

FASCIA: THE MEDIATING SYSTEM OF ACUPUNCTURE
CLINICAL AND RESEARCH IMPLICATIONS

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INTRODUCTION

The idea that there is a relationship between the fascia and acupuncture is not a new one. The earliest reference to the fascia can be found in centuries-old Oriental medical literature. One of the oldest known classics on acupuncture, the Nei Ching (The Yellow Emperor's Canon of Internal Medicine), circa 200 BC, consisted of two fundamental sections, the Su Wen, (Fundamental Questions) and the Ling Shu, (Spiritual Axis). As was common at that time, language couched in metaphor and metaphysics was used to describe anatomical structures and functions. However, it is important to recognize that medical thinkers of the time had a clearer understanding of human anatomy than is generally recognized. The classical texts contain information that indicates that the ancient Chinese physicians had considerable awareness of the body's inner structure. Tissues and fasciae were known to have an important role in human function, such as forming enclosures for each of the organs and connecting the organs to one another. The size, shape and functions of the organs and blood vessels were identified, as well as the pathways between organs and membranes (Matsumoto and Birch, 1988). The Ling Shu describes 'fatty, greasy' tissues and connecting membranes. Channels are described as keeping the bones and sinews moistened and the joints lubricated (Matsumoto and Birch, 1988, p. 133). In the Su Wen we find a statement indicating that the channels are located within the 'body lining.' Early physicians were locating the theoretical channels within the fascia. Thus, we can see that there is an ancient notion that channels are located within the fascia. We can also say that while the locus of treatment, the fascia, was clearly identified, it appears that a belief was held that a separate system was being affected: the channel system¹.

In a later classic, the Nan Jing (Classic of Difficult Issues), circa 20 AD, we see that the channel system had evolved into one that included fourteen interconnected channels. A significant phrase taken from the Nan Jing describes the 'fat, greasy membranes' as the 'space between the organs, bones and flesh.....through which the yang qi streams' (Matsumoto and

¹ The terms 'channel' and 'meridian' are often used interchangeably within the acupuncture community, with a general bias toward the term 'meridian.' We prefer the use of the term 'channel' or conduit, over the term 'meridian' or imaginary line.

Birch, 1988, p 136). Channels had taken on definition and purpose. Acupuncture points were defined and the notion of the circulation of *qi* via the channels had been developed (Birch and Felt, p 19). Acupuncture points were chosen for use by skilled palpation of the body and were treated with the aim of balancing the flow of *qi* throughout the channel system.

Some modern acupuncturists have suggested that acupuncture might be referred to as connective tissue therapy (Nagahama, 1958). Yet, with some exceptions, very few acupuncturists have embraced such ideas, although the research community is coming close to achieving the critical mass of scientific evidence to make definitive statements regarding the mechanisms underlying acupuncture therapy. The following discussion is an effort to integrate recent fascia research with ancient acupuncture philosophy and principles.

One of the great difficulties of acupuncture research is that the practice of acupuncture is far from homogeneous. Acupuncture has undergone numerous transformations over the centuries, and the sources of such transformation have been varied. Chinese thinkers were immensely practical and capable of absorbing apparently opposing ideas without replacing or negating earlier ones. They integrated whatever worked, hence the coexistence and influence on the practice of acupuncture of each of the Three Pillars of Chinese thought: Confucianism, Taoism and Buddhism. Not only has it been influenced by religious philosophy, but by political, economic and social circumstances as well. The result is a vast array of practices and principles that are all called ‘acupuncture.’ Paul Unschuld (1986) states:

“A third major distortion encountered in nearly all European and American attempts to characterize traditional Chinese medicine is related to the issue of terminology; it results from efforts to squeeze an enormous array of concepts and schools of thought in traditional Chinese medicine (which are sometimes mutually contradictory, antagonistic or exclusive) into the kind of homogeneous, logically coherent system of ideas and practices that is so attractive to the Western mind.” (p. 5)

The most common conception of acupuncture today refers to an approach to treatment that was created in the middle of the twentieth century. Today, many practitioners and the lay public commonly refer to acupuncture as Traditional Chinese Medicine (TCM). TCM includes the use of traditional herbal medicines. Few realize this specific term and associated practice was a creation of the Cultural Revolution, a product of the People’s Republic of China (PRC). It was, in some sense, the effort of a reluctant Mao, who was

skeptical about acupuncture, to retain the identity of Chinese medicine in a rapidly evolving trend toward modern Western medicine. The PRC established standards for the development of TCM. The first requirement was the integration of acupuncture and herbal medicine under a single set of fundamental principles. At that time, herbalists were more politically powerful than acupuncturists. The result was an acupuncture practice that was grounded upon principles that had previously been applied to the application of herbal medicines, focused on organ function rather than channel/*qi* disruption, and strongly connected to modern biomedicine. This approach was more conducive to large classroom instruction than apprenticeship training. It connected pattern pathology to modern disease diagnosis, and textbooks were produced that described treatments for asthma, gastritis, arthritis and a host of Western-defined diseases. In many ways this shift helped to promote and make acupuncture understandable in the West. Moreover, other forms or styles of acupuncture were banned in the PRC. Schools taught only TCM and practitioners were only allowed to practice TCM. In the West, there were very few acupuncture texts written in English, so by the 1970's, when English translations of TCM texts were published, they quickly became the basis of many newly forming schools of acupuncture.

TCM is clearly the predominant approach to acupuncture for the PRC and much of the West. This is important, because TCM marks a major departure from the classical emphasis on palpation. It is less connected to the skill and sensitivity of the practitioner and the evaluation of channels and constriction through touch, and more reliant on the conceptualization of symptom patterns. Because it is so pervasive, many Western researchers use TCM acupuncture as the independent variable in acupuncture studies. As we will see later, the construct validity of the independent variable (acupuncture) could be greatly improved if researchers chose a more classical approach of treatment utilizing meridian-based styles as their independent variable.

A new theory must provide better explanation of phenomena and improved prediction of outcomes. For the clinician, better prediction refers to treatment outcomes. For the researcher, it is established through testable hypotheses. A theory that provides better explanation may provide new or modified clinical approaches, and can imply future directions for research. A theory, therefore, must confine itself to observable phenomena that may be explained or predicted.

While the connection between acupuncture and the fascia has been suggested for a long time, it is only in recent years, with the explosion of new research on the structure and

physiology of the fascia, that a new theory, one that does not replace, but modifies the *qi* paradigm, can become a source of explanation and prediction regarding acupuncture practice. Extraordinary new conceptions of the fascia lend powerful evidence to the theory that the fascia is the mediating system of acupuncture. However, we must first address the issue of defining what we mean by acupuncture if we are to propose new explanations regarding its mechanism of action.

