

MIND AND BODY

Two lectures delivered by Dr. Moshe Feldenkrais at the Copenhagen Congress of Functional Movement and Relaxation

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(Summary and relevant quotes by Ilana)

Lecture I deals with theoretical and scientific issues, Lecture II with some of the main principles of the two "**Techniques**" which Feldenkrais presents as: "**Individual Teaching**" (later to be called "Functional Integration") and "**Group Techniques**" ("Awareness Through Movement").

Even though they document a relatively early stage in the development of the Method, these lectures seem to be of some relevance with regard to our first two questions:

"What is Moshe's definition of awareness and how did he "teach" it?"

"What environment nourishes awareness?"

Lecture I

Unity of mind and body – an objective reality

Feldenkrais boldly takes a stance against behaviourism (still prevalent at that time) by declaring that the unity of mind and body is "*an objective reality*": body and mind form an "*inseparable whole while functioning*". This is illustrated by a few concrete examples. Mentally counting (or simply thinking of the numbers) from 20 to 30, for instance, takes longer than from 1 to 10. The discrepancy is due to "*the linkage of the motor parts of vision and verbalization keeping down the speed of thought to the rate of the motor elements*." Improvement in speed and clarity of thought is possible if the extent of motor movement is reduced and muscular controls become smoother.

The power of habit

Referring to relevant research (and again concrete examples) Feldenkrais now explains how continuity of thought and action depends on continuously manifesting specific muscular patterns of which each provides the "cue" for the next. For example, if you try to recall a forgotten poem, nursery rhyme, or melody and observe what happens you will discover that everything will go smoothly as long as you keep finding the appropriate muscular cue for the mouth and vocal chords. However, when you reach a place where the burst of consecutive cues comes to a halt there is a sudden break in the flow. If you keep mumbling for a bit, searching for another cue, you may be lucky; that cue will start you off again. This is how habits get established. The same thoughts, moods, and modes of action persist in whatever we do (in our voice production, handwriting, posture, attitudes etc., even in our jokes). In other words we function more or less "on automatic" like robots, until the accustomed sequence of cues happens to break down.

The state of consciousness

"We have no sensation of the inner workings of the nervous system; we can feel their manifestations only as far as the eye, the vocal apparatus, the facial mobilisation, and the rest of the soma provoke our awareness. This is the state of consciousness."

Hence: "*Motor function and perhaps the muscles themselves, are part and parcel of the higher functions in men*". (Higher functions - apart from singing, painting, loving etc. - include thinking, recalling, remembering, and feeling).

Becoming conscious of emotions

The realm of feeling is explored in more detail. Emotions manifest themselves through very specific motor patterns which demonstrate to everybody around whether a person is happy, angry, or afraid etc.

The question: "Which comes first – the motor pattern or the feeling?" – is answered unequivocally: "*They are basically the same thing. We cannot become conscious of a feeling*

before it is expressed by a motor mobilisation and therefore there is no feeling so long as there is no body attitude."

The most significant parts of the body through which a practitioner can effect striking changes of mood are eyes, neck, breath, and pelvis.

Re-education – simultaneous change in body and mind

Real change is only possible if both body ("soma") and mind ("psyche") change simultaneously. If the approach is through one of these aspects separately, change will only last until the person begins reacting once again in the accustomed, habitual fashion. *"Change will only last as long as the person has not lost the awareness of the change."*

Choice - volition

"Scanning one's own body image, one can detect the return of the unwanted, habitual muscular function some time before it is consummated and one can either inhibit or facilitate it by an act of volition."

Re-educating the whole person through the soma

This approach to the unified mental-emotional-muscular life has the advantage that the muscular expression is simple, concrete, and relatively easy to locate. And also:

"It is incomparably easier to make a person aware of what is happening and therefore yields faster and more direct results."

At this point Feldenkrais refers to two case studies of psychiatric patients who both made an astonishing recovery thanks to his "somatic approach".

