

## The Evolution of Somatic Education Techniques

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Thomas Hanna traced his lineage of somatic education back through two primary teachers: F.M. Alexander (The Alexander Technique) and M. Feldenkrais (Functional Integration). Though he acknowledged other teachers as well (Hanna: 1990), these are the two he cited as most central to his lineage. All of the developments in the field entailed two aspects: sensory awareness and motor (movement) control, with differences being a matter of emphasis and technique.

We will use the teachings of Alexander and Feldenkrais to illustrate the development of somatic education techniques and the principles that underlie them.

Alexander and Feldenkrais developed two primary techniques, "means-whereby" (Alexander) and "kinetic mirroring" (Feldenkrais) (Hanna's terms). To these techniques, Hanna added a third, "assisted pandiculation" (my term), which he designated as the primary clinical technique used by Hanna somatic educators (Hanna: 1990), the preceding/earlier techniques standing as preparatory steps often used before assisted pandiculation.

This paper considers the three techniques on an evolutionary continuum and shows how they evolved, one into the next. It goes on to include some additional techniques of my own. By considering this evolution of techniques, we bring added understanding, and therefore more skill, to their use.

### Means-Whereby

"Means-whereby" entails developing a heightened kinesthetic awareness of the means by which an action (movement) is carried out.

Alexander's use of the technique entailed three elements: verbal instruction, inhibition of action by the client, and hands-on guidance into the action by the Alexander Technique teacher. By means of this combination, Alexander's technique sought to replace the client's habitual response to a verbal command to move with something else – a more efficient movement pattern provided by the Alexander Technique teacher. For that movement which the client inhibited, the Alexander Technique teacher provided a replacement, linking the new way of moving to the verbal command.

It was Alexander's operating premise that inhibition of habitual action patterns would create "room" for the sensations of a new action pattern to fill, to be learned by the client/student.

As a method of proprioceptive instruction, Alexander's technique requires much repetition. This repetition involves, necessarily, movement both into and out of, or toward and away from, a specific direction of movement – opposite/contrasting kinesthetic experiences. It is a somatic principle that somas perceive by means of contrast.

It is, in large part, the alternation between opposite kinesthetic experiences that provides the necessary contrast for sensory perception and learning to occur; to distinguish sensations requires contrast. This is the perhaps-unsuspected underpinning of repetition as a means of learning: contrast.

## Kinetic Mirroring

Where Alexander's technique requires repetition, Feldenkrais' method of kinetic mirroring (also known as "substituted effort" and "strain-counterstrain"; Upledger's somato-emotional release uses the same technique) uses prolonged time in a passively contracted position to permit new sensation to surface. "Passively contracted" means that the practitioner brings the client passively into a position that brings the ends of contracted muscles closer together, passively shortening the muscle(s).

In this novel mode of positioning, the sensation of "shortening without effort" is a novel sensation that stands in contrast to the usual sensation of "shortening by means of habitual effort."

The principle of "perception because of contrast" persists in this technique, with prolongation of time in a novel position substituting for repetition, in helping sensation to surface into perception.

What may be unrecognized about kinetic mirroring is that every movement into position is followed by a movement out of the position. It is this movement out of position that constitutes the "mirroring" of kinetic mirroring.

Repetition does show up in Functional Integration Awareness through Movement exercises ("ATMs"), but this repetition shows up as actions done by the participant, rather than by the practitioner/teacher (as it is in Alexander technique, with the student inhibiting his/her habitual way of moving so the teacher can substitute a new way of moving). The effect of this repetition in ATMs is to bring heightened awareness to the action, but not necessarily to change the action pattern, its kinetic organization (although that is hoped for).

The combination of the two approaches, however -- kinetic mirroring followed by ATM exercises -- does change how the client organizes (and therefore performs) movement, and this organizing is not a mental effort, but a learned feeling of movement.

This pattern of change of organization followed by reinforcement shows up in Hanna Somatic Education, which I will discuss next.

## Assisted Pandiculation

Thomas Hanna described pandiculation as an action pattern of strong muscular contraction followed by slow release, one that provides sufficient sensory stimulation to refresh (or forge) the connection between sensory and motor neurons in the brain, and so enhance awareness and control of movement. In its clinical form, Assisted Pandiculation, the technique involves alternation into and out of the action pattern in a similar way: contraction, controlled release.

Unlike means-whereby, in which the practitioner substitutes a more efficient movement pattern for the client/student's inhibited pattern, in Hanna somatic education, the client performs the habituated movement pattern while the Hanna somatic educator opposes the movement by matching, hands-on resistance.

Unlike kinetic mirroring, in which the practitioner does the movement for the student/client (who is passive), in Hanna somatic education, the client does the movement actively in Assisted Pandiculation.

Instead of sensory magnification coming from repetition (Alexander) or prolonged time in a position (Functional Integration), it comes from the HSE client's own heightened effort, as the Hanna somatic educator carefully opposes his/her action.

Instead of the contrast being between the inhibited, habitual action of the client and the substituted action provided by the teacher (means-whereby), it is between the usual amount of effort needed to move and the added effort of moving under resistance (assisted pandiculation). The contrast heightens sensory awareness; the effort heightens motor control.

Instead of the contrast being between contraction at a certain level resulting in a certain muscle length (the habitual state) and the same amount of contraction resulting in an unusually short muscle length (kinetic mirroring), it is between contraction at a certain level resulting in a habitual muscle length and the same amount of contraction resulting in an unusually long muscle length for the amount of contraction (assisted pandiculation). The novelty of the sensation, either way, permits a fresh impression to be made on the nervous system, permitting new learning.

