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Failing Walls

When I moved to southern California in the 1980s, triathlons were all the rage. The swim/bike/run sport had drawn many from the running/jogging boom, and for those who were talented, serious and trained hard enough, there was prize money and even commercial sponsorship. Few were that good, but the more your body got used to hours of daily exertion, the stronger and faster it became. Southern California offered a climate in which one could train year-round; pools were plentiful, the ocean was here, and there was a growing “tri” community, full of like-minded devotees obsessed with discussing workout regimens and bicycle seats.

In fact, the first official swim/bike/run event was held in San Diego in September 1974, in Mission Bay, organized by members of the local track club who felt that running alone didn’t confer full fitness. I would agree (although no one is asking me). I was a writer/editor in the sports world in the 1980s, and I had encountered many elite runners up close and personal during those years, even world champions like Grete Waitz. They were as frail as could be! All sinewy and pale, almost sickly looking. The one Ironman champion I knew, in contrast, was a veritable bronzed god, with broad shoulders and sculpted muscles and a tousle of sun-bleached blond hair.

Once I got to San Diego, super-fit triathletes like Mark seemed to be everywhere. They biked, ran and swam an average of six to eight hours a day, ate copious amounts of food, read tri-magazines, worked as lifeguards or personal trainers or not at all, and slept. The superstars had sportswear lines and sponsorships; the lesser ones had dreams. To be “professional” was to compete for prize money, even choosing those races that would give you this chance, which meant you had to travel to places where your competitors weren’t able to practice year round. And there were other demanding events in which to test your mettle: The Pike’s Peak Marathon (a climb of almost 8000 feet), for instance, or the Death Valley runs, the entry fees for which are $250 today (both events sold out).

My friends Larry and Duane were triathletes who lived together, both Ironman competitors hoping for long-term careers in the fitness world. Duane found a job as a corporate trainer in northern California; Larry stayed here. He did massage, personal training, taught phys-ed and moonlighted as a comedy hypnotist, with solid bookings throughout May and June for high-school and college Grad Nights. We are familiar with the hypnotist snapping his fingers, barking the word “Sleep!”, upon which his subject closes his eyes and goes limp. Larry spent night after night breaking the fall of so many beefy high-school boys sinking to the ground that he developed double hernias that had to be surgically repaired.

Larry’s hernias were inguinal—in the groin. Hernias are protrusions of an organ through a weak spot in the surrounding fascia or muscle wall caused by abdominal pressure or exertion—e.g., heavy lifting, or even persistent coughing or constipation. In Larry’s case, extremely fit though he was, as he fielded the dead weight of all those sturdy adolescents when they dropped on the word Sleep!, his body became strained and the muscles of his abdominal wall began to fail. At this point, an opening may form and a bit of intestine pops through the weak spot, causing pain as the hernia proceeds to enlarge.

Hernioplasty is the term for surgical hernia repair, which was traditionally done by stitching the opening closed. The procedure was difficult, and recurrence was possible. But in the 1950s, an accident of chemistry at Phillips Petroleum resulted in the product Marlex, a plastic known as polypropylene, with which industry began joyously to experiment and is ubiquitously used today. It was Marlex that changed hernia operations in 1984 when a specialist in the field hit upon a way to use a piece of polypropylene mesh to fix hernias with a minimum of skill on the part of the surgeon and no hospital time for the patient—a win-win for all. Marlex quickly became the name of the game.
Larry’s hernias were patched with mesh, although today there is much more than Marlex. He was not someone I saw on a regular basis, so I was very surprised one day to find him walking slowly on the beach, his face twisted in pain—a pale ghost of the laughing prankster I knew him to be. His life had become a nightmare, he told me, from the hernia surgeries. The mesh had grafted onto his insides, scar tissue making it stick to muscles and all the wrong things. He couldn’t run, bike, or swim. The pain was constant and flared whenever he tried to move. He didn’t know what to do, and his surgeon had nothing to say.

**Enmeshed**

Mesh implants for hernias, for about three decades, have been the medical standard of care. That means they are the “right way” to address a hernia, and no surgeon goes against the standard. More than a million such surgeries are done in America every year, and more worldwide. With numbers like this, you can imagine how energetically mesh producers have urged doctors to push their magical product into high visibility and publish all kinds of papers about it. In the early 2000s, when Larry had his procedures, no one was challenging mesh. Hardly anyone knew about Chevron Phillips’ concerns that Marlex polypropylene was being used in permanent medical implants (1997) or of the warning a subsidiary had issued (2004): *Do not use this Chevron Phillips Chemical Company LP material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues.*

Of course it was from my favorite *Harper’s* magazine (March 2021) that I finally read about the risks of mesh implants for hernias. Following Larry through the ordeal that was only just beginning for him (over a decade ago) made me suggest he put up a website called hernia-hell-dot-com, but he was too distraught. He needed his terrible problem fixed. Mesh removal surgeries are called “explants,” and no surgeon was willing to do this for him. Litigation in California for medical malpractice is ruinously capped at $250,000, a ceiling from the 1970s that, in spite of inflation and how much less a dollar buys you now, has never been changed. Thus few personal-injury lawyers show interest in such cases, and those who do take them on immediately research the holy standards of care. If the standard was followed, your case is dead. From *Harper’s*:

> A study published in the *International Journal of Clinical Medicine* in 2014 found that “the ubiquitous use of synthetic materials in hernia surgery has brought about a new clinical syndrome: surreptitious, irreversible neuralgia.”

...The new syndrome came on slowly and was puzzling to doctors. “Pain is progressive, unrelenting and unresponsive to treatment,” they wrote, concluding that “removal of the mesh does not guarantee pain relief.”

