Is Structural Integration Scientific?  
The Ten Series and Scientific Protocol

Ben Hanawalt

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When I started this work, there was no 'book.' There was no law and there were no prophets. And still there is very little law, and there are even fewer prophets. You have to stop and experiment, and the law and the prophets come out of what the experiment shows. When we experiment with bodies working in the same way, the same pattern shows the same map. From this you are allowed to come to certain conclusions about what's going on in a body. Those of you who have been brought up only in the arts don't really have a gut understanding of this. You hear it, but you never sweated it out. Those of you who have been brought up in the sciences see in the results of Rolfing the stuff that underlies conclusions.

---Dr. Rolf

In my practice of Structural Integration, following in the tradition of Dr. Rolf, I am continually delighted by the unfolding layers of complexity and genius underlying the work. The more that I explore Dr. Rolf's legacy, the more insights I gain into her methods. What were her intentions when she began to teach 'structural dynamics' to osteopaths? Why was the Ten Series formulated and passed down? What relevance does it have as the field of Structural Integration continues to grow and evolve?

The conclusions you come to from the premises you begin with. My job is to shake up your premises. I'm trying to create individuals who are foc of change in the world—as teachers, not technicians—through the changes they help foster in individuals in the culture.

---Dr. Rolf

The profession of Structural Integration is coming of age. SI now has its own certification board and is exempt from massage licensure in several states. The 'gel-sol' model is giving way to cutting edge neuroscience with continued investigation of the mechanisms of somatic plasticity. As Dr. Rolf's son, Richard Demmerle, says, the Fascial Research Congress is truly a milestone for understanding scientifically the basis for the technique known as Rolfing® [Structural Integration]. Researchers from diverse disciplines are coming together to share their discoveries on a substance that, for most of western medical history, was discarded during the dissection process. In the light of current research, and the many years of practice that the leaders of our field have spent developing new techniques and approaches, what is the relevance of the basic Ten Series?

Anybody and everybody can put hands into a body and change a body. And have mercy, good lord, on you if you come and say to me, "Well I know I did a good job 'cause I changed the body." All you have to do is get your fists into somebody, you'll change that body; you can change it very unhappily. It's just as easy to take a body apart—in fact it's almost a lot easier—than it is to put it together. But the reason you call yourself a worker of Structural Integration is because you put it together, and if you don't put it together, you're doing something else; you're not doing what is being taught here. It's very, very important to realize that.

---Dr. Rolf

The Scientific Origins of Structural Integration

Rolfers make a life study of relating bodies and their fields to the earth and its gravity field, and we so organize the body that the gravity field can reinforce the body's energy field. This is our primary concept.

---Dr. Rolf
In her thirteen-year tenure at the Rockefeller Institute, she rose from a mere technician to a 'Fellow,' and second ranking member of the staff. During this time, Dr. Rolf was close friends with a blind osteopath named Dr. Morrison and would accompany him to “all sorts of osteopathic and chiropractic seminars.” Steeped in scientific methodology and osteopathy, Dr. Rolf had already begun to investigate how the human body could change and be changed. She was aware that changing human form was considered impossible according to the prevailing paradigm, so how then would she have evaluated which interventions were effective, and which were not?

Scientific methodology refers to a body of techniques for investigating phenomena, acquiring new knowledge or testing, correcting, and integrating previous knowledge. What approach could have been more appropriate to her inquiry into the human body? However, Mother Nature does not give up her secrets easily. In the physical sciences, measurements and correlations are fairly easy to come by; a meter is a meter and a gram is a gram. However, the systems involved in the life sciences are much harder to quantify. Bruno D’Udine, an evolutionary biologist, elegantly described the challenge in an address to the European Rolfing Conference in 1986: “[Non-living] things proceed toward an increasingly simple, increasingly probable and stable state while living things do exactly the opposite. Their development is oriented towards the complicated, the improbable, and the unstable. An example can help us to visualize what I mean. If I release a stone mid-air it will fall. It will simply obey the external force of gravity. On the contrary, if I release a bird in mid-air it will fly away. It defies gravity (or rather it counteracts it) while remaining subjected to it. Alive or dead, in fact, the bird has the same weight. What the bird does is a special case of a ‘life process,’ and is typical of what all living things do.”