THE PROBLEM OF AN OPERATIONAL DEFINITION

An operational definition of acupuncture is necessary for the development of a theory explaining its mechanism of action. The many styles and approaches of acupuncture can confuse the issue of acupuncture as the independent variable for the researcher. In effect, are we studying acupuncture, or are we studying some variant of practice that may or may not adhere to the basic concepts of classical acupuncture practice? The variety of principles and approaches of various styles, the specific propensities of the individual practitioner, the multiple interpretations of signs, symptoms, pulses and point selection can make the development of a real operational definition appear insurmountable. The answer lies in stripping away the differences.

Acupuncture may be defined by a behavioral analysis of acupuncturists, determining what is common to all types of acupuncture practice. An obvious assumption is that all approaches to practice are at least somewhat effective, or have some validity. By stripping away the various principles and conceptions of each style of practice, and instead observing what each acupuncturist does and what is common to all practice, we approach the basis of establishing an operational definition of acupuncture.

A new theory of acupuncture's mechanism of action must explain every aspect of the operational definition. A new theory of the mechanism of action of acupuncture should provide an explanation for everything an acupuncturist does, and explain why engaging in such behaviors may have a therapeutic outcome. The new theory, in order to gain acceptance, should provide a better explanation for such behaviors than the previous theory, the *qi*/energy paradigm. If we engage in a behavioral analysis of acupuncture practice, looking simply at what an acupuncturist does, rather than what he or she thinks, we have a number of observable

phenomena to which a new theory may be applied. Can these phenomena be explained by the theory that the fascia is the mediating system of acupuncture?

Applying a behavioral model, acupuncture may be operationally conceived as follows:

1. Needles are inserted into the skin, fascia and occasionally muscles.
2. Needles are generally inserted along defined channels.
3. Needles are generally inserted into defined points.
4. Needles are generally inserted according to varying guidelines for needle depth.
5. Needles are generally stimulated in some fashion.
6. Needles are generally left in place for some time before removal.
7. A number of treatments are generally performed to obtain the desired results.

Additionally, both the effects of acupuncture and recent clinical research findings should also be explained by the new theory. The effects of acupuncture need explanation. Some of the effects have been supported by research, and some effects have been anecdotally recognized over thousands of years of practical experience. The consistency of such effects in the literature deserves explanation by the fascia model. That diverse approaches employing differing, and sometimes contradictory strategies all appear to have some effect should also be addressed. Finally, recent issues in clinical acupuncture studies must also be explained by the fascia model. The fascia theory will therefore be applied to the following phenomena:

8. Diverse and often contradictory approaches all appear to have an effect.
9. A wide variety of conditions are treated by acupuncture.
10. Acupuncture produces both local and distal effects.
11. Treatment of the surface can affect internal organs.
12. Placebo acupuncture appears to have a therapeutic effect.

THE FASCIA

In order to establish groundwork for the proposed theory, it is necessary to review recent research findings regarding the structure and function of the fascia.

The fascia is a metasystem conceived as a complex communication network that both influences and is influenced by every muscle, organ, blood vessel and nerve, and is intimately connected to every aspect of human physiology. The research of recent years has overturned the concept of the fascia as a static, structural support for the body, and has shed light upon a new organ, a continuous sheath of tissue that moves, senses and connects every organ, blood vessel, nerve, lymph vessel, muscle and bone. It is an important part of the function and physiology of every part of the body.

In regard to the fascia network, Langevin (2005, p.2) states, “demonstrating the existence of such a ‘metasystem’ would ... change our core understanding of physiology.”

Findley and Schleip (2007, p.2) provide the following definition of the fascia as: “... the soft tissue component of the connective tissue system that permeates the human body forming a whole-body continuous three-dimensional matrix of structural support. It interpenetrates and surrounds all organs, muscles, bones and nerve fibers, creating a unique environment for body systems functioning.”

Guimberteau (2007) points to the fact that the connective tissue cannot be understood as separate structures, but rather as a single organ, a unified whole, penetrating and connecting every aspect of human physiology. He states, “For us, there is no superficialis or profundus fascia. Notions of different fasciae superficialis or profundus are obsolete” (p. 237). He goes on to describe the whole structure of the body as an immense collagen network that differs according to the roles it must perform and the stresses it must undergo. Each change in mechanical constraint has a physiological response and adaptation to the new situation.

Paoletti (2006) describes the role of fascia in communication, linking every cell of the body through the ground substance. He points out that the vascular, lymphatic and nervous systems end in the ground substance, provide nutrients to the ground substance, and provide information to the ground substance from the periphery.

It is exactly this conception of the fascia that best explains the system-wide effects of acupuncture treatment. It is interesting that acupuncture actually theorizes such a metasytem, one comprised of channels through which *qi* flows and which exerts influence over every aspect of our physiology.

The fascia may be considered a sensory organ. Schleip (2008) provides an enlightening summary of fascia research, describing the fascia as our richest sensory organ, permeated with four types of sensory receptors each responding to different types of mechanical stimulation. He notes the important roles the fascia plays in pain and proprioception. Thus, we have a system capable of reacting to both the external environment and surface stimulation.

There are strong connections between the fascia and dysfunction or disease. Paoletti (2006) states that when any particular part of the body has some dysfunction or disease, to some extent connective tissue will necessarily be involved, regardless of whether the problem is neurological, rheumatologic, cardiovascular or gastrointestinal. He goes on to state there is no pathology that does not have an impact on the fascia and no disease process can spread until it has overcome the defensive capacities of connective tissue. Paoletti believes the fascia to be a first defense, where the fight against pathogenic agents starts in the ground substance, prior to any kind of intervention on the part of the specialized immune system.

Hinz (2006) discusses the role of matrix adhesions and myofibroblasts as a factor in chronic illness. Myofibroblasts are connected to wound healing, promoting healing by contracture (Tomasek, et al., 2002). The completion of wound healing is characterized by apoptosis, dramatically reducing the number myofibroblast cells. Chronic pathological tissue contractures are characterized by continuing cellular development, sometimes over several years where apoptosis does not occur (Gabbiani, 2003). Hinz believes that such chronic tissue deformations may develop into life threatening fibrosis when affecting organs like the heart, lung, liver and kidney. Here we have a possible explanation of the use of acupuncture for preventative treatment as well as the treatment of organic dysfunctions.

Shang (2007) applying an embryological model, states that acupuncture points and meridians originate from growth boundaries, and play important roles in the maintenance and regulation of all physiological systems after embryogenesis. In an interesting work, Beach (2007) applies an embryological model and suggests point prescriptions in acupuncture are 3-

dimensional manipulations of subtle shape and that shape and function are closely connected. He suggests that this is the basis of acupuncture's influence on physiology.

The fascia plays a role in nutrition and metabolism. There is considerable evidence regarding a metabolic/nutritive function of the connective tissue. Guimberteau (2007) states that the fascia plays a fundamental role in terms of nutrition of the structures embedded in it. Since all cells receive nutrients through mediation of the ground substance, the harmony of the ground substance and the cells embedded within it are fundamental to the metabolism of the organism.