In the mid-1970s, a magazine ad for Marlex claimed that the product gave “patients a better chance of recovery” because it interlaces with body tissue, strengthening it so incisions can heal faster.” Years later, this interlacing of body tissue with mesh was found to be a source of harm for many patients. Once the mesh is implanted, tiny blood vessels and nerves grow through the plastic surface, causing an acute inflammatory reaction. Scar tissue forms, and as it contracts, the mesh squeezes the blood vessels and nerves around it. “All of this occurs at the microscopic level,” [said] Dr. John Morrison, a hernia surgeon in Chatham, Ontario...

Even when you remove mesh, 25% of patients never get better,” said [Kevin] Peterson [a Las Vegas surgeon]. “They are doomed to live with horrible pain the rest of their lives or live on medication that makes them non-functional.”

If a million hernia repairs are performed each year in the U.S., and 15% of mesh patients are likely to suffer great discomfort and pain as the mesh grafts onto their tissues, that’s 150,000 men per year for whom the surgery creates a new and serious problem. In Larry’s case, after paying out-of-pocket for two explant surgeries at the famous Cleveland Clinic, he learned that the mesh had grafted onto his femoral artery and absolutely could not be touched at this spot. If it were cut away, he would die.

The FDA has indeed received complaints about hernia mesh, which is considered a “medical device.” In 2017, the agency got 3,149 complaints; by 2020 there were nearly 14,000. But, as we learn from *Harper’s*:

> In the device industry, big money buys influence... According to the data compiled by ProPublica, doctors and hospitals have received millions of dollars from mesh manufacturers in the past decade to support research and promote their products. Take the example of Dr. B. Todd...
Heniford, the chief of minimally invasive surgery at the Carolinas Hernia Institute... in 2013 Ethicon [part of Johnson and Johnson] paid Heniford close to $27,000...a mere trickle, however, before the floodgates opened. Mesh companies went on to send Heniford hundreds of thousands of dollars in speaking and consulting fees, honoraria, research grants and travel expenses. ProPublica data show that in 2014 four manufacturers associated with hernia mesh gave Heniford a total of $300,000. That number grew over the next few years. Between 2014 and 2019, he received a little more than $1.4 million from LifeCell and Allergan, primarily for his work with Strattice, a biological mesh made of pig skin that is used to reinforce weak body tissues. He received nearly a million dollars from other companies.

There are older heavy meshes like Marlex and newer lightweight meshes said to be improvements, but the practice guidelines written by an international group of hernia surgeons, which in fact recommends mesh implants over non-mesh repairs, warn that “there is no polymer or mesh construction known that is free from the risk of migration placed in a setting with tensile forces [e.g., scar tissue]...[and] there are great concerns about the implication of chronic pain which still occurs in 10 to 12 percent of patients.”

There are about 70 brands of hernia mesh being sold, and you never know what you might get because hospitals buy the stuff in bulk, based on price. Hospitals also get “gifts” and “education” from mesh producers (surprise! surprise!). Their websites promote hernia screenings and surgery, with no warnings about the mesh being used. Failure to disclose has prompted patients to file lawsuits–some 30,000 of these since 2018, with about 100 new ones per week. At last, you say, the truth will come to light. But pain is something you can’t easily get out of your head or body, if it’s chronic and not responding to treatment or palliation. Pain that lives with you, taking up residence in your body, becomes a partner in your existence, always present and attached like a Siamese twin, sometimes dull and recessive, sometimes cutting sharply with sudden insistence. For many, a constant companion they would love to be without, a hobbler of movement and thief of happiness.

In and Out of Pain

And so we get to the real topic of this newsletter. I once heard a great way of changing your perspective on things or people that are bugging you: *Who is living rent-free in your head?* I wrote this down on a piece of paper that floats into view from time to time. It always makes me nod my head: Yes, who is living rent-free in my head that I am grousing about as I go about my daily business? Or what is occupying my consciousness, rent-free (so to speak), and thereby siphoning my creative energy? As they say, the more you stress about something, the worse it gets, or—you will make it worse. But pain is something you can’t easily get out of your head or body, if it’s chronic and not responding to treatment or palliation. Pain that lives with you, taking up residence in your body, becomes a partner in your existence, always present and attached like a Siamese twin, sometimes dull and recessive, sometimes cutting sharply with sudden insistence. For many, a constant companion they would love to be without, a hobbler of movement and thief of happiness.

There are books and papers and studies on the subject of pain, which is part of being physical and alive, we realize. But chronic pain can take over our life story, and if it limits your function, it becomes your boss. Where or what the pain comes from can be a complete mystery, defying logic and diagnostic tests, but its continual expression in you and to you is your own private torture. I have had inexplicable chronic pain—a vicious intruder that arrived almost daily at 2 p.m. or thereabouts, to make me writhe on the floor or rock back and forth in burning agony for 45 minutes, and then suddenly disappear. It was deep in my lower abdomen: I tried probiotics, changing what I ate, when I ate, avoiding certain carbs, and yet it dogged me for nearly a decade, without mercy. For the 45 minutes during which it was acute, I could barely think past the fiery yellow poker twisting inside me, and when it vanished I was so happy I wanted to marry *everybody*. Today it is really gone, for good, I hope, and I still have no idea what it was caused by. Something going on in my gut, is all I know, and its reason for being has finally dissolved.

