IMPLICATIONS OF THE THEORY OF STRUCTURAL INTEGRATION FOR MOVEMENT THERAPY

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The first portion of this paper will summarize the theory of Ida Rolf known as Structural Integration, as propounded in an article entitled "Gravity, an Unexplored Factor in a More Human Use of Human Beings." Following the précis, the contribution of the theory to the general knowledge about body image will be discussed. The final part of the paper will set forth the implications of structural integration for dance therapy.

I

Many students of the nature of human affairs have observed that man's outer world seems to be a projection of the world within. Ida Rolf proposes that many human dilemmas would be illuminated by examining man's physical being, his body, and that a better organization of physical structures would be paralleled by a lessening of cultural and mental problems.

Man's search into his own nature has been predominantly through analytic means during this century. Rolf suggests that synthesis is a more fruitful method. Beginning work in this direction has been done by Moishe Feldenkrais, who showed that through deviant muscular activity the body contour of an individual becomes the expression of his predominant emotional set. Other work done by F. Mattias Alexander provided a technique whereby persons could examine their emotional responses by means of an increased awareness of how their actions were performed.

But, even with these excellent researchers, an element of specialization enters in, in that bodily awareness is used to service mental health. Rolf is interested in integration which is not the restoration of the status quo after illness or injury, but is rather the evolution leading to a greater mankind. She feels that the present preoccupation of behavioral science with righting wrongs limits man's capacity for integration.

Rolf is at odds with the psychiatrically oriented notion that the body is the expression of personality, and propounds, instead, the following shocking possibility:

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* Reprinted from The Journal of Dance, U.C.L.A. Department of Dance, Vol. 1 No. 1 (Fall, 1968).
This theoretical statement was written for Dr. Alma M. Hawkins' graduate class in Dance Rehabilitation.

> . . . That the physical body is actually the personality rather than its expression; and is the energy unit we call man, as it exists in its material, 3-dimensional reality. For the pattern is only the externalization of the energy unit. Conversely, the level and quality of the inner energy is limited by its pattern. Furthermore, this particular pattern is the only one that this energy unit, at its present level, can manifest.[1]

The premise that arrangement in space is fundamental to the behavior of a substance is clarified by the basic understandings of physics and chemistry: atoms and molecules are the pictorial representations of configurations of electrical charges. Salt, for example, is the externalized manifestation of polar (+ and -) energy attractions. Once the energy configuration is understood in terms of structural relationship, the behavior of the substance becomes predictable. Structure is relationship in space, and further, structure is behavior.

The precisioned pattern of crystals which is salt is quite different from the random structures of men. So is the infinitely varied behavior of men different from the circumscribed reactivity of salt.

The absence of consistently patterned structures in man is due to the inter-relationship of his phychological, muscular, neural, and visceral functioning. Extensive body image research has shown that physical patterns result from psychological attitudes. The converse, that psychological sets may have purely physical beginnings, is also true.

A physical accident which leaves the body misaligned affects the psychological sense of the individual so that he feels inadequate or insecure and projects this image of himself in his body. This effects a change in the individual's energy field, both physical and psychological. Even a slight bone displacement will cause a change in a muscular structure and functioning. If weight-bearing is involved through the injured part, the structure of the whole body will be rebalanced by a sequence of compensatory changes. This will result in a thickening and shortening of tissues, displacements or immobilization of muscle fibers, muscles, tendons, ligaments, and fascia, so that free movement is inhibited, not only in the injured area, but also in all areas where compensatory changes have occurred.

The consolidation of tissues resulting from physical injury will also occur in reaction to emotional trauma. The physical attitude then becomes invariable and involuntary and prescribes emotional responses. "What the individual feels is no longer an emotion, a single response to an immediate situation; henceforth he lives, moves and has his being in an attitude."[2]

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[1] Ida Rolf, "Structural Integration," reprinted from Systematics, I (June, 1963), p. 6.

[2] Ibid., p. 10.

Chronic psycho-muscular attitude cannot be basically changed by conscious thought, or even by mental suggestion (imagery). The actual muscle tone must be altered.

Rolf believes that an integrated man is "a person capable of free flow, free exchange, free movement (resilience) both in physical body and in emotional expression."[3] Her method for achieving integrated behavior patterns is structural rather than behavioral in approach. Attitudinal changes are observable, concurrent with the building of more balanced bodies.

In order to clarify the structural approach, Rolf compares the body to architecture. An architectural construction manifests strain to the degree to which it deviates from an optimal relation to the pull of gravity. Since the body is flexible, the origin of such strain is more difficult to pinpoint than in a building.