Richard N. Zare, professor in natural sciences at Stanford University, offers us explanation for the power behind the scientific method, words which seem to echo the teachings of our founder: “The real power comes from the question, which organizes knowledge and directs us to the unknown. Life is not about answers; it is about questions, and the quest to find solutions to stated problems.”

To find meaningful results, then, a scientist looks for ways to reduce the variables and observe trends. Only then is it possible to ask and test meaningful questions in such a way that the results can be reliably measured and recorded. Through trial, error, and experimentation, Dr. Rolf would have found, for instance, that there is a correlation between releasing the fascial structures influencing the ribs, and an ease in the pattern of breath. Upon reviewing the session, she might have noticed that after that particular intervention, the front of the body looked longer. Replicating the intervention with various people she would have found that the same results were noticed in a statistically significant portion of her clientele.

In this way, Dr. Rolf was able test her theories about how the human body can be changed in a way that was based on good solid physics; these theories were essentially that human beings are plastic, that form and function are inextricably related, that the human body can be viewed and worked with as an aggregate of pieces, and that when the human body is organized around its vertical line it experiences increased health, well-being and economy of motion.

The Ten Series and Scientific Protocol

In pursuing the question “Is Structural Integration scientific?”, let us consider what constitutes a scientific protocol and what the aims of establishing a protocol are. In the natural sciences a protocol is a predefined written procedural method in the design and implementation of experiments. They are used to standardize the methodology to ensure successful replication of results. In that way, a protocol also facilitates the assessment of results through peer review.

Though we can only speculate on the origins of the protocol Ida Rolf left in our hands, she surely had the scientific method in mind as she developed and codified the Ten Series. In an advanced class she told the students that in retrospect, the progression of sessions seemed quite logical but that that wasn’t how she got there. She got there by seeing it happen. She goes on to say, “the only way you initiate something is to start with large relatively simple blocks, putting them together, and then after you put those large simple blocks together, then you realize that within the blocks you have another system, a system made up of smaller and
perhaps more complicated situations.” With that in mind, the Ten Series can certainly be understood not only as a cycle of sessions which efficiently evoke “a structural pattern of health,” but also as a procedural method in the design and implementation of an investigation into the ‘complicated situation’ of standing upright.15

According to Rosemary Feitis, Dr. Rolf was extremely good at understanding the underlying principles of anything she studied, and she expressed annoyance with people who “never really take an idea apart so they can understand it.”16 In an advanced course, Dr. Rolf went on to say, “People can’t learn this thing once through. They need to see where they are going to get and then take another look to see how they got there.”17

When I first began my training at the Guild for Structural Integration, the series itself seemed far too simple to account for the vast and systemic change I had come to expect from the work. However, through continued practice, I have come to realize that the Series is more than set of rote techniques and movements. As my mentor, Tom Wing, guided me to see, each hour is a lens of perception that allows the practitioner to work through layers of compensations in the body without becoming overwhelmed by the sheer complexity of the organism, fixated on one block, or distracted by superfluous sensations.

David Davis, a founding member of the Guild, described The Recipe as “a koan... [where the] principles of the work are encrypted, woven...”18 Peter Melchior was said to have described The Recipe as a series of questions that we ask the human body in order to help define it.19 Senior teachers and practitioners such as Monica Caspari have continued to explore ever smaller and more complicated processes in the body and share with us all how to ask more appropriate questions about structure and function.20 These statements from experienced and respected SI teachers are all congruent with the idea that each session was designed to mirror the scientific method: Make an observation. Ask a question. Research the question. Construct a hypothesis. Test the hypothesis. Analyze the results.

From Laboratories to Private Practice

In our individual practices, it is easy to feel that our work is inconsequential to the larger research projects that are being conducted. Duffy Allen describes that experience at a board meeting of the Rolf Institute Research Committee: “As I listened to the discussion, I realized that there was a bias toward experimental research designs which require the most stringent controls, large numbers of subjects and highly artificial experimental environments. However, other types of research exist and contribute to theory development in clinical fields. Many of these methods are relatively easy to implement, even in our private practices and require, at least in the initial stages, only a basic infrastructure and very little by way of financial resources.” She goes on to demonstrate “the spectrum of investigative techniques that are available to us.”21