But I also had another kind of pain. This was first a little knee strain, then a little hip strain when standing for too long, then a painful limp that followed a run. It took years for this malfunction to overtly assert itself, and finally, when I could no longer do my favorite boot-camp workout without hobbling for two days after, I consulted an Egoscue trainer (you can look this up). That method of “e-cises”—very specific stretching and position-holding for a half-hour each day—got me a fair amount of relief, and as I discovered more wondrous things (kettlebells and deep-water running) I got stronger and straighter. For I had also found, after critical examination in the mirror, that I was becoming quite crooked—with one side of my pelvis higher than the other and one leg feeling distinctly longer than the other. I had gone to an athletic-shoe store to buy an insert to even out the length of my legs, and the salesman told me bluntly and rudely that a leg-length discrepancy was not my problem: *You need to find someone to fix your hip,*
he glowered, and would say no more. Bewildered, I left and fate led me to the Egoscue method not long after.

But all the things I had combined were still not solving my problem. Now the pain was part of me, fond of surprising me by buckling my leg if I made a sudden move, refusing to bear my weight. How could this have happened to me? I wondered. My explanation was that I had been sitting cross-legged at the computer for decades, always the right leg crossing the left, and this had skewed my pelvis and yanked at my femur, rotating it, with all the supporting muscles and ligaments having to adjust to a whole new kind of alignment. It was in fact misalignment.

I made progress in some ways, and I backslid in others. I gained much more mobility and flexibility as I patiently stretched and corrected what was long and what was short, also building up my core. I could feel my insides holding me taller and straighter, but my hip was still the boss, with grenades going off in the front and on the side, never quiet, never my friend. I was gaining mass in my spindly right thigh (yes, another frightening discovery made in the mirror), but the leg was still unreliable, still refusing to cooperate when I needed it to. As a result, my left leg took on the entire burden of bearing my weight as it guided me around; the right leg was something I pulled behind it, screaming all the time. Something was stuck in my therapy program—really a dedicated effort to learn more, flex more, try to work with myself by patiently and consistently nudging my crookedness straight. And that had greatly improved, by what I could see in the mirror, but why the consistent pain, and what more could I do about it?

I suppose it’s when you’re really confused that a window opens and a light shines for you. Not long ago, I went to pick up a product I sell and discovered it was not packaged the usual way. I had to wait a half-hour to speak with the supplier, who was with a client. I took a walk in the meantime, by a lovely lagoon, sunshine above and birds twittering. Yet my hip had no appreciation for the pretty scene: it wrenched and complained and shot pain darts with every step. I was bewildered and very upset. And then, when my walk was over, in the lobby of the building I was returning to, a card jumped out at me from the table that was there. It had a word I had first heard way back in my past: **Rolfer.**

**Loss of the Pattern**

The body is flexible, a fluid energy that is in a process of change from the moment of conception until the moment of death. The flesh is not a solid, dense mass; it is filled with life, consciousness, and energy. These are words from a book I read many years ago, by a Rolfer who had given up life as a professor of philosophy to change his career completely. To leave the world where the real is what people say, what we’ve been told, and what is assumed to be true, is to enter an immense land of unexplored territory. More words by this philosopher, who gave up the world of academia for the world of the body, but still remained a philosopher. As those who have made the blue-pill-red-pill shift know, an ocean of unexplored territory rocks and rolls out there, behind a veil through which most people absolutely cannot see.

Wikipedia describes Rolfing as follows:

Rolfing is a form of alternative medicine originally developed by Ida Rolf (1896-1979) as Structural Integration...The principles of Rolfing contradict established medical knowledge, and there is no good evidence Rolfing is effective for the treatment of any health condition. It is recognized as a pseudoscience and has been characterized as quackery.

...Science writer Edward Ernst offers this definition: “Rolfing is a system of bodywork invented by Ida Pauline Rolf...employing deep manipulation of the body’s soft tissue allegedly to realign and balance the body’s myofascial structures.” Rolfing is based on the unproven belief that such alignment results in improved movement, breathing, pain reduction, stress reduction, and even emotional changes.

Wiki-PEDIA! What a very nasty and uncalled-for bias, and if it’s true, why is it that so many people who’ve been Rolfed become Rollers? Why would a university professor give up an impressive position at a major institution to dig his hands into people’s backs and legs? I have known three professional Rollers, and all of them changed their lives to study this quackery because they were Rolfed.

I first heard about it when I was a teenager. I had been invited to attend a running clinic, and the man who was leading it was explaining various healing modalities for physical pain. There was Feldenkrais, Alexander Technique, and Rolfing. He told us how Rollers ripped the fascia off your muscles with their fingers and freed them from being frozen. He told us the pain was so dreadful you had flashbacks from traumas happening when you
were three years old. It sounded awful, but fascinating.
The first Rolfer I met had studied at the Rolf Institute in Boulder, the most prestigious place to get your credentials.
He had moved to San Diego to work on triathletes, as there were so many here. But to his surprise, he had no clients.
“They’re wimps,” he told me disgustedly. “They can’t handle the pain.”

So what about all this famous pain? To quote another Rolfer I met later: The answer to the pain is in the pain. This, he told me, was said by Ida Rolf herself, who, in spite of what Wikipedia thinks of her, was a bonafide scientist with a Ph.D. in biological chemistry from Columbia University (1920), after which she put in years of research at the Rockefeller Institute and published 16 scholarly papers in biochemistry. But one gathers from a short bio from the website Rolfing.London that Ida was a highly curious soul and free thinker:

Ever since an osteopathic treatment helped her to recover from a horse kick in childhood, Ida Rolf remained interested in things of the body. She avidly studied hatha yoga, homeopathy, osteopathy and other manipulatory techniques, and [actively applied] her findings to those who were open to her insights.

[Her method] was born in the late 1930s when [she] was looking for a music teacher for her children. She found that the best possible candidate was beset with a chronic arm injury that made teaching impossible. Dr. Rolf insisted on working with her, and by applying yoga postures and manipulation, managed to bring Ethel back to functionality and teaching music.

