a stroke and is disabled on one side: ask them to get their 'good' side to imitate the disabled side and there can be a resulting improvement in the disabled side.

FIs

The Artificial Floor was suggested by several feldies.

Switch Standing Leg is an FI sequence I've seen taught by Larry Goldfarb in trainings.

Good side do it badly (see above).

Balance on roller(s)

Your suggestions?

READING LIST, RESOURCES

Books

- Norman Doidge (of course) *The Brain that Changes Itself* and *The Brain's Way of Healing*. The second book includes a marvellous chapter on Moshe Feldenkrais and the Feldenkrais Method® and another chapter on David Webber who used Feldenkrais, and other methods, to recover full visual ability after becoming legally blind. I think Doidge's books are essential reading for all Feldenkrais practitioners. Firstly because they explain neuroplasticity so well and secondly to prepare to answer enquiries from clients who have read the books and have been led to try the Feldenkrais Method®.
- V. S. Ramachandran, e.g. *Phantoms in the Brain* (with Sandra Blakeslee) and *The Tell-Tale Brain: A Neuroscientist's Quest for What Makes Us Human*. A quote from *The Tell-Tale Brain*: "Indeed the line between perceiving and hallucinating is not as crisp as we like to think. In a sense, when we look at the world, we are hallucinating all the time. One could almost regard perception as the act of choosing the one hallucination that best fits the incoming data."
- Dan Siegel, e.g. *The Developing Mind* and *Mindsight*. Joan E Farkas says Siegel's books were required reading in her training
- Books by Stanislas Dehaene on neurology of reading, language, mathematics, learning. Recommended by Audrey Wilmot: "Maths implies vision-hand coordination, spatial awareness" says Audrey. "I think body awareness can relate to learning geometry."
- *Soft Wired* by Dr Michael Merzenich, "focusses on brain plasticity across the lifespan" says Carol McAmis. "Another book that opened my understanding of what happens in a Feldenkrais lesson is *Mind Sculpture* by Ian H Robertson.
- *The Mind & the Brain, Neuroplasticity and the Power of Mental Force* by Jeffrey M. Schwartz and Sharon Begley.

Podcasts (subscribe for free on iTunes)

- *Brain Science* with Ginger Campbell. Natalie Shaw: "Ginger Campbell is an MD who really knows her stuff. Interviews and reviews of the latest coming out of the fields of cognitive development, neurology and neuroscience."
- *All in the Mind* with Lyn Malcolm, ABC RN. Has interviewed Frank Wildman and Norman Doidge.

YouTube

- Neuroscientist Dr Michael Merzenich PhD interviewed by Cliff Smyth in 2012. Merzenich was the keynote speaker for the 2012 Feldenkrais conference in San Francisco. Here he discusses neuroscience in relation to the Feldenkrais Method®: https://www.youtube.com/watch?v=rupZ-wlRdA0

TV documentary

- *The Brain's Way of Healing* has now become a film, released in Canada on CBC-TV on the venerable David Suzuki's program *The Nature of Things*. It includes the wonderful story of Moshe's work with a severely handicapped girl and his statement to the parents that "She will dance at her wedding." The film shows the girl, years later, yes, dancing at her wedding. It brought tears to my eyes. Season 56, episode 4 of *The Nature of Things*. Click here (zilli.tv/video/the-nature-of-things-the-brains-way-of-healing-season-56-episode-4-full-episode/) to link to the video. ■

TRAININGS

SEAUS 1 - MELBOURNE AND SYDNEY

Heading into 3rd year 3 -weeks at Box Hill (Melbourne) in January 3rd -20th

Julie Peck will teach the first 2 weeks and Stephanie Spink the third week.

Schedule for rest of the year:

Melbourne

Shared Segment
Jan 2-6,9-13,16-20
Trainer Julie Peck / Stephanie Spink

Local Segment
Apr 1-8
Trainer Zoran Kovich

Local Segment
Jul 2-7 and 10-15
Trainer Susan Hillier / Zoran Kovich

Local Segment
Sep 30 - Oct 7
Trainer Julie Peck

Sydney

Shared Segment (Melbourne)
Jan 2-6,9-13,16-20
Trainer Julie Peck / Stephanie Spink

Local Segment
Apr 22-29
Trainer Zoran Kovich

Local Segment
Jun 25-30 and Jul 3-8
Trainer Susan Hillier / Zoran Kovich

Local Segment
Oct 14-21
Trainer Julie Peck

Contact Jenni Evans jenni@feldebiz.com.au. Reviewers and visitors welcome. ■

SEAUS 2 - MELBOURNE AND OTHER CITIES IF ENOUGH STUDENTS

New Training starts January 9th – 27th at Box Hill (Melbourne) Some segments may also be offered in other cities depending on student numbers.

