



Ida P. Rolf lecture to The Centre for the Healing Arts (July 1975)

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In the past few years, one word has taken on an inordinate emphasis in our culture - the word "energy." We have heard it so much that its meaning has been confused and perhaps it is worth some consideration to segregate and differentiate the implications of the word. Is the energy that we are talking about related to the energy which a few years ago we realized was lacking in our gas tanks? What does the energy crisis include? Where does it stop? Most of you who are rolfers, practitioners of Structural Integration, are used to hearing your clients say "Oh, I have so much more energy since I've been rolfed." What are they referring to? Is this the same energy? If so, where does it come from and how is it released by integration of the structure. In using the name, Structural Integration, we have found that the word "integration" refers to the psyche as well as the body, the soma. Obviously we are in the midst of a vast confusion and some clarification and overview is long overdue.

William Blake in the late eighteenth century said "Energy is Eternal Delight." Well, that's one way of saying it. It underscores the hum assumption that there is something transcendent about energy. At the same period in time, in Newtonian Mechanics energy was seen as a property of moving masses. By the late nineteenth century, men had extended this very limited consideration of the physical reality of energy and organized their thinking into new sciences: thermodynamics, electromagnetism and quantitative chemistry. All these developed more sophisticated concepts of energy and began to see the world around them as manifestations and concentrations of a Universal Basic divorced from matter itself. Energy was no longer defined as the property of moving masses, nor as a property of anything. In men's minds, it began to take on independent reality and in the sophistication of the twentieth century, properties of its own, made manifest in "laws" concerning it. In this process the concept "energy" expanded to cosmic size as we considered Einstein's formulations $E=mc^2$.



No longer was energy regarded as a "property" of "moving masses" - here it became measurable by an examination of the mass from which it was generated together with the speed of light. This revolutionary concept that energy was also dependent stretched the minds and imaginations of man incredibly. But so did a consideration of Planck's equation, $E = h\nu$ (from which the area later known as Quantum Mechanics was developed) postulated that energy carried by an oscillation could be seen as a function of the frequencies of that oscillation. This was the time when energy grew up; it departed from the realm of Newton's apple and landed into a sub-atomic universe.

Physicists spent much time and thought during the Thermo-Dynamics Period exploring a concept called Entropy. As a result of this exploration they postulated that each quantity of energy has an associated quality called entropy. This quality is a measure of the disorder in the system and varies in different kinds of energy. According to this concept, the associated entropy determines the direction of flow of energies; energy always flows they said in such a direction that entropy (disorder) increases.

To us, as human beings living on the earth, the important consideration to date is that by general scientific agreement the predominant energy in this universe is gravitation, associated with the three-dimensional masses of our universe, our suns, our stars, our cosmic bodies that form our universe. The energy we call gravity is associated with each and all of these masses, and you remember from your high school physics that the energy of gravity can be converted into other forms of energy. As a huge mass contracts under its own gravity other energies - light, heat, and motion, wave forms of energy -- appear and may be dispersed or themselves transformed. But it is essentially the energy called gravity which is characterized by no entropy, no disorder, random-ness.

What nineteenth century physicists conceived as the "flow of energy" was in fact the progression from order to disorder. Technically it was stated that the entropy of a system



always increased: the disorder, the randomness of the system always increased; the energy system could always be degraded; the higher energy form transformed to a lower form. But never did the reverse happen, or so it was postulated. In the late nineteenth century it was thought that the universe was running down to a dense dark desert dust. Perhaps this is so in the vast reaches of the inanimate universe. However there is increasing evidence of other forces of potential emergent order at work...in isolated segments at least. We see this in segments of the universe where there is life, where there is consciousness -- intelligence, as for instance on the earth. It may well be that in these parts of the universe, life -- consciousness -- is molding energy to its own purpose.

This material universe lacking consciousness, this Newtonian world, how does it survive at all? Why has it not run-down to a desert level long

since? Modern physicists think a long succession of obstacles to the degradation of energy intervened. These worlds, these masses, are so large -- in any degradation energy is freed and therefore the unit itself becomes smaller. But as the mass contracts under gravity, the very massiveness of these worlds becomes their salvation. So much time is involved in dissipating this mass that it is no longer realistically significant to men.