Because of its inverse weight distribution (broader at top than at base) and motility, the body needs strong internal symmetry. Body masses must be able to counter-balance each other gravitationally, adjusting to changes in muscular mass as the latter alters with movement. When psychological change occurs, as above described in connection with physical and emotional trauma, the muscles will not counter-balance each other in the most efficient way; substitute integrations are formed in the process of compensation. The result is unsatisfactory both in terms of precision and of energy expended. There is only one pattern of action which is most economical of energy for any given movement.

Muscular balance has other significance besides efficiency of movement. It is a sign that the body's metabolic and neural transmission is functioning without restriction. It indicates that physical work can be performed with the minimum of energy and effort, leaving energy available for efficient performance of vital functions, as well as for external activity (expressive, communicative, or recreational). In addition, muscular balance has aesthetic excellence.

Gravity, then, is the decisive factor in personal integration. Gravity plays a dual role in the life process -- it may tear the body down or support it.

> Body coordination is evidence of how well the man is related to the earth . . . For man is an energy field, as the earth and its outward envelope of forces is an energy field. How well a man can exist and function depends on whether the field which is himself, his psychological and psysical personality, is reinforced or disorganized by the field of gravity. Looked at from this angle, gravity not only upholds a man, it feeds him.[4]

The force of gravity acts as if it operated through a vertical line at right angles to the earth. To benefit from this force,

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[3] Ibid., p. 12.

[4] Ibid., p. 12.

man's architectural structure must be organized symmetrically around an imaginary gravity line which passes through the ear, shoulder, hipbone, knee, and ankle. The balanced body is thus like an aggregate of blocks made up of the head, thorax, pelvis, and legs. The spatial placement of these blocks is determined, however, by the muscular and fascial tissues. In the case of maladjusted body structures, correct alignment along the vertical can only be achieved by altering the length and tone of the myofascial tissues. "Unless such a change is made, the body reverts to its original posture and the restrictions to fluid flow and to interpersonal communication are rebuilt."[5]

Basic personality change therefore involves a change in relationship to gravity.

> The more its support is evoked by organizing the material body so that the earth's gravity can work through it, the more apparent it becomes that any claim to the word integration, either in the physical or psychological fields, necessarily implies an adequate support from the earth.[6]

Conversely, all cases of psychological insecurity or inadequacy will be accompanied by an inadequate relationship of the physical structure to gravity.

Rolf's implementing technique, "Postural Release", involves manipulation of myofascial tissues to remove restrictions so that the body can move in accordance with its anatomical structure. The process not only modifies the static contour of the body, but also alters the dynamic pattern of movement. Once the basic restrictions are removed by ten hours of the manipulative technique, further corrections occur spontaneously. The work stimulates improvement in metabolic and cardiac and respiratory functions, and with some subjects vision is improved. In all cases, the individual gains an increased awareness of himself both physically and psychologically. And because the energy unit has thus become more potent, increased and more finely tuned perception results. It can easily be seen that structural integration is a powerful theory in the service of the finer evolution of man.

Rolf concludes by commenting that many Eastern religious cults have had techniques for refining the body in order to further individual psychic progression, and that they too recognized the import of gravity.

> Early in any such attempt to perceive his greater environment, man is forced into realizing his relationship to that ubiquitous energy, the field of his environmental Mother, the Earth.[7]

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[5]Ibid., p. 13.

[6]Ibid., p. 14.

[7]Ibid., p. 13.

Ida Rolf's work serves to illuminate and, in many ways, to transcend the research of Fisher and Cleveland and others on body image. "Body image is a term which refers to the body as a psychological experience, and focuses on the individual's feelings and attitudes toward his body."[8] The very term thus implies that the body is the image of something else. Fisher and Cleveland view the body as a container for internalized psychological systems and as a projection screen for patterns of mental attitudes.[9] All of these concepts are in marked contrast to Rolf's statement that the body is the personality.

All of the body image tests, figure drawings and what-not, deal almost exclusively with deviations from an undefined normal. Portrayals of integrated functioning are not discussed. This is the kind of analytical thinking and preoccupation with pathological symptoms for which Rolf criticizes the majority of behavioral scientists.

Feldenkrais, the worker by whom Rolf's work was influenced, has written, "The body and mind are never independent; such subdivision is entirely arbitrary and unfounded."[10] The present writer tentatively proposes that body image is a purely analytic concept which may exist in actuality, but only to the extent that the several aspects of the self are not fully integrated. The integrated person is at one with his body.

Although the concept itself may be less useful than it has heretofore appeared, several findings within the body image literature are significant in their relation to Rolf's material.