Susan Hillier and Zoran Kovich will teach the first segment. Reviewers welcome and visitors after the first week.

For the rest of the year:

Segment 2 (Shared)
Jan 9-27
Trainers Susan Hillier, Zoran Kovich

Segment 3 (local)
May 1-12
Trainers Zoran Kovich

Segment 4 (local)
Sept 18-29
Trainers Stephanie Spink ■

PERTH 3

The venue is Centre for Movement Studies, Shenton Park, Perth

Contact: Sara Elderfield

MOB: +61 415 363 313

Email: sara@yogamoves.net.au

Website: www.yogamoves.net.au

Segment 16
9-20 January
Trainers Arlyn Zones, Julie Peck

Segment 17
4-6 and 10-12 March
Trainer Julie Peck

Segment 18
17-28 April
Trainers Stephanie Spink, Julie Peck

Segment 19
5-9 July
Trainer Julie Peck ■

NEW ZEALAND 5

In Auckland, practitioners and makeup trainees welcome. Educational director Stephanie Spink.

Segment 4
1-26 February 2017
Trainers Zoran Kovich, Jeff Haller

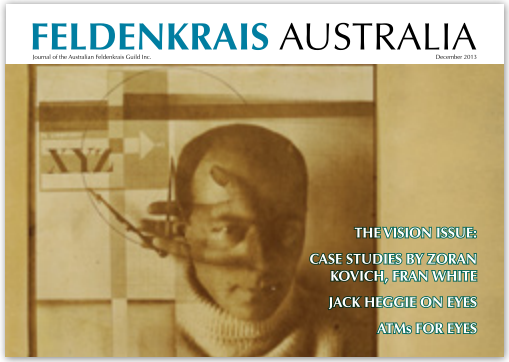
Segment 5
1-26 July
Trainers Larry Goldfarb, Susan Hillier

Contact Beverley Barclay admin@feldenkrais-training.nz
■

PAST ISSUES

Feldenkrais Australia Journal, May 2013

You can read past issues of this journal, and previous eNews bulletins on the AFG Inc website. Go to the AFG Inc website: http://www.feldenkrais.org.au/, and click on 'Member Login' on the top right. Click on the "News & Events" menu and click on "Past Newsletters".



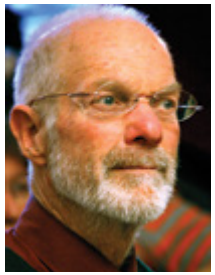
Feldenkrais Australia Journal, December 2013

Feldenkrais Australia Journal, November 2014

Feldenkrais Australia Journal, June 2014

Feldenkrais Australia Journal, October 2015

NEXT ISSUE



SEXUALITY : CONTRIBUTIONS INVITED

By Ralph A Hadden

Sexuality was deemed a very important aspect of human health by Moshe Feldenkrais and featured particularly in *The Potent Self*. But it seems to have been considered very little by his successors. I offer a very popular workshop, *Sex, Gravity & the Lightness of Being* here in Melbourne and American trainer Donna Ray has produce an audio set of lessons, *Sex, the Feldenkrais Way* but apart from that I don't know of any Feldenkrais practitioners in the world who are dealing directly with sexuality. Perhaps you can enlighten me if I am missing something.

I invite your contributions on this theme, and on any other topics, for our May 2017 issue. Also welcome:

- Book reviews, including of Mark Reese's magnificent biography of Moshe Feldenkrais.
- Reports on workshops and Advanced Trainings
- Case histories, stories
- Moshe anecdotes
- ATMs, FIs with an application to sexuality
- Recommended reading
- Links to YouTube or other web resources

Contributions, reports, debates and arguments on other topics are also, of course, very welcome.

To submit a report on a workshop, training or event, follow this JotForm link, it makes it easy for you to do all the required bits for an article, report, comment or whatever you wish to offer: http://jotform.co/form/40381389362862

Next issue published in May-June 2017, deadline for contributions is 31st March 2017.

Suggestions for future themes, comments, feedback, compliments, complaints? Email me, Ralph Hadden: nationalnewsletter@feldenkrais.org.au or post a comment on the Feldenkrais Australia Facebook page: https://www.facebook.com/FeldenkraisAustralia

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