Old Age: Restricting the formation of new body patterns

The process of gradual deterioration set in motion by self-imposed restrictions can be checked and to some extent reversed if the elderly resume/assume attitudes and postures they might feel no longer befitting their age or dignity.

"Reality" – health and normality

Having examined the distribution of tonus throughout the bodies of several thousand people before and during the process of re-education through his somatic approach, Feldenkrais confidently indicates the following norms for the definition of health and normality:

- *"The 'normal' head should have easy access to all directions of the anatomically possible range"* (the only limiting factor being the skeletal structure, not muscular impediment).
- *"The healthy co-ordinated movements of the body as a whole obey the mechanical principle of least action"* (i.e. *"least expenditure of metabolic energy"*).

A "working picture" of the human being: three constituents of existence

These norms of 'normality' are only applicable if the human being is seen as a whole consisting of three inalienably interwoven aspects, providing us with a "working picture" of a human being:

- nervous system, constituting the "core"
- body, or what 'envelops' the core (skeleton, viscera, muscles)
- environment (space, gravitation, society)

"The core relates itself to the body through the nerves and the hormonal chemistry, and to the outside through the proprioceptive and exteroceptive nerve endings and through the senses. (There is no direct perception of the outside world by the nervous system.)"

Concerning the vital functional correspondence/interaction between the nervous system and the outside material world (including the social environment), Feldenkrais comes up with the striking statement:

"The social ties of a nervous system may be stronger than those with the body itself."

This becomes particularly apparent in times of a war when soldiers obediently and deliberately face death while defending an established social order.

"It is to ignore reality if one intends to make a change in the behaviour of a person and disregard even for a moment, any one of the three constituents of existence."

Consciousness – a growing function

"The distinction between self and the outside world is a growing function."

As the nervous system slowly matures and differentiation and voluntary activity improve, the system gradually learns to recognise where signals of information originate. Everything from inside the body/self eventually becomes "I", from outside "Not I".

Towards self-knowledge - or the beginning of awareness

"The principle of knowing ourselves is through the recognition of the orientation of the body. The first glimpse of awareness is the recognition that 'I' – the body – is oriented to the 'Not I' – the outside. This is also the beginning of the subdivision or distinction between subjective and objective reality, which is thus organically dependent on the motor elements, the nerves, the muscle and the skeleton which are oriented by and react to the gravitational field."

Orientation is organic to consciousness

Feldenkrais states explicitly that he understands the term "orientation" in the widest possible sense: It includes the distinction between "I" and "Not I" in the social field, i.e. the vast range of (power) relationships within this field and all the attitudes which characterize these relationships. Submission/insignificance and arrogance/importance, for instance, always manifest most clearly in the attitude of the skeleton. Attitudinal differences on a cultural and racial level can also be studied by looking at typical skeletal and movement patterns. Hindu introversion and non-attachment, for instance, tend to be reflected in loose hip joints while extroversion, ambitious grasping, time-is-money thinking prevalent in industrial society find expression – among other things - in people's incapacity to sit cross-legged.

"An immense field for inquiry is opened once the organic ties of social orientation are followed up into the muscle, nerve and skeleton."

Individuals who wish to overcome a lack of freedom/choice - resulting from self-restricting orientation, whatever its origin - have to engage in a rather challenging psycho-physical process of re-education. For example: *"... to soften and bring to normal one's hip joints, one must spend time, look at oneself, give up something, detach oneself from something else."*

From reflex action to fully conscious or "awared" action

The human species shares most phylogenetically acquired - basically unchangeable - activity with the entire animal world. On the ladder of evolution, represented by ever more highly evolved organisms, this activity becomes more and more complex, ranging from "reflective, [pure reflex] – the lowest form of action – up to awareness, the most evolved one."