The slow relaxation phase of assisted pandiculation occurs under heightened sensory awareness. To lengthen muscles by means of voluntary, partial relaxation in movement teaches the sensations of relaxation, and, oddly, associates the sensation of partial contraction with the sensations of relaxation (elongation), "slipping" the action of relaxation "under the radar" of self-regulated habit. Thomas Hanna referred to a conversation with a German colleague, who called this situation, "paradoxicalish". So, in some sense, assisted pandiculation is learning-freedom-by-paradox. (Let it go.)

Assisted pandiculation combines sensory magnification with the full range of muscular activity, from full contraction through relaxation, to promote learning.

Like Functional Integration, HSE uses the clinical technique of first dissolving an old pattern and then reinforcing a new one – in this case, it uses assisted pandiculation followed by somatic exercises.

## **The Difference between ATMs and Hanna somatic exercises**

A difference of emphasis exists between ATMs and Hanna somatic exercises (HSEs). ATMs tend most often to increase sensitivity to small elements of movement; HSEs do the same thing as a preliminary step, but then add another step: integrating the smaller elements of movement into larger, coordinated patterns. An HSE movement

lesson then often synergistically combines complementary action patterns (movements) into a single lesson involving whole-body actions.

It is this second step of integration that makes Hanna somatic exercises capable of changing patterns of organization, as well as of reinforcing the new freedom obtained through assisted pandiculation.

## My Own Addition

In my practice of somatics, I have come across some new distinctions and some new methods of sensory-motor learning, which I share now.

First, the distinctions, which bear upon the learning process.

In my view, the process of learning involves more than two steps – differentiation and integration; it involves four – awakening, differentiation, integration, equilibrium.

I have an explanation for the two added stages.

“Awakening” refers to sensory awareness, as is evoked by means-whereby or demonstration. Awakening does not imply control, just awareness of a potential.

“Differentiation” refers to the ability to distinguish something clearly from other things and to control it distinctly, without involving excess or irrelevant effort inadvertently dragging other things in. It implies an efficient one-part action.

“Integration” means, once distinct control is possible of two or more parts, combining those two parts into a two-or-more-part action into what is felt as a single action – coordinated action.

“Equilibrium” means refining that coordinated action so that its multiple parts are well-regulated and balanced in relation to each other, such that minimal attention is needed to carry out the coordinated action. It’s easy.

The difference between “integration” and “equilibrium” may be seen as the difference between nominal competence and mastery. Nominal competence gets the job done; mastery makes it look and feel easy.

It is my view that before we can learn anything new, we need enough free attention to be able to attend to and absorb it. In nominal competence, a lot of attention is used up managing the action; it’s not so easy, in that condition, to absorb anything new. In mastery, a lot of attention is now available to look for “the next thing,” so it’s a lot easier to absorb something new. In other words, it’s easier to take the next bite once you have thoroughly chewed and swallowed the last one.

Once a person has reached the “equilibrium” stage of mastery, (s)he is ready for more, and process starts again with awakening to a new potential. In other words, learn something well before moving on. The added benefit of doing so is that to learn something well gives us a “benchmark” for recognizing our degree of mastery when learning something else.

So, now, the techniques. I have discovered two, which I have named "The Syncopation Technique" and "The Equalization Technique."

### **The Syncopation Technique**

The Syncopation Technique is a prelude to The Equalization Technique. It involves alternating between two actions or strategies for creating the same result or effect. As an example, Lesson 3 of the Myth of Aging exercise series contracts the waist on one side either by lifting the foot of the top-side leg or by lifting the head of the same side. The Syncopation technique involves alternating the two actions until we have equal facility with both.

In practice, we do one action and hold the contraction, then add the other action until we can feel both actions contributing to the intended effect – in this case, contracting the waist. We then relax the first action, in effect passing control over the waist (in this example) to the second action. Then, resume the first action until the two actions meet, and relax the second action.

So it's like this:

1. First action creates an effect
2. Second action creates the same effect.
3. First action relaxes,
4. First action resumes.  
Both actions reinforce the same effect.
5. Second action relaxes.
6. Second action resumes.  
Both actions reinforce the same effect.
7. First action resumes ...
8. And so on, alternating.

The alternation creates a contrast between the two actions, so you can adjust your control over each. That's the syncopation technique.

It appears in primitive form in the Trauma Reflex lesson, second maneuver, in which the client pulls their shoulder toward their hip joint and lifts the same-side foot, then lets the foot down in thirds, one third for each contraction and complete elongation of the arm and shoulder. Remember?

### **The Equalization Technique**

The Equalization Technique entails matching the efforts of two or more actions by feel, generally adjusting the stronger action(s) to match the milder action.

This technique resets the balance and resting tonus of muscles involved in a two-part, synergistic action. Otherwise, imbalances of control result in imbalances of resting tonus that do not resolve by repetition of a movement pattern.

For example, in walking, some people “walk with their legs” without much movement of thorax or shoulders; others “walk with their shoulders” without much movement of the pelvis. Both types tend to hold excessive tension, either in the pelvic girdle or in the shoulder girdle, and to lack good control at the somatic center. The Equalization Technique, by balancing the two girdles, brings control to where the two centers of action meet – at the somatic center. Major changes of movement, and higher efficiency, result. The Equalization Technique can be found in many of my programs, including a brief one, “The Five-Pointed Star.”

## Recap

In this paper, we have traced the evolution of somatic education techniques from Means-Whereby (Aleander) through Kinetic Mirroring (Feldenkrais), Assisted Pandiculation (Hanna), and the Equalization and Syncopation Techniques, showing how the principle of “perception by contrast” and the inter-relation of sensation and movement apply throughout.

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Hanna, T. *Clinical Somatic Education – a New Discipline in the Field of Health Care*; SOMATICS, Magazine-Journal of the Bodily Arts and Sciences, Volume VIII, No. 1, Autumn/Winter 1990-91