Paul Schilder indicates the importance of muscle tone in an individual's self-perception.[11] Wilhelm Reich has also noted "a complex interaction between the individual's personality conflicts, the individual's expression of these conflicts in patterns of muscle tonus, and the repercussions of these tonus patterns upon the individual's way of experiencing himself and others."[12] He feels that the neurotic individual builds a protective "body armor" against psychological conflicts. Feldenkrais goes much farther in defining how muscle tone affects functioning. Hypertonicity of the defensive muscle mechanisms (flexors) leads to the formation of chronic and habitual psychomuscular attitude and inhibits responses to new perceptual stimuli.

D. E. Schneider has postulated that the rhythm of the heart provides a framework for bodily experience, and that "the patterns of regularity and speed shown by the heart are sometimes correlated with the degree of ego integration."[13] Rolf's work substantiates this hypothesis: persons who have undergone Postural Release show

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[8]Fisher and Cleveland, Body Image and Personality, (Princeton: Van Nostrand, 1958) p. x.

[9]Ibid., pp. 352-354

[10]M. Feldenkrais, Body and Mature Behavior, (London: Routledge & Kegan Paul, 1949), p. 140.

[11]Quoted in Fisher & Cleveland, op. cit., p. 21.

[12]Quoted in Fisher & Cleveland, p. 49.

[13]Quoted in Fisher & Cleveland, p. 23.

marked improvement in cardiac function as registered by the Cameron Heartometer at the University of Illinois.[14]

In their research into the importance of physical responses in perception, Werner and Wapner have found that

> . . . perception is the outcome of an equilibrium process involving both the effects of stimulation from an object and the existing distribution of body tonus . . . perceptions are shaped in the direction of minimally disturbing the existing tonus pattern in the body.[15]

Rolf's work clarifies the relationship between muscle tonus and perception:

> Working with specified individuals has made it apparent that the thickened, more stolid physical bodies interpose barriers to awareness; that the perception of the individual seems to be caught and held in the deteriorated mesh of the non-elastic tissue. His attention seems to be trapped within himself, and his awareness minimised. Experimental results clearly suggest that the release of such masses permits the emergence of a more sensitive being.[16]

Nina Bull's "attitude theory of psychology" is interesting in relation to Feldenkrais' material on psycho-muscular attitude. Bull's theory states that all behavior which is accompanied by a feeling state is dependent on a preparatory motor attitude (meaning the skeletal musculature), which is a "reflex of orientation and intention, set up instinctively, unconsciously, and maintained as a readiness."[17] An individual's psychic life is therefore made up on the dynamic variation of his motor attitudes. Although Bull remarks that a perseverating attitude may inhibit this dynamic variation and consequently the psychic responses, she does not emphasize the extent to which faulty muscular habit can inhibit perception.

Like Rolf and Feldenkrais, Bull believes that there is no fundamental difference between psychic and physical activity -- both are manifestations of the functioning of the nervous system. An individual's being is made up of the simultaneous responses of all his component parts: musculo-skeletal, visceral, vascular, respiratory, and glandular, as well as conscious. For this way of thinking there is no need to postulate an "Unconscious." For Feldenkrais, the unconscious is the "motor link binding together sensory and vegetative experiences in the higher nervous centers."[18] Bull quotes

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[14]Rolf, op. cit., p. 16.
[15]Quoted in Fisher and Cleveland, p. 41.
[16]Rolf, op. cit., p. 19.
[17]Nina Bull, The Body and its Mind, (New York: Las Americas, 1962) p. 18.
[18]Feldenkrais, op. cit., p. 161.

Binet on this issue:

> . . . the unconscious is the conservation and isolation of the motor part contained in every mental process: . . . the unconscious is a motor habit.[19]

III

Although structural integration has important implications for movement therapy, the implementing technique of Postural Release would not be appropriate in cases of severe mental disturbance. The primary reason for this is the pain evoked through physical manipulation. When areas of the body which have been long closed off through muscular hypertension are freed of chronic attitudinal restrictions, physical pain, as well as emotional stress, is evoked. An individual who enters upon the Rolf treatment should be prepared for coping with pain as well as with the dramatic physical and emotional changes which occur. Because of the extent and rate of the changes produced, postural release would seem to be a technique primarily suited for evolution rather than rehabilitation.

The methods of both Feldenkrais and Alexander are directed toward structural integration, but over a necessarily longer period of time. In both processes the thesis is that by inhibiting incorrect structural-behavioral patterns, the body gradually becomes physiologically released so that correct responses may be learned.

Feldenkrais' method involves the subject's being able to detect the slightest differences in muscle tension. As we have seen, correct vertical alignment, using gravity as a positive force supporting the structure, involves the minimum use of energy-effort. When properly balanced, the muscle tone will therefore be minimal. Changes in muscle tension will be better able to be sensed when the general tonus of the body is the least possible. Feldenkrais uses, as an analogy, a man holding a 20-pound brick. If a fly lands on the brick, no difference in weight will be perceived. However, if the fly lands on a pebble, the added weight of the insect can be noticed. This principle is known as the Weber-Fechner Law.