Thirty years prior, Dr. Eugene Man, then Dean of Research at the University of Miami, spoke during a conference at the Esalen Institute about organizing the research on Structural Integration. “On one hand, I think of an impeccable scientific team whose efforts in research will be so far above reproach that their findings must be accepted. On the other, I would like to urge that every practitioner consider himself part of the research team... It is time to disabuse anyone from thinking that all research has to be done by someone in a white coat in a lab full of test tubes... The vitality of a research program depends directly on input from the practitioners themselves.”22

In the scientific world, every time a hypothesis is independently and rigorously verified, the more broadly accepted it becomes. This is the peer review process in action, and the foundation of the scientific model. This also means that every time a person is taken through the Ten Series and brought into a more vertical, balanced and energetic place we are informally re-enforcing the validity of Dr. Rolf’s thesis.23 If the process and results are documented in a systematic manner, our profession as a whole benefits from the knowledge and gains another notch of credibility.

Part of Dr. Rolf’s legacy is the premise that the body is plastic, and can either be deformed towards entropy or brought into a higher level of order, but she also pioneered a reliable protocol through which to explore that plasticity in a comprehensible way. The Ten Series gives us a context to observe, refine, and document the human body being brought into a higher level of order.24 What is more, it is reproducible. In that way, the series continues to be a valuable tool for
us to use in demonstrating the scientific validity of Structural Integration.

A Case Study

In my practice, I find much inspiration in approaching the work through the lens of science. Last fall, I began working with a client who had received the Ten Series during a Rolf Institute® course in 1976. Thirty-four years later he decided “it was time for another tune-up.” During our initial sessions, he mentioned that he still had the original “before and after” pictures. Rosemary Feitis states in the forward to Dr. Rolf’s book, that “the effects of Rolfing® are not simply permanent, they are progressive.” While I could assume she was correct, this seemed like a perfect opportunity to test the hypothesis. We were nearly finished with the Series before he was able to find his old pictures. In that way, they did not influence how I approached the sessions, yet they gave me an opportunity to observe and document what Dr. Rolf described as “the compound essence of time” and its effect on the human body.

Gene was twenty-eight when he first received the Ten Series. His appendix had been removed when he was nine. Apparently the surgeon had had trouble finding it, and in his search had caused trauma to the intestines. In his early twenties, Gene had fractured several lumbar vertebrae in a fall, and had not received any medical treatment. The lingering back pain and economic hardship had led him to become a model at the Rolf Institute®. Gene reports that the treatments were extremely painful, but very effective. At one point, he was held down by three other students, as his practitioner worked the back of his legs. Measurements indicated that he gained one half of an inch of height in the initial processing. He recalls gaining respect for his body, and strong sense of balance as well as a sense of responsibility for maintaining that balance. In 1979, he was in a severe car accident, and received one additional session of Rolfing® SI as it was all he could afford. In 1981, he was in a motorcycle accident that removed much of the skin from his left thigh and broke his left collarbone. A skin graft was unsuccessful, and when I began working with him, the epidermis had long since healed directly to the tensor fascia lata. “Just being Rolfed the first time allowed me to heal better, because I knew where to return to.”

When analyzing these pictures, I took into account the nature and degree of injuries that
lead to such severe structural compensations. I also took into account the perspective of the initial pictures. Taken as a single picture, the prints were apparently exposed on one side of the film and then the other with the camera in the middle. Since the perspective is skewed nearly twenty degrees, he likely would have appeared more twisted to his left were you to stand directly in front of him prior to processing. After processing, you would notice that his head was still offset to his left. Regardless, you can see there was a marked curvature in his spine, and rotation within the pelvis and neck that was mostly relieved through his initial series of sessions. Pictures prior to his second series, thirty-four years later, indicate that the relief from rotation was largely permanent. This is also true of the drop in his shoulder girdle that he experienced in the 1976 series. Pictures from the second processing depict how he was brought into a greater degree of balance around his vertical axis, which is indicated by the vertical line drawn through the pubic symphysis. In the 2010 pictures taken three months after the series, you will notice that for the first time, his feet are square with the rest of his body. From these pictures, we had considerable evidence of the permanence of the structural changes evoked by the Rolf Method of Structural Integration.29