Ontogenetically, i.e. individually acquired action (through learning) *"pertains to the senses. Such action can be altered as one can become aware of qualifications...such as the extent of effort, its co-ordination in time, the body sensation, the spatial configuration of the body segments, the standing, the breathing, the wording etc."*

The awared learning is complete when the new mode of action becomes automatic or even unconscious, as all habits do. The difference between a self-established habit and one acquired by awareness is that if the latter shows unfitness when confronted with reality or maladjustment, it easily awakes awareness and thus enables one to make a fresh and more efficient change."

Tension is self-destructive – Self-knowledge as a tool for the betterment of humanity

Feldenkrais concludes the first lecture by expressing his firm conviction that just as anatomy and neuro-anatomy, for instance, have advanced humanity's understanding of the working of body and psyche *"so will understanding of the somatic aspects of consciousness enable us to know ourselves more intimately. Tension is self-destructive. In the future, we should be able to direct the forces that generate tension not just to release it, but for the betterment of humanity."*

Lecture II

TECHNIQUES

1. Individual Teaching

What was to become known as Functional Integration is described very briefly - in words that could come straight from a physiotherapy manual: as a hands-on technique aimed at producing *"by physiological means the desired alignment of the different segments of the body... improvement of the head-neck relationship and breathing...betterment of the spine and thorax configuration...correction of pelvis and abdomen...a successive series of approximations each one allowing a further improvement in the segment just dealt with..."*

Delicacy of touch and clarity of sensing

That this technique may differ from most conventional body therapy is immediately made clear: *"Before one can use this technique, one must experience it oneself first; through that experience one acquires the necessary delicacy of touch and clarity of sensing which muscle group or segment needs attention first and which needs it at all."*

(The number of sessions Feldenkrais deemed necessary at the time of talking seems surprising:

"I insist on 30 to 40 sessions at a daily rate and then twice or three times a week until the major complaint is gone. Normally, i.e. in about fifty percent of the cases, pains and inability to use a member disappear before the daily sessions are over.")

To begin with the person is usually lying on the back since that position frees the nervous system from the habitual task of dealing with the gravitational pull exerted on the upright body. *"In due course I go through thirty different situations up to sitting, standing, walking, and balancing on two wooden rollers."*

Some further details will become clear with the description of the group techniques."

2. Group Techniques

Groups usually consist of 30 to 40 people, who come with various physical complaints - or because they are interested in improving their skills as teachers, actors, singers, dancers etc. Once again, lying on the back initially frees up the nervous system. It also provides an opportunity to scan one's body, learning to detect differences in contact with the floor, developing muscular awareness, but more importantly awareness of the skeleton and its orientation.

Awareness in action

"I usually make it clear that the work is to lead to awareness in action, or the ability to make contact with one's own skeleton and muscles and with the environment practically simultaneously... The aim is...healthy, powerful, easy and pleasurable exertion...the reduction of tension is necessary because efficient movement is effortless. The inefficiency is sensed as effort and prevents doing more and better."

The gradual reduction of useless effort is necessary in order to increase kinaesthetic sensitivity without which a person cannot become self regulating."

At this point the Weber-Fechner law is explained.

Continued novelty

One of the important features of the group work is continued novelty. This needs to be maintained throughout the course.

¹ By the seventies the "individual teaching" presented in this talk had metamorphosed into the interactive practice (communication between two nervous systems which Feldenkrais occasionally described as a 'dance'). Then he modestly admitted: *"In the early days, when I had the notion that I was trying to 'cure' my client, I did rather poor work. But later, when I realized the two of us were, in fact, working together to achieve an understanding of the situation, then my work changed. Only then did it become more certain."* (Thomas Hanna, THE BODY OF LIFE, Alfred A. Knopf, 1979, p. 189)

"Once the novelty wears off awareness is dulled and no learning takes place. The configuration that needs repetition is then taught in tens and even hundreds of variations until they are mastered."

The aim is to produce a *"neat change in sensation at the end of the lesson and usually a more or less lasting effect for some time."* The connections between different parts of the body which pupils are thus enabled to find range from that between hip joint and opposite shoulder blade to the subtle relation between eye muscle and toes.