There are other energies in the Newtonian world. The spin energy, for example, slows this gravitational condensation and is a factor for security. This specifically affects the earth as well as other more cosmic structures. Compression, the effect of gravitational energy, apparently a basic constituent in our universe may be slowed through a thermodynamic factor. Hydrogen burns to form helium and in so doing releases energy which resists further compression. This, of course, is a cosmic rather than a terrestrial factor. We see this phenomenon in the night sky and call it stars. The hydrogen in these cosmic masses that we call suns and stars must be burned up before further compression can occur. It is estimated, for example, that it will take another five billion years to burn up the hydrogen in our sun



before compression can again begin. This process has been in action for some four billion years already. Not a very eminent worry!

These are the primary sources of energy in our universe. From them and their interaction seemingly the various other sources of what we call "energy" in the terrestrial sense derive: our coal, our oil, our uranium, our deuterium and above all our sunlight.

Late twentieth century physicists and astrophysicists assure us that the underlying and predominant energy of the universe is gravitational. Other forms of energy exist e.g., rotation energy, energy of orbital motion, nuclear reactions, internal heat of stars, sunlight, chemical reactions, terrestrial waste heat, cosmic microwave radiation. But understandably by far the predominant source of energy is gravitation. The gravitational energy which is characteristic of large masses can be released as gravitation or converted into wave forms of energy. Light and heat as this mass falls together, shrinks. Apparently all large masses are shrinking all the time. Moreover, as we have said, gravity is one of the few sources of energy uncontaminated by entropy. This is, there is minimal tendency for the energy of gravity to be diminished through entropy. In other words it is order uncontaminated by randomness. This is the Newtonian world seen through twentieth century eyes. What I have outlined above is the point of view of the early twentieth century.

But as time has progressed we are recognizing that the system in which we live is not the Newtonian world alone. We are not animals living on a material mass, the earth, but living in a universe of at least two members: the Newtonian world of matter interacting with a world loosely called life or perhaps consciousness.

At this point we must consider the factor, Life. As human beings we feel that energy is somehow related to and equated with "life." We sense that the something we call "life" is somehow a key to existence, a key to creating more animated beings in a less animated universe. That somehow the crisis and destiny of the energy of the total universe cannot be



understood except in relation to the phenomena of life, of consciousness. This seems to be our intuitive perception. This seems to have inspired Blake when he said "Energy is Eternal Delight." Surely he was not talking about an energy diminished by entropy (by disorder).

Later twentieth century thinking has told us that all systems exist through at least two factors and all systems to have significance to the world of men must include the observer. Thus, for the "energy" to have significance for us here, we must have two members of our system. One, the Newtonian or gravitational energy; the other, Man-Consciousness for this is the system you are studying. This is the system whose energy value you hope to enhance, to expand, to increase. Look at it: energy/man -- gravitation/man. This is the system you need to explore if you are hoping to increase the energy of the individual person on the earth or to increase negative entropy and to decrease deterioration, disorder.

How can you increase the value of this system -- Gravitation/Man? Well, we've just looked at energy of the inanimate mass fairly comprehensively. As far as humans are concerned gravity is a constant: always present, always immense. We can visualize the energized earth as a huge chestnut burr with "vertical" prickles in all directions -- all direct towards the center of the burr, the center of the earth. This is one member of our dyad. The second member, however, offers us better cheer. For seemingly it is through the second member of the dyad, Gravity/Consciousness, that we may look to alter this ratio, be able to modify the ratio by the increase of consciousness.

In looking at this problem -- really a statement of the definition of vital rather than inanimate energy -- the statement is not complete unless we look carefully for all sources of energy, examine all sources of the entropic disorganization that diminishes it. Such a search quickly uncovers a very different kind of phenomenon which we again label "energy." It is the phenomenon of thought transference, extra sensory perception and allied manifestations. All "energy" deriving from gravitational energy conforms to a generalization that the amount of



energy available varies inversely with the square of the distance from its source. But this latest contestant for the word "energy" -- this "psychic" energy -- shows no effect of diminution of intensity through distance. A man can convey a message (usually involuntarily) unwittingly from America to Australia with less loss of energy than occurs when projects his voice a hundred feet or so. What is this? And should it be labeled "energy"? If so, what distinguishing marks should we afford it to distinguish it from Newtonian Energy? The teleportation or even levitation of material things -- does this word "energy" properly apply here as well?