Pischinger (2007) notes that connective tissue is more than padding, but is involved in the regulation and nutrition of the organs. Paoletti (2006, p.159) states that: "connective tissue is an element which links the parenchyma with the vascular and nervous systems. Exchanges with cells occur by diffusion, osmosis, and active processes across the serous membranes."

Chen and Ingber (1999) describe the tensegrity model, where mechanical stresses that are applied on a macro level are transmitted to individual cells and transduced into a biochemical response. The fibroskeleton imparting cellular structure in the fascia produces a tensegrity structure, characterized by continuous tension, carrying internal stress prior to the application of external forces. It implies a model where constriction of the fascia results in cellular dysfunction. Release of constriction activates a spring like propensity to return the cell to its shape and therefore its function. Movement of nearby or surrounding tissue may activate that propensity.

The cytoskeleton remodeling connected to acupuncture is proposed by Langevin, et al., (2006), citing research that acupuncture needles have demonstrated specific mechanical stimulation of connective tissue with rapid changes in cell shape (Langevin, et al., 2004, 2005). Thus, the application of externally applied forces, due to transduction via the cytoskeleton, can result in a biochemical response. A mechanical action on the fascia can produce movement within the matrix of connective tissue and result in fundamental cellular effects.

Other functions of the fascia include protection, structural integrity, shock absorption and hemodynamic processes. Paoletti (2006) describes fascia's protective role in preventing injury to the anatomical structures contained within it or supported by it from the forces of tension continually experienced by the human body.

Structural integrity refers to fascia's role in providing support for the organs and structures contained within it. Flexible, gliding surfaces allow mobility which contribute to

optimum function of the contained structures. Cleavage planes allow organs, muscles and individual muscle fibers to glide over one another, making coordinated movement possible.

The ability of the fascia to act as a shock absorber allows for the absorption and dispersion of force into multiple directions. Repeated, prolonged stresses however, can deform fascial tissues. Viscoelastic proteoglycans which act as lubricants can change to become more gelatinous under repeated or intense stresses. Yahia, et al. (1993) found that lumbodorsal fascia changed over time in response to repeated stress of heavy loads. Stecco (2004) describes densification of the fascia under chronic stress.

Paoletti (2006) describes the role of fascia in hemodynamic processes as connected to the continual pulsation of the fascia at a frequency of 8-12 cycles per minute. It is this movement, supported by muscle contraction, that is the basis of venous return circulation of the blood as well as the transport of lymph. As the fascia moves, so do blood and body fluids. Constriction of fascia can result in sustained pressure on the vascular system, inducing stasis.

The multiple and varied functions and roles of the fascia suggest that this unique organ may best explain the mechanism of acupuncture therapy.

- The fascia allows for the communication of information throughout the body.
- The fascia is a sensory organ that moves and reacts to stimulation.
- The fascia is connected to nutrition and metabolism at the cellular level.
- The fascia controls movement, allows muscles to function.
- The fascia plays a major role in circulation of blood and lymph.
- The fascia is the first line of defense in immune function.
- Disruptions and restrictions within the fascia are connected to disease and dysfunction.
- The fascia protects every aspect of the physiology from physical and environmental stresses.

THE FASCIA MECHANISM APPLIED TO THE OPERATIONAL DEFINITION OF ACUPUNCTURE

THE CHANNELS

The acupuncture channels rather than points were an early basis of treatment. One of the earliest works, the Ma Wong-wei texts describes eleven unconnected channels, with some pathology associated with each of them. Acupuncture points were not defined; needle puncture was not used. Burning of herbs along the meridians was a fundamental treatment method (Birch and Felt, 1999, p. 14). Thus, one of the earliest texts offers a treatment strategy that involves heat stimulation along the channels, which we shall see are also fascial planes.

The channels closely parallel the fascia in acupuncture literature. As described earlier, the Ling Shu contains references to the “fatty, greasy tissue.” The Su Wen describes the location of the channels in the “body lining.” The Nan Jing describes the “space between the organs bones and flesh” as the place where *qi* flows.

Ni (1996) describes the function of the channels as 1. integrating the whole body, 2. involved in the circulation of *qi* and blood, 3. demonstrating the location of disorders, and 4. transmitting the needle sensation. All of these functions, given a new understanding of *qi*, may all be ascribed to the fascia.

The vast majority of acupuncture points are located on the channels, where virtually all treatment is executed. A unifying factor of all acupuncture treatment, regardless of the style, is that treatment is generally executed along the channels. The emphasis on the strict adherence to the acupuncture charts may vary with different styles, but we can clearly agree that the locus of treatment is along these channels.

The channels are highly correlated to fascial planes. The relationship of these channels to fascial planes has been extensively documented, and the coincidence of acupuncture channels and fascial planes demonstrate significant correlations (Larson, 1990; Stecco, 2004; Paoletti, 1998; Lin and Yu, 2009). Langevin and Yandow (2002) propose that acupuncture charts may serve as a guide to stimulating interstitial connective tissue planes.

Stecco's (2004) extensive work on fascial anatomy rethinks biomechanics. At the same time he defines the parallels between acupuncture channels and fascial planes and between acupuncture points and centers of coordination (cc). He defines segmentary myofascial units as the agents for movement in one direction. The myofascial unit is comprised of one or more muscles, the overlying fascia and the affected joint; it contains a cc that synchronizes movement. Myofascial sequences are chains of myofascial units. They act as the agents for referred pain, coordination, spatial perception and facilitation. Myofascial spirals are the connecting elements between body joints. They control complex movement, and contain fusion ccs which coordinate movement in between planes. Stecco finds a direct correlation between the primary acupuncture channels and unidirectional myofascial sequences, and between the tendinomuscular pathways and myofascial spirals.

It is clear that the acupuncturist is inserting needles through skin and fascia, and that the vast majority of such insertions are at loci that have unique characteristics in the anatomy and function of the fascia. Acupuncture may then be conceived as the stimulation of an extraordinary sensory organ, the fascia, along pathways that have strong relationships to movement, and provide efficient pathways to deeper aspects of the fascia and the viscera. It is interesting to note that the debate about the existence of channels continues today in China and Japan, with many of the belief that the channels are truly meridians, imaginary lines, that simply connect the points (Birch and Felt, 1999). Many believe that the channels must demonstrate some physical reality if they truly exist. In fact, what is emerging through fascia research is that the channels consistently follow a unique aspect of fascia macrostructure, the cleavage planes along fascial lines.

THE POINTS

Acupuncture points were originally approximated by charts and located by palpation. Many might say that point location is still accomplished in the same way, but it is hardly the case. Classically, acupuncture points were treated according to systematic correspondence, with the aim of equalizing or balancing the flow of *qi* throughout the channel system. They were chosen by skilled palpation of the body and the assessment of the radial

pulses, known as pulse diagnosis. It was not until the seventh century that Sun Si-miao standardized a measurement system to identify the specific location of acupuncture points (Birch and Felt, p. 24). This system is currently in use today. Therefore acupuncture was practiced for almost a millennium before precise proportional measurement techniques were established to locate points. This is important because it indicates that acupuncture was deeply connected to palpation of the surface of the body, along fascial planes, to determine the nature and location of the treatment to be applied. Rather than static entities, points were considered to be “dynamic structures on the body that must be selected and located by appropriate means” (Birch and Felt, 1999, p.129).