Of course Ethel had friends with similar problems, who had friends, and before long there were queues in front of Ida Rolf’s house. In the process of working with [people], Ida began to realize that human bodies have the capacity to heal themselves, but for this to happen they need to be in alignment with gravity. By using insights from the natural sciences, she discovered that human posture when carefully examined reveals the physiological, emotional and psychological state of an individual, and that any state can be much improved when the body is “structurally integrated”–a term coined by Rolf herself.

If you see photos of Ida Rolf, she has white hair in a bun and looks to be in her 70s. Born in 1896 in the Bronx, it wasn’t until the 1960s that her method got attention, thanks to the Esalen Institute and the Human Potential Movement in California, where Rolf began to teach and exchange views with other modern visionaries.

Ida’s famous book, Rolfing: The Integration of Human Structures, is a treasured possession of mine, and it is open in front of me (hardcover edition) right now. I first saw it in the office of an unknown physical therapist in New York, whom I was featuring in an article. (I am happy to report that one thing led to another and he had great success after that piece, with a book offer and famous athletes seeking his services.) As I re-read the preface of Ida’s book, I am fascinated by the concepts in it:

As in all matter organized into biological units, there is a pattern, an order, in human bodies. Humans can change toward orderliness, or they can change away from it.

Bodies are amazingly plastic media

A human body is actually complex, a consolidation of segments, the keystone of which is the pelvis.

Form and function are a unity, two sides of one coin. In order to enhance function, appropriate form must exist or be created.

[Quoting N. Weiner:] “We are not stuff that abides, but patterns that perpetuate themselves.” For most people in the real world, the pattern body has been lost or is no longer visible.

The purpose of this book is to unveil the pattern underlying the random human body, to [show] how the random body [became] deviant, how it became aberrated, and why more joyous function can result from more appropriate form.

In the average person, the [original] pattern has become submerged under layers of fleshy disorder. (I do not mean fat.)

[There is] a lack of symmetry and balance. The upper half of the body may look much too small (or too large) for the lower half; the abdomen may seem too big (or too small) for the chest.
The torso is not balanced over the legs, lagging behind... The abdomen may lead the body, and the legs scurry along trying to fit themselves underneath. The neck and head may well be six inches in front of the position that gravity and common sense dictate as appropriate.

Sadly enough, these are average bodies, and we challenge you to disprove it in any gathering of people, of any age selection.

Bingo, Ida! I see these bodies around me all day long. And I also observe the expression of these bodies, the way they carry themselves in the world around them, and reflect the character of their owners. Ida continues:

This picture of disordered structure is a sad commentary on the well-being of humans... Twentieth-century medicine, which has worked so many miracles, has been chemically, not structurally, oriented. Hence, the lay mind thinks of chemistry as the only outstanding healing medium—a drug for this, a shot for that. But any mirror or photograph would reveal that a great many problems are matters of structure, of physics—of a three-dimensional body fitting very badly into a greater material universe (the earth), which has its own energy field (gravity).

### The Web of Support

Through the ages, there have been different preferences for how bodies should look and be. The classic works of the Flemish painter Peter Paul Rubens show women with mountains of muscular flesh who look almost like men. (I am looking at his Abduction of the Daughters of Leucippus—those are some BIG WOMEN.) Today the muscle-cut athletic body is the rage for women and men, envied by the roly-poly masses, but a Rolfer would tell you that tight bodies are pressure cookers for pain. Liposuction removes bags of fat from unhappy owners of this padding, sometimes placing it elsewhere for improved effect (this would be the Brazilian butt lift that the Kardashians signed up for). The body is protean, as Don Johnson writes, a plastic medium as Ida Rolf discovered, and even we—without any forethought or planning—find ourselves changing shape over the years.

It isn’t just weight gain that transforms us as we grow older. It is also our emotions and habits, as you will come to realize. Posture reflects attitude, attitude reflects emotions, and there is a basic link that exists between structure and emotion, Dr. Rolf points out. Psychological hang-ups are literal thorns hooked in literal flesh. “They can disappear only as the flesh changes, as the barriers within the flesh are disengaged, and as the free flow of body energy and fluids is established.”

We are not a network of parts—arms, legs, eyes, ears, organs, bones, muscles, arteries and veins. We are a system moving in a material world, and our movement is our expression in that world. We move within a force field that bears down on us, commonly called gravity. If the integration of our parts as a moving system becomes disordered, the force bearing down on us causes us pain. Imagine yourself walking through life with your head forward and neck extended, as looking at a phone or computer screen makes us do—a modern habit. With your bowed head leading you, the effect of the force field calls upon your neck and shoulders to work harder, supporting that head. Eventually these muscles become weak and tired, but the problem is that more strength is required to deal with the pressure. Since you can’t get blood out of a turnip, as my mother was fond of saying, the layers of fibrous tissue that surround your exhausted muscles—the fascia—have to provide the extra strength. So they thicken, becoming more dense, offering rigidity and additional support. Your body has performed a structural adaptation to stress. Over time, your head, neck and shoulders become more inflexible, unable to move easily in other directions. You apply pain-relief liniments, seek massage, twist your neck this way and that, take some pills, try to stretch. Relief is short-lived. From Rolfer Don Johnson’s timeless book, The Protean Body:

Body structure is actually a functional differentiation of the same primary material. At places of extreme stress, there is a thickening of the tissue in which...collagen [a protein]...becomes more dense. In places where there is a need for rigidity, the blood supplies calcium salts and you have bone. In other places, there is a need for the flexibility of soft muscle invested in fascia.