There are many persons in this room who could speak to the reality of this kind of "energy": of where, how, it occurs and to what extent it can be tamed and harnessed. I only know that the reports which Dr. Valerie Hunt has offered seems to say authoritatively that a kind of energy seen by workers as light, as color and felt by some workers as something akin to warmth. Something that "turns on" as well as "turns off" is associated with the increased energy of the human when physical, myofascial, fleshy order is introduced into the random disorder of the average human body. In other words, it is when we lessen the entropy of the average body, the disorder that exists in its mass, that seemingly we increase the energy within the body. Here we seem to be uncovering the same sort of generalized behavior, the same sort of evolving order in the psychic personality as we found manifest in the inanimate universe. To repeat, we find that physical myofascial order reflects in a more vital, organized pattern of psychological and, if you like the word, "spiritual" being.

We spoke earlier of the fashion in which the energy of the universe was thought to be running down. Applying this metaphor to the random disorder of a physical myofascial body, especially as it increases with age, its entropy can be seen to be increasing. We noted that this is not true everywhere in the cosmos -- that in local areas where there is life there seems to be other forces at work. We need to be thoroughly aware of, familiar with, the concept of its manifestation in the contours of the body if we hope to reverse the disorganization of our world, -- of our bodies, in order to increase the energy of our world. If this increase of energy



is our quarry we are in luck, for Eureka, we have found it! Dr. Hunt has been observing and measuring it, and the record of her sophisticated pioneering exploration in this field is shortly to be published.

We know that the body has developed embryologically from three systems: the digestive (or endomorphic), the nervous (or ectomorphic), and the myofascial (mesomorphic or muscular). Of these it is the myofascial which is the organ of structure -- the myofascial which seemingly offers the opportunity for these structural changes -- for changes in three-dimensional world.

As rolfers we have been observing for a long time the increased energy of the body when order (the appropriate relation vertically) is added to it. Dr. Hunt has validated our claim by measuring the increased energy of the body as changes in the material structure have been introduced. She has done this in several ways: she has measured the light energy indirectly through her instruments -- and with the help of Dr. Roslyn Bruyere, directly through direct psychic readings of the aura. And amazingly this age old method of measurement by Dr. Bruyer confirmed Dr. Hunt's brand new instrument. In terms of measuring lighting Dr. Bruyere and Dr. Hunt have observed its intensity, its vibratory rate, (i.e. its color) and Kirilian auras seemingly created in the body. In that experimental project the aura, the Kirilian photographs, the brain waves, as well as increased energy over the various centers that the ancients called Chakras were all observed. Dr. Hunt has found, for example, that random incoming people tend to have auras one-half inch in width, but after the kind of integration of structure called rolfing, their auras will have increased often to five inches in width.

Obviously we are dealing with a basic energy phenomenon of life here. Whether this really relates to or equates with the energy referred to earlier (the energy whose principal distinguishing characteristic is its failure to observe the law of inverse squares which characterizes Newtonian transmission) this we do not know at this point. Nor do we see any



way to determine it in the near future.

But that which we do know is exciting enough!

What do we know? What have we found out? We know that order can be evoked in the myofascial system of the body by substantially balancing the myofascial structures about a vertical line. We know that logically we can expect that the vertical line of that force manifesting as the gravitational field of the earth can either support and reinforce a body or it can disorganize it and destroy or minimize the energy fields surrounding it -- and presumably passing through and being part of it. We know that the energy fields of the body must be substantially balanced around a vertical line for gravity to act supportively, and in so doing, changing the energy apparently generated by the body. This vertical line registers the alignment of the ankles with the knees, with the hip joints, with the bodies of the lumbar vertebrae, with the shoulder, with the ears. This vertical line is reminiscent of the prickles on the chestnut burr all pointing straight toward the center of the earth, if all the lines are substantially vertical. This is a static verticality. This is the verticality taught by every accepted school of body mechanics operating during this century ... the Harvard group heads the list. All schools of body mechanics teach this is a measure of verticality, but no other school of body mechanics teaches how to achieve it. But because the body has an unforeseen, unexpected quality it can be done -- the body is a plastic medium!