Pirog (1996) states that when treating pain, acupuncture points must be located by palpating for tenderness or tissue change. If the located point is not a known acupuncture point, one should needle the palpated point, not the acupuncture point. Toyohari practitioners in Japan use the textbook location of points only as a starting point for feeling the *currently live point*, which is accomplished by palpation. The location of the point may change as the patient’s condition changes. This is verified by Pischinger (2007), who describes the palpable characteristics of an active point and notes that “...the non affected – inactive – point is not palpable, while the activated point – regulatorily changed – can be discerned by palpation” (p. 110). While it is not the dominant method of acupuncture practice today, this approach is firmly rooted in the classic traditions that emphasized palpation of the body.

Acupuncture points are considered entryways into a body-wide system. Birch and Felt (1999) offer an insightful discussion of acupuncture points. They remind us that the word *xue*, normally translated as a ‘point,’ really means ‘hole’ or ‘cave.’ It alludes to a chamber into something, consistent with the fascial relationships discussed by Langevin and Yandow (2002), and Stecco (2004), and Pischinger’s (2007) description of the Heine cylinder. This provides some insight into the nature of acupuncture points, and why previous research efforts to identify bioelectric or vital energy have been fruitless. In the introduction to Pischinger (2007), Oschman states that “acupuncture meridians are the main channels of the [connective tissue] matrix” (p. xiii), and refer to acupuncture points as “windows on the matrix system” (p. xiv). Pischinger states, that “effective acupuncture points always correspond to points of maximum hypertonicity” (p. 96), a concept similar to the Toyohari ‘currently live point.’

Acupuncture points are best explained by anatomy, rather than some unknown quality such as *qi*. Langevin and Yandow (2002) performed an anatomical study of acupuncture points by examining point locations on anatomical cross sections of the human arm. They found that 80% of the points they studied appeared to coincide with intermuscular or intramuscular septa, connective tissue planes. They suggest that acupuncture points are places where the needle can access greater amounts of connective tissue. Given the common conceptions of the role of fascia as recently as ten years ago, this would not seem significant. However, increasing knowledge of the role of the fascia in every aspect of human physiology and anatomy, such findings are extremely significant.

As mentioned earlier, Stecco's (2004) work established almost precise correlations between the acupuncture channels and the myofascial sequences. In addition, he directly correlates acupuncture points and centers of coordination (ccs). He notes that in the treatment of any myofascial constriction, treatment of the ccs along the myofascial sequence produces the greatest release. It is the treatment of specific *densified* ccs along the mf sequence that results in successful myofascial release. Again, correlations can be drawn between acupuncture points and Pischinger's 'point of maximum hypertonicity,' Toyohari practitioners' 'currently live point,' and Stecco's 'densified cc.'

There are recent anatomical discoveries that that may be connected to acupuncture point stimulation. In a recent summary of the work of Pischinger (2007), edited by his three students and colleagues, Hartmut Heine, Otto Bergsmann and Felix Perger, the central importance of the extracellular matrix is presented through years of research. In regard to acupuncture points, they discuss the Heine cylinder. He describes how the matrix is stretched from the depths to the surface in the form of vessel nerve bundles that penetrate the fascia bringing a cylinder made of proteoglycans of the extracellular matrix with them. The cylinder is surrounded by a thicker proteoglycan layer. These cylinders present a large and concentrated part of the matrix substance in close contact with the surface of the body. Heine suggests the following characteristics of the cylinder:

- Mechanically it is a viscoelastic system that absorbs pressure.
- The proteoglycan network is capable of responding to stimuli that have electromagnetic and magnetic properties.

- The proteoglycans react to many types of stimuli and can transmit these as chain reactions in the matrix system over great distances, allowing for the continuity of primary information relay from the point to distant regions of the body.
- The point may be influenced by muscle tension since the vessel nerve bundle passes through the fascia, and every change in tension alters flow dynamics.

Heine, in Pischinger (2007), finds a direct correlation between acupuncture points and the Heine cylinders lending credence to the notion that acupuncture can directly affect the matrix through point stimulation.

A similar consideration should be given to the Bonghan Duct system. Discovered in 1963 by Boghan Kim, the ducts are threadlike structures found on the surface of organs that are characterized by a bundle of subducts and spread across the organ in a web-like manner. It is suggested that the Bhongan Ducts may serve in transmission to the organs of granules that appear to contain DNA. There are those who believe that the ducts play a role in acupuncture (Shin, et al., 2005; Lee and Soh, 2009). Such anatomical discoveries certainly need further research, and may shed light on the complexity of the effects of needle stimulation of acupuncture points.

The methods of selecting and locating acupuncture points may determine the efficacy of treatment. Acupuncture points are selected and located by varying methods. Some approaches pay close attention to the body, palpating for areas of constriction or tissue change and locating and treating points that show such changes. On the other end of the spectrum are those methods that rely on charts and measurement, and use point combinations for treatment related to specific syndromes.

The movement away from palpation began with the Confucian influence in China, one that was strongly based on morality and human behavior. The human body was not to be displayed and was kept covered. Touch was generally discouraged. It was therefore natural that a medical practice based upon extensive palpation of the body would transform into one that focused on questioning the patient, seeking to construct symptom/sign patterns that would then direct the treatment strategy. While many family traditions retained palpation, there was a clear cultural shift resulting from Confucian thought. The standardization of acupuncture marked by the development of TCM, an approach called “herbalized” acupuncture by Pirog (1996),

punctuated the movement away from palpation. In Japan, where acupuncture was traditionally practiced by the blind, palpation remained central to practice.

Pischinger (2007) describes the palpable features of an active acupuncture point as compared to a non-active point. The point can be palpated as a flat depression on the surface, the skin over the point is less mobile, and there is heightened sensation of pain to pressure.

It is probable that points selected by careful palpation will most likely produce a more efficient treatment, since changes in the surface anatomy is a more accurate guide than standardized measurement. It must also be remembered that all acupuncture, regardless of method, affects the fascia. Given the nature of connective tissue any stimulation will produce some effect. The means by which acupuncture points are selected then, addresses the efficacy and efficiency of treatment.

NEEDLE STIMULATION

There is no uniform standard for the depth of insertion of acupuncture needles. A crucial issue in the development of any theory regarding the mechanism of acupuncture relates to the nature of the stimulus produced by the needles. The consideration of this issue is a complex one, requiring the examination of how acupuncturists provide treatment, the effect on the anatomy and physiology of the tissues stimulated by the needles, and possible unique effects produced by needle insertion. Returning to our behavioral model, we must recognize that acupuncturists do not engage in uniform technique when inserting and manipulating the needles.