Mental ease through doing less

Reduction of useless efforts requires mental ease which is produced through repeated encouragement *"to learn to do a little less well than is possible when trying hard, less fast, less vigorous, less graceful, etc. They are often asked to do the utmost and then deliberately to do a little less. This is more important than it might seem. For it enables people to feel progress while not tensing. The sensation is that one can do better which is inductive to progress."*

Small, barely perceptible movements

Such movements are used extensively because they have the effect of reducing *"latent tonus (degree of involuntary contraction) in the muscles in an astonishing way."*

Working with only one half of the body – Transfer of learning

"The sensation of the light and long member is continuously contrasted by the other which feels clumsy and awkward in comparison." In other words, leaving the other half as it is results in a potent way of experiencing contrast: *"...the pupil carries with him for hours afterwards two standards in his own body – a) his habitual one and b) the proposed better one... One keeps feeling the difference until the clumsy side eases up, one thus learns to ease up, so to speak, from within.... The transfer of learning is essentially personal and differs from one individual to the other. One may feel the difference in the speaking, the other in his way of attending or observing."*

Scanning of the body image

This principle features in two parallel ways.

- a) Producing noticeable differences by means of actual work (i.e. small barely perceptible movements), allowing pupils to experience – as mentioned earlier – length, width, and lightness on just one side.
"The other half of the body is brought to feel the same sensation by mental scanning alone... - ...listening and becoming aware of the difference of sensation in... the muscles of the two halves and the sensation of change of orientation in space."
- b) *"Scanning the body on both sides from the start but directing attention to the sensation of distances between different parts of the body on either side until they correspond to the actual differences."*

Two virtually simultaneous phases characterize all voluntary acts

- 1) Preparatory phase: *"mobilisation of the body attitude needed for action."*
- 2) Performance of the action.

"There is a minute time interval between the two which makes it possible to learn to inhibit or enhance the preparatory mobilisation of volition... Much is being done to clarify the delay between the preparatory attitude for action and its consummation. This trains the ability to facilitate or to inhibit the consummatory phase thus improving the fluency and voluntary control of movements."

Less of the primitive "all or nothing" reaction

There follows an excursion into the physiological characteristics of agonists and antagonists, flexors and extensors (difference in power and duration of effort due to the fact that one group consists predominantly of white muscle fibre, the other primarily of red fibre).

"Extensive use is made of agonism and antagonism, alternately working repeatedly the agonist until on stopping to find that the antagonist has lengthened and become more controllable, i.e. less of the primitive all or none reaction."

"Exercises" in this category explore, for instance, the after-effect of prolonged, sustained effort (such as pressing the back of the hand against a wall to produce in the arm "a peculiar lightness akin to floating".)

Mechanical repetition without attention is made impossible and is discouraged

"But whatever the exercise or principle used, the lesson is so arranged that without concentration, without trying to sense differences, without real attention it is impossible to follow the next stage. Repetition, just mechanical repetition without attention, is made impossible and is discouraged."

Attending to the means of achieving a goal - not to the goal itself

This is one of the crucial means for reducing tension. The consequences are experienced in the mind-body unity in many different ways: *"All these exercises aim at achieving mental and physical co-ordination and in particular good erect posture and correct action."*

Erect posture – a dynamic notion

While the word posture implies in most people's minds something static, posted, held straight, it is something much more dynamic: *"Erect posture is a way of functioning to which the frame continuously readjusts itself rather than a posture being maintained as a fixture or state."* and *"The real advantage of the erect posture is the ease of rotation around the vertical...which widens the human horizon."*

Feldenkrais explains at some length the role of the "double organ senses" (vision, hearing and smell) in the evolution of the human frame and the mechanisms organising the elemental functions of linkage with the environment. These always involve rotation of the head until the source of stimulation is squarely faced. The impact of such movements on the nervous fibre in the neck prepares for reorganization of the body so that it can follow the head with ease.