Fascia is our organ of total body support. It is itself a tough, layered tissue system, with variations in composition where necessary, functioning as a mechanical lubricant and a ubiquitous wrapping that keeps our tissues separated and contained, though it is also the web that connects them all. That fascia is a cohering anatomical system has been totally unknown to the medical world, and
has only hit the radar of the therapy world quite recently, it appears. From the website MyofascialRelease.com:

Fascia is a specialized system of the body that has an appearance similar to a spider’s web or sweater. Fascia is very densely woven, covering and interpenetrating every muscle, bone, nerve, artery and vein, as well as all of our internal organs, including the heart, lungs, brain and spinal cord...It is actually one continuous structure that exists from head to toe without interruption. In this way you can begin to see that each part of the entire body is connected to every other part by the fascia–like the yarn in a sweater. (my italics)

... Fascia plays an important role in the support and function of our bodies, since it surrounds and attaches to all structures. In the normal, healthy state, the fascia is relaxed and wavy in configuration. It has the ability to stretch and move without restriction. When one experiences physical [or] emotional trauma, scarring or inflammation, the fascia loses its pliability. It becomes tight, restricted, and a source of tension to the rest of the body.

The expert on this site–John F. Barnes, PT (physical therapist)–includes a most interesting heading on this page which he fails to explain whatsoever: Fascia: A Liquid Crystalline Matrix. Wow! Right away, anyone like me who loves learning about the bioelectricity of the body, its liquid-crystal content and the wondrous properties of such stuff is bound to get very excited about this. But, alas, there is no more information. So I had to put it into a search engine. I found this information by a Pam Foley:

Fascia has been described as a liquid crystalline matrix, which is basically a single sheet of connective tissue, made primarily of collagen fibers, that wraps every structure in the body...these fascial fibers can bind together to form thicker branches–giving form to the body; or single fibers can separate from the branch, forming a more complex system. Neuroscientists have come to believe that fascia is the structure that carries consciousness.

Fascial fibers are hollow tubes filled with fluid that have the ability to conduct light, similar to fiber optics. Consequently they can relay information to the brain faster than nerve impulses. They provide separation between structures, preventing—for example—muscles from rubbing together. They can store and release kinetic energy. In a fight or flight situation, fascia can clamp down on blood vessels and nerves, slowing potential blood loss and dulling pain sensations.

This was as much as Ms. Foley would give us, but an article by John F. Barnes, PT (mentioned earlier) on MassageMag.com gives us much more:

The Neuron Doctrine and neuromatrix theory [of science] suggest it is the brain and neural system which run the body. However, it turns out the brain and neural systems are embedded within a much larger and vastly more important crystalline-fiber network—the fascial system—which transmits the flow of information, light and sound necessary for health and a vibrant life. The brain and every nerve of our body lie within and are profoundly influenced by the liquid-gelatinous ground substance of the fascial system. It is a well-known fact that nerves can only transmit signals at slightly over 20 meters per second. Therefore, it is impossible for nerves to stimulate the trillions of cells of our body that each have more than 100,000 reactions per second. (my italics)

The fascial system functions as a fiber-optic network that bathes each cell with information, energy, light, sound, nutrition, oxygen, biochemicals and hormones, and flushes out toxins at enormous speed...The ion-transfer mechanism of brain impulses is too slow to account for the massive amount of information necessary for our body-mind to function. Therefore, it is the fascia, your liquid-crystalline matrix, that is the major and most important communication system of the body.

I watched an interview with Barnes, who was at the same time working on a woman who had been injured in an auto accident. She was lying face up on a table and he was gently moving her head and neck with his hands. I heard him say the following:

When the fascia becomes restricted from trauma, it can exert tensile strengths of up to
2000 pounds per square inch. That’s crushing pressure. It has the strength of a radial tire...

[But] fascial restrictions do not show up in any of the standard testing, so [we have] been completely misdiagnosed for eons.

...All the research done on the fascial system was done on dead people. And as you know, dead people are brittle. So nobody paid attention to the fluid component of the [fascial] barrier. And what happens when you go through physical and emotional trauma is that the vibration changes...so that which should be fluid starts to solidify at a crushing pressure.

There are more levels than just the physical to many who have treated others for musculoskeletal pain and dysfunction. Barnes believes in only the most gentle manipulation–no force, no severe pressure on the part of the practitioner, and the body will use its own intelligence to heal itself. Ida Rolf’s structural integration method, by contrast, uses much more pressure–as much as the subject can tolerate. For yes indeed, after the appearance of the little business card, I went in search of a Rolfer.

**The Down Force**

I did not know how much certain muscles in my body had become fused. The striations that should have been supple and flexible throughout my lower right half were literally stuck together, with layers of fascia wrapped tightly around them: the proper terms are adhesions and scar tissue. This came from years of compensation because I was no longer plumb—that is, in alignment with the down force of gravity. Ida Rolf writes:

Bodies are designed to contact the earth; of necessity, they must stand on feet, not be attached to the sky. So if you lift them by a skyhook and see their more slender, straighter beauty, you must put them down again, necessarily and sadly, and stand them on the earth. Then you recognize that lifting them by a skyhook will not basically change built-in structural compensations. Those arose long ago in the body’s adjustment to the earth’s gravitational field. When gravity again takes over, when the feet are replaced on the ground, the old picture of thickening, shortening, compensating compression reemerges. The inevitable action of gravity anywhere at any time on any soft, pliable mass is to bring it nearer to a formless, chaotic, spherical unit. Thus in human bodies, gravity acts to shorten, thicken, and compress. Only the bones prevent bodies from becoming a thick, amoeba-like ball.