Birch and Felt (1999) examine both ancient and modern texts regarding the required depth of needle insertion for specific points. In no case is there complete agreement between the texts. In addition, there are wide variations between the needle depths provided in the ancient texts and those in the modern texts. Modern (TCM) acupuncture requires much deeper needling than the earlier works. It is common to see many modern Chinese acupuncturists doing deep needle insertions while their Japanese counterparts may be doing extremely shallow insertions; both are treating the same conditions.

There is no uniform standard of needle manipulation. A wide variety of needle techniques are used. Some acupuncturists perform bi-directional rotations, while others lift and

thrust. Most practitioners use more than one technique. In spite of the varied approaches to needle technique, all appear to be generally effective in terms of treatment. No particular style has emerged as worthless. Acupuncture texts often describe needle manipulations metaphorically, such as “green dragon shakes his tail” or “white tiger shakes his head,” further complicating matters. While acupuncturists will often do battle over what is the correct technique, there is little or no valid research that demonstrates the superiority of any singular approach.

Schleip (2008) describes four types of sensory receptors in the fascia network, each responding to different types of mechanical forces. Chen and Ingber (1999) and Langevin, et al., (2004, 2005) have demonstrated that the application of externally applied forces can result in a biochemical response due to transduction via the cytoskeleton. A mechanical action on the fascia can produce movement within the matrix of connective tissue and result in fundamental cellular effects.

What then, do all practitioners have in common as far as the practice of acupuncture is concerned? They compress the tissue, either with their hand, the insertion tube or both, followed by needle puncture and manipulation of the needle. They all stimulate the skin and fascia.

The *deqi* sensation is a function of stimulation of the fascia. There are many different conceptions of the *deqi* sensation, also known as ‘the arrival of *qi*.’ Depending on the approach to treatment, it is sometimes suggested to be an exceedingly strong sensation experienced by the patient, often extending out from the needle site. Other approaches consider *deqi* something that is experienced primarily by the practitioner in the way the needle ‘grabs’ the tissues, with the patient experiencing little or no sensation (Birch and Felt, 1999; Pirog, 1996). It is a curiosity that those who consider *qi* to be an energy that escapes detection by the most sensitive scientific instrumentation also consider it to be capable of grabbing and holding a steel needle. A far more likely explanation is offered by the research of Langevin, et al. (2007), and Fox, et al. (2007) who demonstrate fascia tissue winding and grabbing connected to needle manipulation. The movement of fascial tissue may best explain *deqi*. The sensations described by patients are similar to those who experience myofascial release of constricted areas.

Needle puncture alone can have effects in the extracellular matrix. An intriguing area of research relates to the “puncture effect” described by Pischinger and his colleagues (2007). Pischinger states that any puncture, even the prick of a needle, leads to clear reactions in the

extracellular matrix. He states that puncture affects the body in three ways: first, that the smallest injury has the longest-lasting effect, at least 5 days; second, through the difference in temperature between the tissue and the needle; and finally by the difference in potential between the needle and the tissue. He goes on to state that every stimulus that exceeds local immunity triggers a reaction in the entire regulatory system - that is, in the entire intercellular-extracellular matrix. He reminds us that nerves and vessels do not come into direct contact with cells, but that the ground substance is the mediating member, the bearer of the nerve and nutrition flow.

This approach adds to the mechanical model of influence, and points to a mechanism where the smallest micro-trauma has the most long lasting effect. While it is possible that various approaches to needling may certainly result in different effects, the one common thread to all acupuncture is the production of some mechanical stimulation and micro-trauma to the tissue. This alone may produce widespread effects on human physiology.

COMMON TREATMENT CHARACTERISTICS

The practice of needle retention is consistent with treatment of the fascia. While there are a few exceptions in practice, most acupuncturists allow the patient to rest for some period of time with the needles inserted. Some texts specify the length of time needles should be retained for specific conditions, while other texts fail to mention anything about it. A systematic movement of the fascia would be evoked with the needles in place, providing low-level stimulation of the fascia in multiple areas. This would affect deeper or distal areas, and would be consistent with connective tissue treatment. Such effects are observable in the acupuncture treatment of myofascial pain syndromes where extensive muscular release occurs while the patient relaxes with the needles inserted. This same principle would logically apply for treatments designed to treat visceral dysfunction.

The application of repeated treatments is consistent with treatment of the fascia. A typical characteristic of acupuncture is that the course of treatment generally requires a number of visits. Some texts specify the number and frequency of treatments for various conditions. The reasons for retaining needles and performing repeated treatments are often not addressed in acupuncture texts, or vaguely suggest a need to re-establish a pattern of *qi* movement.

The complex, interactive nature of the muscles and fascia result in equally complex patterns of constriction and pain. It is very common that after some aspect of a myofascial sequence is released, it becomes necessary to release another, related area. Such treatment occurs over a number of sessions, dependent on the complexity and chronicity of the injury or constriction. Once again the treatment of the viscera may be analogous to the treatment of myofascial pain where fascia is stimulated to evoke release of constriction and return of function. From a behavioral perspective, the actions of an acupuncturist are consistent with the stimulation of connective tissue.

DIVERSITY OF TREATMENT APPROACHES

There are diverse styles and often contradictory principles regarding acupuncture diagnosis and treatment. As mentioned earlier, while many Westerners believe acupuncture to be a homogeneous practice similar to Western medicine, it is extremely diverse. The treatment a patient receives may vary widely dependent upon the particular style or approach chosen for use and the differences that exist between individual acupuncturists. That being said, with few exceptions all acupuncturists generally apply some aspect of the *qi* model. Birch and Felt (1999, p. 151) acknowledge that the multiple approaches and diagnostic/treatment models in use in the practice of acupuncture are the source of a major problem in understanding it. “In other words, in a field of such enormous diversity, it is very difficult to formulate the type of precise model that analytic science requires.”

The number of approaches and methods of acupuncture treatment are extensive. There are general, broad traditions that include classical Yin/Yang balance, Five-Phases treatment or the modern TCM use of the Eight Principles. There are numerous branches and styles of these categories. In addition, there are countless family-tradition styles that generally incorporate some combination of the broader traditions. It is interesting to note that acupuncturists from varying traditions, who use quite different ‘filters’ to diagnose the patient, and differing styles of acupuncture to treat a pathology, will often use a treatment employing combinations of points that are comprehensible to acupuncturists from other schools of thought.

The question that then emerges is: how is it possible that so many different approaches to diagnosis and treatment result in more or less effective treatment? If point selection is specific and crucial to effective treatment, why are so many different combinations of points effective?

The fascia model can explain the effectiveness of many different approaches. If we consider the fascia to be a system-wide organ, a metasystem, that affects every aspect of the physiology, we can appreciate the impact on the body as a whole of fascial constrictions that develop from trauma, pathology, stress or environmental conditions. Connective tissue cells, by structure, demonstrate tensegrity. Intracellular pressure seeks a return to shape. Stimulation of the tissue can provide impetus for release of such pressures, affecting a return to shape and therefore efficient function. All acupuncturists, whether they are aware of it or not, treat the fascia.