We can now define rolfing: it is a system of organizing the body so that the body is substantially vertical and substantially balanced around a

vertical, in order to allow the body to accept support from the gravitational energy. Two characteristic qualities of the body make this unlikely situation possible. The material body of man is a plastic medium. By dictionary definition a plastic substance is one which can be distorted by pressure and then can by suitable means be brought back to shape. Now the question is, what does "back to shape" in this context really mean? And the answer is simple



and expected. "Back in shape" in this context means vertical -- vertical to the surface of the earth, like burrs of the chestnut, vertical like the lines of force of gravity. Because only when the gravity vertical of the body substantially coincides with the vertical gravity line of the earth can that energy field of the earth reinforce and augment the field of the human body. Then the energy of the earth

contributes to the energy of the body. The body becomes vitalized. The flesh becomes resilient; body functions of all sorts improve. Gravity at

this point is the nourishing force; gravity is the nourishing medium giving to the energy quotient Man/Gravity a higher value. This expresses itself in many changes. In behavior patterns, is a different state of consciousness -- we usually refer to it as a higher state.

We have describe the body as a plastic medium. Two factors contribute to this. The first is that the body, seemingly a unit, is in fact a

consolidation of large segments: head, thorax, pelvis, legs. The relation of these segments can be changed because the connection myofascial structure is a structure of connective tissue, of collagen; and collagen is a unique protein. The collagen molecule is very large, and it is a braiding of three strands of a spiral braiding. These three strands are connected by various inorganic atoms -- hydrogen, sodium, calcium, and undoubtedly other minerals. Such minerals are interchangeable within limits. Thus, as the body grows older and stiffer undoubtedly a larger percentage of calcium and a smaller percentage of sodium are present in these bonds. But by the addition of energy, in this case the pressure of the fingers or the elbow of the rolfer, this ratio may be varied and the joint or the connective tissue becomes more resilient, more flexible. Collagen is a colloid. All large-moleculed proteins from colloids with water, not true solutions. Colloids have certain qualities in common. An outstanding one is that by the addition of energy they become more fluid. (Remember that half set pan of gelatin and water. Put it in the flame and it liquefied; put it in the "fridge" and it solidifies.) With



the connective tissue of the body, add energy to it and it becomes more fluid, a soluble. Subtract energy and it becomes more dense, more solid, a gel. What do we mean here by energy? In the case of the jell-o, we are talking about heat; in the case of the body we may be talking about heat -- remember how different your flesh feels to your fingers in the very hot weather? But in terms of rolling we are talking about pressure -- pressure at the right points in the right directions, at the hands of the roller. Some of you are saying, "Oh, yes, you mean reflex points!" No, I'm not talking about reflex points. Reflex points, I think, are a nervous phenomenon of the nervous system. I'm talking about energy being added by pressure to the fascia (the organ of the structure in the body) to change the relations of the fascial sheaths of the body, to balance them around their vertical line which parallels the gravity line.

Thus, we are able to balance body masses, to verticalize them. The contour of the body changes. The objective feeling of the body to searching hands changes. Movement behavior changes as the body is a static stacking, but as the body incorporates more changes the balance ceases to be a static balance and becomes a dynamic balance. These are among the physical manifestations of the increasing balance. But there is an ongoing psychological change as well toward balance, toward serenity, toward a more whole person ... the whole human. The whole person evidences a more apparent, a more potent psychic development. This means that the ratio Man-Earth/Gravity-Energy has changed; the numerator Man-Energy has increased. The ratio has therefore increased. The force available to reverse the entropic deterioration is greater -- that world is no longer running down. It seems capable now of building up. Is this the work of that other energy, that one that does not manifest obedience to the law of inverse squares? At this point we do not know.

The gospel that I teach is that man is capable of a personal, evolutionary development.

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