Were it not for the sack of skin in which we reside and our bones providing verticality, we would be blobs on the ground, and we do tend to deform in just that way as middle-age spread mounds around our bellies and hips and our exterior starts to look like melting wax. From looking closely at dozens of diagrams and drawings in Ida Rolf’s book, it seems that fascia is the “filler” of the body: If you took a cross section of a leg and looked down it, you would see bones and muscles and arteries and veins filling it, and if you poured milk or a white mixture in between everything to fill up the spaces, that would be the fascia.

Fascia is different in composition based on its location. Surface fascia is thin and pliable; deep fascia is thick, even forming collars or cuffs around wrists and ankles for stability and support. As we age and the physical and emotional experiences of our lives take up residence in our tissues, we lose our plumbness—our innate, balanced natural pattern, as Ida Rolf puts it—in the gravitational field. Our liquid-crystal fascia begins to shorten and solidify, girding us against the down force. This chronic hardening is called contracture, and since fascia has the strength of a steel-belted radial [tire], you can imagine the pressure it puts on your joints and muscles. Constant compression of this kind? No wonder so many of us are achy, crabby and miserable.

Emotional experiences? you say—residing in the tissues? The hard sciences would declare this is not possible, but let’s just reflect briefly on something. What about attitude? If you’re angry and defensive all the time, you think it won’t show up in your stance and posture, your general bearing? What if you’re embarrassed about breasts that are too big, and you begin to hunch over as a young teenager so as not to call attention to them? You think this hunching won’t affect your movement, especially if you do it all your life? Ida Rolf, from Rolfing:

Distortions of individual elements or parts of elements shorten, thicken and twist the body as a whole. If these muscles become displaced ...through accident, [or by] repeated or sustained over-effort or prolonged slump, the erect symmetrical pattern of the whole body must suffer. *Any distortion in the human body, from*
any cause, is accompanied by shortening, loss of length. This is the effect of gravity. It is the collapse of the tent. (my italics)

And the way to set the tent back up, as Ida’s bare hands taught her, is to introduce lengthening—to do what the imaginary skyhook would do: elongate, soften and mobilize. Thus Rolfing, as the physical therapy she developed is often called,

...is a slow, sensitive and gentle moving of tissue according to the rhythms of the flesh... There is in most of us a tension between wanting to be free and the fear of being free. In the flesh, it manifests itself as a conflict between the tissue’s moving with [the Rolfer’s] hands and its resisting them. The resistance and the tightening are the major sources of pain. – Don Johnson, The Protean Body

My recent structural-integration sessions were full of tissue resistance. I experienced deep, searing pain. My Rolfer learned to understand my whimpers and moans the way one comes to know a baby or a dog. I elected to have the customary “10-series” of Rolfing: a protocol that addresses the entire body, re-working the rib cage, footplant, shoulders, legs, adjusting the pelvis, the jaw, the head and neck, and the core. Ten weeks of one-hour sessions, after which I just wanted to go home, eat ravenously and wrap myself in a blanket. Strangely, I never had the bruising I expected after the work. Instead I had a new soreness–a feeling of being whacked in a particular area with a sledgehammer...but what a feeling! With it came a gradual awakening, as though tissues that had been asleep for a decade had been shaken out of their torpor. I could move in ways I had lost. It was exhilarating. I was making progress! I began to crave my next Rolfing session, even though each one brought a new fight between my flesh and my Rolfer’s iron fingers, and I went home totally wiped out. From Don Johnson:

Body structure is a function of at least four variables: the events of personal history, cultural forms, the body’s relation to the gravitational field, and one’s intentions.

...During the first 33 years of my life, my intention was to live outside my body. I lived in a fantasy world of daydreams, books, philosophy and movies... That intention formed a body that was dense, insensitive and extremely armored in the pelvis. My intention during the last decade has been to experience my body, to confront the pain in it, to learn to use it. That intention has produced a different body structure.

Johnson tells us early in his book that few people realize their body structure can change. However, if you recall what you looked like as a teenager, you’ve already changed, and quite a bit. We are shape-shifting in the forward sense, but we really don’t think we can shape-shift back out of our thickness and dumpiness, once we’ve gotten there, unless we “lose weight.” Ida Rolf’s huge book shows many photos of before and after Rolfing, and the bodies are much more erect, the dumpy look gone.

When the formal pattern is destroyed, any organic unit will lose energy and return toward the undifferentiated, formless, orderless world–a world of decreased energy, a universe where unique function dissolves... Psychologically, too, there is less energy. It is recorded in lowered alertness, withdrawal of attention from the outer environment, and increased preoccupation with real or imagined inner affairs. Compression is apparent in the static human. You long to get hold of that over-contracted figure and stretch it. (my emphasis)

**The Frozen Heart and Bowl**

But there is also the lean, tight, athletic body—a current cultural ideal. Tight bodies usually have a frozen pelvis, I learned—with all three joints in this large bony dish fused together by a web of thick fascia congealed in their seams. Pelvis means basin, a container for our abdominal organs, to which a vast network of muscles and their tendons are connected in the junction between our upper and lower halves. Ida tells us that if any of these are shortened and inflexible, the pelvis is tipped and spills its contents (there’s your pot belly!). If the pelvis becomes rotated or tilted, the ball-in-socket joint of the thigh no longer moves freely (there’s your stiff, painful gait). This joint, too, is part of a very intricate system of muscles and connections, Ida reminds us, and any shortening or inflexibility in these puts pressure on the joint, whereby we are often given a diagnosis of arthritis. From her book:

True arthritis...is deterioration of the joint, characterized by a chemical change in the blood and joint tissue. Arthritic pain is the result of joint compression. Not all causes of true arthritis
are painful...[and] all that hurts is not necessarily arthritis. It may merely be pseudo-arthritis, a disorder in the tendons and ligaments. Not until your doctor has diagnosed it as arthritis on the basis of chemical tests...are you lame with “arthritis.” Appropriate muscular organization can give the pseudo-arthritic [person] movement and render him pain-free.