Acupuncture treatment can be considered patterns of fascial stimulation. Many varied approaches to the stimulation of the fascia effectively provide release, facilitating a return of movement and function. Certain types and loci of stimulation may have more of an effect than others. It is likely that the simultaneous use of multiple stimulation sites by needle puncture has wide reaching effects throughout the connective tissue. The more carefully the sites of stimulation are selected, focusing on the source of the imbalance within the connective tissue, the fascial planes that relate to that area, and the points of stimulation that effect the area, the more effective the resulting treatment. In this sense, the importance of the fascia may be so great, and the power of needle stimulation so effective, that any number of patterns of stimulation may exert a therapeutic effect.

MANY DIVERSE CONDITIONS ARE TREATED BY ACUPUNCTURE

Acupuncture actually treats only one condition: imbalance. Acupuncture treatment has always been about treating imbalance. It is treatment based on a paradigm that is concerned with Yin and Yang, excess and deficiency, movement and stagnation, correspondence and harmony with the environment. Birch and Felt (1999) point out that classical descriptions of the effects of acupuncture points are not described in terms of curing a particular disease, but in terms of increasing or decreasing flow or removing blockages from the channels. It was the emergence of TCM during the Cultural Revolution that translated imbalances into Western pathology. This helped gain acceptance in the West but was never part of the long tradition of acupuncture treatment.

Classical acupuncture approaches do not see treatment of the points as a cure for a particular disease. Treatment is aimed at regulating the flow of *qi* by removing constrictions from the affected

channels. Disruptions in the channels are a reflection of organ dysfunction. Organs and channels are part of an interconnected network of influences. This could easily serve as description of the fascial network. Therefore, we might look at the surface reflection of fascial dysfunction as the principle of acupuncture treatment.

According to modern texts acupuncture treatment appears to be effective in the treatment of a wide range of Western diseases and conditions. The Comprehensive Text of Acupuncture (1981) describes treatment for over 100 western pathologies. Since many modern texts mirror each other, it is common to find treatments for an extraordinary range of conditions. Similar diversity can be found in somewhat older texts. George Soulie de Mourant's opus Chinese Acupuncture (1994) lists thousands of conditions that are amenable to acupuncture treatment. Acupuncture may or may not be effective in the treatment in all of these conditions, but the extensive accumulation of clinical experience certainly provides sufficient indication that acupuncture is effective in the treatment of a very wide range of conditions. It is intriguing to consider how it is possible that such a variety of conditions are amenable to such treatment. With the exception of the use of pharmaceuticals and herbal medicines, there is no other therapeutic modality that claims to treat such a diversity of medical conditions; and it has done so for countless patients over thousands of years.

Recent findings describing the functions of the fascia can best explain how so many diverse conditions may be treated by acupuncture. If we examine the various functions of fascia we find explanation for the various and diverse conditions that may be treated by acupuncture. We have seen how needle stimulation may affect the fascia. We have also described how the fascia plays a role in immunity, metabolism, nutrition, hemodynamic processes, sensory function, muscular function, structural integrity, environmental stress and protection. Examination of the role of fascia in disease and dysfunction demonstrates how various types of fascial impairment may result in a wide range of medical conditions.

We have come full circle: impairment or stresses of the fascia may be viewed as imbalances, where constriction of one area may result in excess (of fluid, blood, nerve activity, muscular stress, organ hyperactivity, etc.). This would likely produce a deficiency in some other area or system. Therefore, we might say that treatment of the fascia is the treatment of imbalance, and rectifying fascial impairment treats a wide range of disease and dysfunction.

LOCAL AND DISTAL EFFECTS OF ACUPUNCTURE

The local and distal effects of acupuncture can be understood through the example of myofascial treatment. Perhaps one of the most distinctive features of acupuncture treatment is that the effects are often experienced a distance from the site of needle insertion. Every acupuncturist has probably been asked by their patients, “why are you treating my foot when the pain is in my head?” In addition to the previously discussed concepts of myofascial sequences and the similarity of fascial planes to acupuncture channels (Stecco, 2004; Larson, 1990; Paoletti, 1998; Langevin and Yandow, 2002), an examination of the research related to the treatment of myofascial pain may provide further insights.

Myofascial trigger points (TPs) can produce referred pain patterns, often at sites distal to the locus of the TP. Appropriate reduction of a TP will alleviate pain distally (Travell and Simons, 1983). The pain patterns generally follow myofascial sequences and coordinated movement may be impaired along the sequence, whether it is a longitudinal sequence or a spiral sequence (Stecco, 2004). Reduction of TPs can be accomplished by stimulation of the fascia.

Myofascial TPs are generally associated with restrictions of the fascial sheath resulting in a loss of proper function, weakness and/or referred pain. A common indicator of the release of a TP is the local twitch response (LTR), a transient contraction of the taut band of fibers associated with a TP. Simons, Travell and Simons (1999) state that the LTR can result from stimulation of the skin and fascia superficial to the TP. Treatment of the fascia can release the muscular constriction and resolve local and referred pain.

Trigger points can be released by needle stimulation alone. While much of this early work was connected to the use of trigger point injections utilizing substances such as saline and lidocaine, research has demonstrated that simple (dry) needling of the surface tissue is as effective as the injection of any substance in releasing myofascial TPs (Hong, 1994; Jaeger, et al., 1987). Many trigger points lie in muscles that are too deep to be reached by acupuncture needling. Quadratus lumborum and iliopsoas are examples of such muscles. Yet experience has demonstrated that needling the fascia superficial to the muscular constriction results in LTRs and rapid muscular release. There is therefore evidence that needle stimulation produces a reaction of the fascia affecting a change in the underlying musculature.

The importance of the myofascial paradigm must be emphasized. Needling of the fascia superficial to a muscle beset with taut bands and trigger points results in a clear release of the muscle and resolves referred pain associated with it. Due to their interactive nature, affected muscles lying within myofascial sequences often require needling along their longitudinal or spiral pathways. Thus, we can begin to see the fascia model providing an explanation for the local and distal effects of acupuncture.

Stecco (2004) describes it most effectively: “Thousands of years of experience have shown that there are points in the human body which, when stimulated, radiate pain more than surrounding areas. When treated appropriately these same points can have a beneficial effect. These points have been named differently by the various schools or traditions, but their location is always the same” (p. 41). Whether it is called an acupuncture point, a myofascial trigger point or a center of coordination within a myofascial unit, its presence is related to pain and its reduction through appropriate means has a beneficial effect. Acupuncture has been demonstrated to be an appropriate means of reducing such points.

TREATMENT OF THE SURFACE EFFECTS INTERNAL ORGANS

There is considerable long-standing research regarding both somatovisceral and viscerosomatic effects. The two concepts differ in terms of causality. A somatovisceral effect states that myofascial restrictions may cause visceral dysfunctions. Good (1950) found that constriction of the abdominal musculature often caused functional disturbance of the abdominal viscera. Gutstein (1944) states that abdominal trigger points may induce diarrhea, vomiting and food intolerance. Travell and Simons (1983) relate trigger points to a number of functional disturbances, including cough, belching and tachycardia.