The Potentials of Applied Research

Sam Johnson, Certified Advanced Rolfer™, eloquently states, “We need our feet held to the fire, as does every discipline that makes claims about its effects on health and well-being. It is good and healthy and honest to be rigorous and to have our claims and beliefs examined continually. As children of Hippocrates, that is the greatest lesson we can learn from Descartes—continuing to ask hard questions about our work and what it does, and inviting others to do the same, and paying attention if the answers do not meet our expectations or hopes. Second, it honors our founder and her spirit of inquiry. Through her, we have our roots in Descartes. The woman who created our field was raised professionally in the world of scientific medicine, and her story is the story of two paradigms, not one. To honor her best, and to honor the spirit of our own beginnings, means honoring the best of both worlds.”30

To further understand what that means, I recently had the opportunity to interview Kimberly Heinemeyer, Director of Conservation Science for Round River Conservation Studies. Interestingly, she also holds a PhD in Biochemistry, and as part of her doctorate program took classes in study design. In her professional opinion, if practitioners utilizing the Ten Series as a scientific protocol were to standardize the variables such as the backdrop, distance from the camera to the subject, and timing of the breath the pictures would constitute valid experimental evidence. Moreover, with a short intake questionnaire that included information such as age, sex, work history, and educational background, we could begin to factor out the “random noise” of a broad sampling.31

An example of how that type of applied research might be put to use, could be in studying the wide range of plasticity found in our clients. The state-dependent plasticity of the biological organism has been well documented.32 However, only researchers such as Robert Schleip and Thomas Findley have gone on to study the implications of plasticity in a clinical practice.33 We are all familiar with how plasticity can vary extensively from individual to individual even within our own species. At times the tissue seems to mold as easily as wet clay, in others it rebounds like rubber, and in still other instances the tissues feel flaccid, lacking the resilience to hold any significant change. Through recording structural changes along with variables that could be influencing that plasticity, we can begin to tease out which variations are the result of individual training and skill of the practitioner and which are the result of the clients’ personal history and lifestyle choices.34

Unless we have a conscious and collective standard methodology to govern the practice of Rolfing®, its impact can be no more than individual—dependent upon each Rolfer™ and a bit compartmentalized—with little space in which to advance the science as a collective product.35

—Pedro Prado, PhD

The International Association of Structural Integrators has brought together practitioners of eighteen schools around the world that continue to teach the Ten Series.36 (A few schools have added a session or two to their protocol, but they still teach the conceptual foundation of the original Ten Series protocol.) This network gives us an unparalleled opportunity to test the
premises of Structural Integration and the techniques that have been developed through continued practice of the work. As IASI continues to define the SI Body of Knowledge, it is important to remember that the profession cannot be defined by what it is, but by what it does. While “experimental research designs which require the most stringent controls, large numbers of subjects, and highly artificial experimental environments” can show how a balanced system improves the markers used to indicate health in people with various diagnosed conditions, they do not show what differentiates SI from other modalities, such as Tai Chi, that also help a person to regain balance and neuromuscular tone. However, as practitioners following a scientific protocol, if we record our work in a controlled setting, it is within our reach to demonstrate that the profession of Structural Integration consistently evokes measurable, progressive, and lasting changes in the very structure and function of human beings.

If you are interested in collaborating in such a far reaching survey to document the structural changes evoked through the Ten Series of SI, please contact Ben Hanawalt at ben.hanawalt@gmail.com or through his website at: http://www.aLifeofGrace.org.

Thank you to all those who have supported my personal quest into the field of Structural Integration. I could not have done this alone.

Endnotes
16 Rolf IP, Advanced Class Tapes, http://www.rolfguild.org/av/A2Side2.html#repeat
19 Rolf IP, Advanced Class Tapes, http://www.rolfguild.org/av/A1Side2.html#repeat
21 Hanawalt B, personal class notes taken at the Guild for Structural Integration, 2008.
Heinemeyer K, personal interview by the author conducted in Bozeman, Montana, 2010.

Solit M, “A Study in Structural Dynamics,” *The Journal of the American Osteopathic Association*, 62:30-40. This paper is invaluable evidence of how structural changes can be documented in a professional manner.


Heinemeyer K, personal interview by the author conducted in Bozeman, Montana, 2010.


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http://www.theiasi.org


http://www6.miami.edu/touch-research/TaiChi.html This website shows the abstracts for a plethora of studies showing how practicing Tai Chi improves many diagnosed conditions as well as balance and neuromuscular tone.