Because most people's habitual response to gravity is hypertonic, that is, it involves more energy in the form of muscle contraction than is necessary for proper erect standing, Feldenkrais approximates the minimum amount of tone by having his subjects work lying on the floor. One of the exercises described aims at releasing chronic contraction of the extensors of the neck. The subject raises his head from the floor by contracting the neck flexors. The antigravity extensors are thereby passively stretched according to the principle of reciprocal relaxation. If the subject now changes to an upright position, the stretch reflex will automatically bring his head closer to the structurally correct position. He is then able to learn to recognize the feeling of a balanced, muscularly-released position of the head. It is important to understand that although conscious awareness is brought into play in the recogni-

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[19]Bull, op. cit., p. 23.

tion of the correct posture, the basic change occurs unconsciously through a physiological process. The conscious imperative "hold your head straight," cannot lead to lasting corrective change. Feldenkrais' aim is to make the proper pattern feel right and thus to make conscious attention superfluous. Correct alignment is properly a reflexive activity. Relearning of appropriate antigravity response, indeed, necessitates the inhibition of conscious control so that the motor reflexes can function without its interference.

Breathing techniques, such as that developed by Magda Proskauer, are also directed toward structural integration, although in an indirect way. Conscious focusing on breathing exercises leads to an unconscious opening of the body and yields a feeling of balance and effortlessness. In this case, muscular release is a by-product.

The effectiveness of all the above methods depends on the subjects' capacity for intense, subtle, and prolonged concentration. Although these methods may be effectively adapted, to a certain extent, in work with the mentally disturbed, their primary aim would seem to be the greater refinement of functioning individuals rather than rehabilitation of disturbed ones. Breathing techniques, especially, should be used cautiously with hospitalized patients, because of the powerful release of emotional energy which they produce. Ill people have a difficult enough time coping with their everyday emotions and should not have to handle the surcharge which breathing techniques produce. This caution might, however, be reversed in the case of repressed persons who have difficulty releasing any energy whatsoever, physical or emotional. In general, the use of breathing exercises would be appropriately limited by the patients' own ability to concentrate.

It remains to be seen what specific implications Ida Rolf's theory has for the dance therapist.

Feldenkrais has pointed out that successful psychological treatment is invariably accompanied, and possibly preceded, by alteration in posture and muscular habit, as well as visceral changes. The change in the body is not only motor, but is deeply physiological. Indeed, psychiatric treatment may be reversible if the body does not change physiologically. Any severe physical or emotional trauma will cause the old postural-motor habits to prevail and the old emotional attitudes to recur. This serves to indicate both the intensity and extent of the physical components in the development of the fully-functioning individual.

It has been pointed out that the methods described in this paper are evolutionary rather than rehabilitative. The Rolf treatment is ruled out in cases of severe mental disturbance because of the threatening aspect of physical manipulation. The Alexander technique, and others entailing intensive concentration, would be ineffectual because of patients' short attention spans. Dance therapy, which deals with the body in a less direct and more general way, is the most appropriate method of rehabilitation for the mentally disturbed individual.

Through dance therapy, incapacitated individuals evolve the simple awareness that the body, with all its parts, exists. With this comes awareness of the body in space and time, with different

levels of energy, and among other living beings. Along the way comes the recognition that the body is the self. Perception becomes more attuned, and understanding of self, others, and environment is increased. All of these changes can now be understood as part of the process of structural integration as defined by Rolf. Basic physical-behavioral changes occur as a result of dance therapy, but with different dynamics and pace than with the other methods described. It is because of the general nature of its objectives that dance therapy is thought to be most appropriate for rehabilitation.

While its generality is an asset in this sense, the lack of knowledge as to precisely how and to what extent dance therapy assists psycho-physical change prevents it from being a widely accepted means of rehabilitation. Much clinical research must be done before the dance therapist's intuition that what she does is instrumental in a patient's growth is validated statistically. Since Rolf has shown that an individual's relationship to gravity is directly related to his psychologocal functioning, one means of measuring the significance of dance therapy would be through postural analyses of patients before and after a period of dance therapy.

The most significant feature of Rolf's theory for the field of dance therapy is its emphasis on the force of gravity as the deciding factor in personal integration. The intuitive dance therapist has long sensed the importance of the relation of the person to the earth on which he stands. The symbolism of the Earth Mother, as developed by Neumann, provides a psycho-analytical grounding for this intuition. Rolf's material shows the import of this relationship in a non-analytic way. Indeed, it may be that the work of Rolf and Feldenkrais provides the raison d'etre for that of Neumann. For, "the unconscious is a motor habit."

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