Viscerosomatic effects state that dysfunctions of the viscera may reflect to the surface of the body as myofascial constrictions. The rigidity of the abdominal muscle in response to the inflammation of acute appendicitis (Mendeloff, et al., 1974) and the myofascial trigger points activated by an ulcer (Melnick, 1957) are examples of such effects. Dworken, et al., (1952) induced pain in the splenic flexure of the small intestine in both normal patients and patients with irritable bowel syndrome. Normal patients experienced referred pain to the upper abdomen, while those with irritable bowel syndrome experienced pain in the left shoulder, neck and arm.

The mediating system for somatovisceral-viscerosomatic reflection is best explained by the fascia, the network connecting every aspect of human physiology with surface structure.

There is evidence that surface constrictions may reflect to the viscera and visceral dysfunctions may reflect to the surface of the body. It is clear that there is communication between the surface of the body and the deeper underlying structures in both directions. The web-like structure and function of the fascia, a metasytem, explains the basis of this communication between the surface and interior of the body. It also explains why surface palpation has been the fundamental tool of acupuncture diagnosis and treatment prior to the advent of TCM.

Somatovisceral-viscerosomatic reflection is in accord with the acupuncture principle of balance. Two important points should be considered regarding acupuncture therapy. The first is that acupuncture works toward balance. Classical acupuncture styles are not concerned with the cause of dysfunction as much as with the state of imbalance: Yin/Yang, excess/deficiency. The somatovisceral-viscerosomatic reflections can be conceived of as the relationship between constriction (on the surface) and dysfunction (of the related viscera). The second point is that acupuncture does not directly treat organs or physiological dysfunction. Instead, acupuncture seeks to treat the mediating system, which in turn therapeutically affects physiology. It appears that treating the tissue changes on the surface of the body, affects the mediating system, the fascia. This in turn, results in therapeutic effects on the organs and their associated function.

THE PROBLEM WITH PLACEBO

The fascia paradigm provides a good explanation for the results of multiple clinical trials that have failed to find of significant difference between acupuncture (the independent variable) and placebo acupuncture (the control). There has been a dramatic increase in randomized controlled trials to examine the effectiveness of acupuncture treatment for a number of Western defined conditions. These efforts have resulted in a growing controversy regarding the efficacy of acupuncture and the importance of point location and acupuncture treatment principles. Cherkin, et al., (2009) found no significant difference between individualized acupuncture treatment and toothpick stimulation of standard points. Linda, et al., (2009) did systematic reviews of the literature regarding headache treatment involving 33 studies and 6,736 patients and found no significant differences between acupuncture and ‘faked’ treatments. White, et al., (2004) found no

difference between acupuncture and control groups for the treatment of chronic neck pain. These examples are part of a growing body of research that is raising questions about the nature of acupuncture, with some declaring acupuncture efficacy a placebo effect, and others questioning the validity of acupuncture principles.

Moffet's systematic review of 38 acupuncture trials (2009) concluded that sham acupuncture might be as efficacious as true acupuncture. He went on to state that the theoretical basis of traditional acupuncture practice needs to be re-evaluated. The acupuncture community has had strong reactions to such findings. These reactions are best summarized by a response to the Moffet article by Cassidy (2009) that intelligently attacks the deficiencies of applying a biomedicine paradigm to acupuncture in clinical trials regarding acupuncture treatment. Unfortunately, the acupuncture community repeatedly fails to deal with these remarkable findings. In all of the examples above, acupuncture or placebo have both dramatically improved the patient's condition, and often performed significantly better than conventional medical treatments. In an effort to defend acupuncture against claims that it is a placebo, the real issue is lost. Namely that needling and stimulating the fascia has powerful therapeutic effects. Moffet is correct in stating that traditional acupuncture needs to be re-evaluated.

Placebo acupuncture is actually acupuncture treatment. The idea of using a placebo treatment is to provide a control, an effort to rule out another explanation for the therapeutic effect of the independent variable. This is the standard of drug clinical trials, where there may be minor improvements from the placebo and from the drug. Without a statistically significant difference between the placebo and drug-treatment groups, there is no basis for claiming efficacy of the drug therapy. The "no difference" results are generally disappointing to proponents of the studied therapy. But it is important to remember with regard to acupuncture research that 'no difference' does not mean there is 'no effect.' Both 'real acupuncture' and 'sham acupuncture' groups may demonstrate significant improvement over 'no treatment' or when compared with conventional medical treatments.

Lao (2009) provides an interesting systematic review of acupuncture clinical studies. First he divides the studies, separating those that involve the treatment of pain and non-pain conditions, including such diverse conditions as asthma, nausea, stroke and depression. He then does a comparison of results based upon the type of control employed in the studies. He divides the studies into three groups. The first is a type of time-series design, where some subjects were put on a wait-

list while others were treated to control for the effects of time. Such studies demonstrated overwhelmingly significant differences between treatment and control groups. The second comparison was between studies that involved placebo (no needle insertion) acupuncture. Once again, only a single study failed to demonstrate significant differences between groups. Finally, he examines studies that employ sham acupuncture, where there is some form of needle insertion or tissue stimulation. In such studies, only one in nine demonstrated significant differences between treatment and sham groups. However, the studies did demonstrate a therapeutic effect for both treatment and sham groups. For example, Scharf, et al. (2006) found that the real and sham acupuncture treatment groups showed double the improvement over a conventional medicine treatment group. It appears that while there is not a placebo effect, since conventional medicine treatment would at least have a placebo response, there is certainly an effect due to any type of needling of the soft tissue.

It is indeed time to reconsider acupuncture theory and principles. If we apply the commonly understood *qi* paradigm, where energy flows through defined meridians and point specificity is crucial to treatment, then the repeated positive effects of sham acupuncture are difficult to explain, in spite of problems with research design. The fascia model of acupuncture accounts for these results, and suggests the potential power of treatment of the soft tissue by multiple needling sites.

It is unlikely that the effects of acupuncture can be explained by placebo. The argument that rarely appears regarding the placebo effect of acupuncture lies with the simple fact that it is a distinctly human phenomenon. It is connected to the extraordinary ability of the human mind to create therapeutic effects. There are however, numerous animal studies that have demonstrated measurable physiological effects of acupuncture treatment, (Tatewaki, et al., 2003; Wu, et al., 2001; Liu, et al., 1995; Lao, et al., 2003; Stennor-Victorin, et al., 2000). The placebo argument simply does not hold up in light of the extensive animal studies.