I should again note that Ida’s rich book is full of photos of people before and after their integration sessions (ten is the usual protocol). In these pictures, slump is turned into prouder stance, often with an inch or more gained in height. Yes, compression of the joints causes us to shorten overall, and this is not just the stooping of old age. And there are pictures of small girls in dance class with pudgy feet turned out in toe shoes, and one of a toddler whose uncoordinated legs are positioned around a big, puffy diaper: think of how this distorts the very way you are learning to walk, throwing both legs out, forcing a body to waddle instead of moving in a straight, clean, forward line. No wonder “the random body,” as Ida calls people in general, has hip problems later in life!

Back to the bulging belly, the bane of life for so many of us. Ida writes:

When the pelvic contents overflow, the overlying abdomen becomes either the little round “potbelly” or the more diffuse “bay window.” Its owner bewails his fate—he is putting on too much weight, he must stop taking cream in his coffee, etc... He goes on a low-calorie diet and takes up jogging. But the basic contour of the abdomen refuses to change, though the general figure may become more svelte. Calories have little to do with this particular manifestation. The fact is that the man, ruefully looking at his “bay window” in the mirror, is [seeing] the evidence that his pelvic basin is spilling its contents. The tilt of his pelvis makes it incapable of performing its function as a container.

How about that, for all those who complain they can’t get rid of their pooching gut. Pelvic tilt is related directly to the position of the lumbar spine and the sacrum, Ida writes. Where these meet is the sacro-lumbar junction—the seat, as some would say, of kundalini energy. Sacrum means sacred bone, Ida reminds us: this is the largest and lowest bone of the spine—heart-shaped, too, fitting neatly into the pelvic bowl with a moving joint on either side. It is the moving sacrum that, as we get older and stiffer, becomes solidified with the pelvis, producing a shuffle instead of a rolling walk, and once immobile, inducing a life of low-back pain and strain.

Ouch and wow! My sixth Rolfing session, with plenty of unrelenting sustained pressure, freed my sacrum—the frozen heart-shaped mass at the base of my spine. I was kicking and writhing, but the iron fingers did their job. Their owner kept repeating, “Don’t try to get away from me.” When you let someone go that deep, you’re really cooperating with the work—with the Rolfer—and both of you are sweating bullets. These were the words of a friend and trained Rolfer, spoken to me later by phone.

I have known a couple of Rolfers, even tried a session or two. They are all different, employing personal variations on their original training (officially known as Structural Integration). They handle you in their own ways. Some mix Rolfing with other kinds of body work so as not to introduce too much pain, as clients may decide not to return. My earlier sessions may not have been focused enough, or I myself was not committed: I was just sampling; I had no reason to continue. Years later, though, came the real complaint, as Ida would call it: The real complaint of the body toward life and its own compression does not become apparent until [you can no longer] move.

**Energizing the Colloid**

But, as we are learning, there is an organ in the body that can actually supply that lost movement, one that orthopedists and trainers and those treating our injuries appear to know very little about. Don Johnson calls it the forgotten organ of the body. Slippery and wet, lubricant and wrap, forming cuffs and cords and sheets and bags, it dives from the surface just under our skin to the depths of our interior, where it joins other layers deep inside us. All of it is connected—a living network operating faster than our nerves—perhaps an information superhighway to the brain. The fascia that has been studied is in dead people, so what is it like in live people? When you prod and manipulate the fascia, if it is indeed a liquid crystal, it transforms that movement into voltage—charge, electricity. This is the part I’ve come up with myself, from my long love-affair with the body’s piezo electricity.

For those who are new to this newsletter, the Piezo Electric Effect, as it is known in physics, occurs when frequency or mechanical pressure travels through a
particular kind of crystalline formation and a voltage is generated, with the opposite happening as well: when voltage is applied to a piezo crystal, it releases a frequency (i.e., movement). So let’s look at what Ida Rolf says in her book (this may be a little bit sciency, but remember that she was a Ph.D. biochemist):

Connective tissue, particularly the fasciae, are in a never-ending state of reorganization. The continuous metabolic interchange made possible through the intimate relation of fascia with water metabolism allows structural reorganization. While fascia is characterized as a tissue of collagen fibers, these must be visualized as embedded in ground substance. For the most part, the latter is an amorphous semi-fluid gel. The collagen fibers are demonstrably slow to change and are a definite chemical entity. Therefore, the speed so clearly apparent in fascial change must be a property of this complex ground substance. The universal distribution of connective tissue calls attention to the likelihood that this colloidal gel is the universal internal environment. Every living cell seems to be in contact with it, and its modification under changes of pressure would account for the wide spectrum of effects seen in Structural Integration.

The observable speed of the changes that are induced supports this hypothesis in light of what we know about the action of colloids and the physical laws governing them. The application of pressure, is in fact, the addition of energy to the tissue colloid... It is probably this more energized colloid that accounts for the different physical properties of the body undergoing Structural Integration. (my italics)

So the wetness of fascia is the colloidal gel that surrounds it—the ground substance. I first heard of this stuff from Dr. James Oschman, a biophysicist known for his knowledge of energy in the bioelectrical sense—“electric nutrition,” which many people call earthing or grounding. In an interview, Oschman talked about a non-fibrous interstitial tissue gel in which the body stores electrons obtained from the surface of the earth—for instance, from a barefoot walk on the beach or running on the grass or gardening in moist soil. The gel is a kind of bank vault from which we draw those stored electrons, deriving energy, and also as fuel for cellular repairs. Now I learn that Ida Rolf knew about ground substance too, long before Oschman and Gerald Pollock (of structured-water fame) joined the scene. Wow! The application of pressure, as she says (without mentioning piezo electricity) is the addition of energy to the colloid. Yes, because in the body, with its enormous quantity of crystalline material, electricity equals energy.