"Most heads show clearly with which parts of the space around them they rarely make contact. And the carriage of the head is characteristic of the general bearing and manner of acting of each person."

Correct action

Using the lower jaw as an example Feldenkrais proceeds to elucidate the antigravity mechanisms in the nervous system. These dictate the appropriate contraction of the muscles involved. This contraction is always just equal to the gravitational pull. Such is the normal state of the muscles. It is never felt as effort *"so long as the incitation to the muscles comes from the lower centres"*. Voluntary movements simply add or subtract from the muscles' permanent contraction.

There is a brief aside about "silly habits" such as pulling the shoulders back and drawing in the abdomen - as a contrast to what is natural, simple, and easy: *"The erect posture is a biological quality of the human frame and there should be no sensation of doing, holding or effort whatsoever. The actual posture is always the result of what the frame would do thanks to inherent mechanisms and what we have learned to do by adjusting ourselves to our physical and social environment."*

Distortion of real needs - unreliability of the feeling for what is right – and the benefits of re-education

"Much of what we have learned is to the detriment of the system, for it has been learned under duress of affection or stress of hardship while immediate dependence on others distorted our real needs. Long standing habitual action feels right; our feeling is, therefore, unreliable before we re-educate our kinaesthetic sense to reality-tested norms."

How can that be done? First by realizing the benefit ensuing from the improvement so that one can spare the time necessary. But the benefit cannot be imagined until the improvement is sensed, thus one must try simply by curiosity. People whose vitality is at the lowest ebb will not try and God himself cannot help them."

The rate of effort is equal in all members at work

Feldenkrais returns once more to the dynamic conception of posture, describing it as an optimal organization which allows head and body complete freedom to move spontaneously in any (anatomically possible) way and direction: without previous rearrangement of the segments of the body, without perceptible tensing or fixation in jaw, tongue, neck, eyes etc. and without a sudden change in the breathing rhythm.

"If these conditions are maintained during the action, then even lifting of the entire weight is not sensed as an effort."

The listeners are now guided through a little experiential experiment. Its aim: to allow them discover for themselves that the sensation of effort can remain exactly the same while bending an index or elbow, lifting or lowering an arm, the head or trunk: *"The sensation of effort is not a measure of the work done but an indicator of the degree and quality of organization producing the effort."* The explanation for this apparent paradox lies in the respective size and strength of the muscles, with their number of fibres and cross-section increasing considerably from the periphery (finger) to the centre of the body.

No-effort in action

"Thus the sensation of no-effort in action is present not at no-work but at correctly co-ordinated work."

Such work obeys the principle of least action (derived from theoretical mechanics) if three conditions are fulfilled:

- 1) *"The trajectory of each bone of the skeleton when the latter moves from one position to another [from lying to sitting to standing] is the same as if the skeleton were pulled up by the hand or extended arm into one of the final positions, i.e. the shortest trajectory possible."*
- 2) *"The muscles operate in such a way as to bring about the final position dictated by the trajectory explained."*
- 3) *"The intensity of mobilization in the ideal act is the same throughout the musculature and the stress in each one is proportional to its cross-section."*

Reversibility

Movement that satisfies these three conditions also satisfies the Reversibility principle (At this point Feldenkrais briefly goes into theoretical mechanics and its concept of virtual movement = nil work): *"It is possible at every point and moment to continue the movement, to reverse its direction, or start a new movement without energy consumption."*

Developing awareness for the sake of higher human evolution/achievement

Feldenkrais concludes by saying that although much is left unexplored in the body-mind realm, a start has been made. And this provides the means *"to make considerable changes in behaviour. There can be no improvement without change."*

The most important rule to observe in practice is to attend to manipulation and orientation in the widest meaning all the time.

Though we can already provide help when things go wrong, we cannot relax our efforts before teachers throughout the world learn in their curriculum how to develop awareness of the unity of body and mind so that higher achievements than correcting faults can be arrived at."