A colloid is a state of particles suspended in a liquid or gas; common examples are fog, clouds, smoke, whipped cream, shaving cream. So we have inside us this ground-substance colloid that actually carries electrical charge, which is one property of colloids. Blood is a colloid, proven by its ability to be centrifuged or separated into solid and liquid parts. Paint, mud and ink are other colloids. You can destabilize a colloid and cause it to aggregate by changing its electrical properties. A prime example is the known fact that when red blood cells are exposed to EMFs, they begin to stick together and the blood loses its fluidity. (This is known as viscous or sticky blood, with acidic pH; pH itself reflects electrical charge).

Now I have to ask whether our constant exposure these days to EMFs is messing with our precious interstitial colloidal gel, as well as our blood, and causing it to aggregate and thicken? We know this about blood, but has anyone ever asked this about the crystalline gel that is our universal internal environment? No wonder the fascia loses its resilience if its surrounding matrix is losing charge. For blood to flow properly, the red-cell surfaces must have a negative charge such that they repel each other. (Zeta potential is the term for this electrokinetic measurement in a colloid.) So, if EMFs also cause our tissue gel to lose its fluidity—just as they do to our blood—it stands to reason that fascial layers would become sticky and adhere to muscles beneath them.

It also makes sense that certain muscles—Ida calls them “myofascial neighbors”—would start to stick together, forming steely bands that no longer extend or contract. So many people complain today that they “hurt all over.” Of course! There is no resilience in the tissues, no elasticity, because when you lose negative charge (conferred by the presence of electrons), the ground substance throughout your body becomes lifeless. No wonder a day on the beach or a swim in the pool revives us so much! Our tissue gel drinks in millions of the earth’s electrons, our body makes successful repairs, and all that fascia is nourished and loosened up. (In-ground pools and hot-tubs are full of free electrons, as they sit in concrete basins with steel frames—both conductive materials.)
One last question...on the subject of collagen. This protein constitutes approximately one third of the body’s overall protein content, and one out of every three amino acids in the beautifully supple collagen helix is the amino acid glycine. Our body’s fascia is primarily made of collagen, and as I have reported on extensively, the man-made glyphosate molecule (synthesized by Monsanto in the 1970s) substitutes for glycine in our protein synthesis, because our bodies cannot tell the difference between the two. Proteins made with glyphosate are inflexible, causing tissues (like bones and ligaments) to fail or crash under stress. All those problems people are having with their joints and cartilaginous tissues (“arthritis”), necessitating so many knee and hip replacements, may be because of brittle tissues containing faulty proteins made of glyphosate instead of glycine.

So could it also be that our fascial tissues have lost their malleability and flexibility because of the errant collagen they contain? There might be a double-whammy going on with the inner web of our bodies: inadequate zeta potential on the slipping planes of our ground substance and fascia made brittle by glyphosate. Just something to ponder...

**Inside and Outside**

Ray is one of the Rolfing clients who pops up frequently in Don Johnson’s book. A young college student, lean and athletic, Ray undertook the 10-series because he had developed constant pain, which no medical specialist had been able to diagnose. He rode horses, ran and swam every day. His first session of Rolfing, despite what he spoke of as excruciating pain as Johnson separated his ribs and loosened his pectorals, enabled him to stop his daily dose of pain killers. The changes he experienced from Rolfing over the weeks were subtle but typical and profound. Of Ray’s final session, Don Johnson writes:

> As I worked quietly through his body, we both commented on how things had changed over the nine weeks. I was working more deeply than ever, but he was able to accept the work and the pain without resistance, quietly moving with my hands to complete the final level of balancing.

My work centered primarily on getting more length in his legs, more width in his upper back, and more movement in the hinge between his neck and the base of the skull. As we examined the whole set of photographs [of him] at the end of the session, we noticed that along with the dramatic changes in the length and expansiveness of his structure, there had been a steady growth toward softness in his flesh: the early tenseness in his face and tightness in his shoulders and belly were beginning to disappear. His voice had become soft and deep.

We parted simply... I advised him not to think of any more manipulation for several months unless he had an acute problem...[as] there would be a good deal of spontaneous evolution in his body during the next months, not to be interfered with.

To me this is the best part–a gift that keeps on giving. That the fascial superhighway might be energized to the point that it gains a newfound consciousness and begins to run a different kind of show. And then there are the other transformations—the surprises within the surprise. Don Johnson notes:

> “Inside” and “outside” are lies. An objection often raised about Rolfing is that it cannot be of real [emotional or psychological] significance because it comes from outside the person, and significant change must come from within.

... Body, psyche, spirit, are all interacting systems within the person. They each represent a viewpoint, a level of integration, a kind of energy found within each of us. Personal health is a function of the harmonious operation of all three. If one fails, the [others] are blocked...

As I looked up Rolfing in my area to see where to get it seriously done this time around, I seem to recall the line: *The results are permanent.* It might have been just an impression gleaned from the websites: that there is little if no reversion, and the 10-session protocol does not need repeating. Considering the regular massage and chiropractic visits so many people book for themselves, this was surprising to me. To say nothing of the remarkable shifts in psyche and soul... From Johnson:

> One morning several years ago, Ida Rolf clumped into her living room at Big Sur where about twenty of us were assembled. “Word’s going around...” [she said] “that Ida Rolf thinks the body is all there is. Well, I want it known that I think there’s more than the body, but the body is all you can get your hands on.”