THE FASCIA MECHANISM

The fascia best explains the mechanism of acupuncture, and provides new rational possibilities for research. To summarize, the theory that the fascia is the mediating system of acupuncture must be evaluated in light of the fact that it provides the following insights into the connection between the fascia and the practice of acupuncture:

- It explains how the fascia metasystem can be the basis of treatment.
- It explains the relationship of meridians to fascial planes.
- It explains the relationship of acupuncture points to fascial anatomy.
- It explains *deqi* and how various types of stimulation are effective.
- It explains how characteristics of acupuncture treatment are in accord with fascia treatment.
- It explains how diverse diagnostic and treatment principles are effective.
- It explains how acupuncture can treat numerous and diverse conditions.
- It explains local and distal effects of acupuncture.
- It explains how acupuncture may affect the organs.
- It explains the confounding results associated with acupuncture research.

A RECONSIDERATION OF ACUPUNCTURE PRINCIPLES

YIN/YANG

The application of the Yin/Yang principle, the concept of restoring balance, is in perfect accord with the fascia model. As discussed earlier, impairment, stress or constriction of the fascia necessarily results in excess and deficiency in related areas of physiological function. Muscles under stress will produce dysfunction in other associated muscles, usually within the antagonist myofascial unit, the myofascial sequence and/or myofascial spiral. Disruption of circulation in an area will produce increased pressure in one area and decreased pressure in another. The concept of restoring balance is an insightful approach to soft tissue therapy.

QI

Revisiting the *qi* paradigm. The notion of ‘*qi* as energy’ is a completely modern idea, probably first introduced by Soulie De Morant in the early part of the twentieth century. It is an idea that certainly helped the dramatic development of acupuncture in the West, but has also probably diverted both acupuncture practice and research into some less productive directions. Therefore, any effort to engage in a discussion of *qi* must begin by confronting two issues: the issue of language and the issue of preconception. We must recognize that *qi*, like many words in other languages, has no direct translation into English. It is a term that we can only approximate conceptually rather than direct definition. The second issue involves the existing concept of *qi* in minds of both practitioner and public. When a term such as *qi* comes into the common usage it is difficult to break habits of language that imply some understanding of its meaning. Acupuncturists refer to *qi* as commonly as a plumber refers to water, e.g., as some-thing that can be manipulated, ‘energy.’ The public has a similar habit of usage, using the term ‘energy’ without any understanding of what energy may be. It is difficult to hear a different conceptualization of a well-worn, comfortable idea. Yet trying to fit habitually used, misunderstood ideas into a different conception will only obscure the discussion.

A brief survey of statements about *qi* made by scholars and educators in the field of Oriental medicine may prove informative:

“*Qi* is an untranslatable word in the Chinese medical lexicon. It signifies a tendency, a movement, something on the order of energy.” (O’Connor and Bensky, 1981, p. 8)

“The idea of *qi* is fundamental to Chinese medical thinking, yet no one English word or phrase can adequately capture its meaning. We can say everything in the universe, organic and inorganic, is composed of and defined by its *qi*. But *qi* is not some primordial, immutable material, nor is it merely vital energy, although the word is occasionally so translated.” (Kaptchuk, 1983, p. 35)

“*Qi* is *not* the cause of movement, because *qi* is inseparable from movement.” (Kaptchuk, p. 37)

“Hence I translate it (*qi*) with ‘finest matter influence’ or simply ‘influence,’ with a substance or matter connotation in mind. This may not yet be an ideal rendering, but the choice of this term and the argumentation on which it is based should demonstrate that the customary translation of *ch’i* by some Western (and Asian) authors as ‘energy’ represents a basic misconception that is not supported by Chinese ancient sources.” (Unschuld, 1983, p. 72)

“If *qi* is flourishing there is health, if it is weak there is disease, if it is balanced there is quiet, if it moves in the wrong direction there is disease.” (Maciocia, 1989, p. 99)

“In short, our inevitable Western search for the material or energetic basis of *qi* need not look for something that is strong enough to perform work. We can look instead for signals that stop, start or moderate a process... In this regard, the closest parallel to *qi* in Western thought is a generative matrix in which all things interact with all other things through the exchange of information.” (Birch and Felt, 1999, p. 109)

Kaptchuk (1983), in describing the five major functions of *qi*, could easily have been discussing the fascia:

1. *Qi* is the source of all movement in the body.
2. *Qi* protects the body.
3. *Qi* is the source of harmonious transformation in the body.
4. *Qi* governs retention of the body’s substances and organs.
5. *Qi* warms the body.

The concept of *qi* is elusive, often resulting in contradictory ideas, changing over time, yet somehow providing the explanation for what acupuncture does. It has probably retained credibility in light of the fact that acupuncture has repeatedly demonstrated therapeutic effects. But such demonstration does not define *qi*. Acupuncturists have talked about types of *qi*, manipulating *qi*,

supporting *qi*, or draining *qi*. Yet the question remains, what is *qi*, and what are acupuncturists actually doing?

Taoist philosophy can provide some insight into the meaning and concept of *qi*. While each of the Three Pillars of China influenced the development of Chinese medicine, Taoism provided the basis of the most fundamental acupuncture principles, particularly the concept of *qi*. Before we can begin any discussion of *qi*, the context of Taoist philosophy must be established. Taoist philosophy, although fragmented and diverse as any religion, maintained its fundamental principles over the centuries. Central to Taoist philosophy is the notion that by living in accord with the Tao, the ‘Way of All Things,’ a human being can attain perfection. Living in harmony with the natural order of the universe was the means of attainment, and a lifetime was dedicated to the practice of understanding the Tao.

This concept of living in harmony with the order of all things is a fundamental tenet of acupuncture practice in which natural balance and harmony within the body is sought. Health and well-being are reflections of such a state of balance. When disruption of the natural balance occurs, deficiency in some areas, excess in others, results. Areas of constriction, blockages to harmonious activity, are treated with the aim of alleviating them and restoring balance, restoring health. If we consider the fascia as a moving, sensing, organ, shifting with body activity, connecting every aspect of fundamental physiology, we can see how constriction in one area can produce a concomitant dysfunction in another. Yin/Yang and Five-Phase principles of acupuncture treatment may be seen as a language of restoring balance through the careful palpation and needle stimulation of the fascia.

Like all cosmologies, Taoist cosmology was an effort to describe the order of the universe. Cosmology attempts to describe initial principles governing the universe, starting with the idea of creation. As the principles build upon each other and become more complex, we see that the primary principles hold true and relate to everything else that comes later. For example, in the cosmology of the Big Bang Theory, there is the difficult conception of a state *a priori* to creation, or the Big Bang, which manifests initially as fundamental particles that transform into more complex forms of matter. All matter is ultimately governed by the principles of the fundamental particles.

The Taoist cosmology begins with the *Wu Qi*, Nothingness, No *Qi*, the Void, a state that is *a priori* to existence. This might be better understood as a dynamic that is in perfect balance. The *Wu Qi* is symbolized by a simple circle. What follows is the beginning of existence. Duality is the

introduction of movement into the Void. This is the *Tai Qi*, symbolized by the familiar Yin/Yang. Movement is the beginning of existence. Movement cannot exist without ‘other;’ movement can only be relative to something else. Hence duality: movement and stillness, active and passive, male and female. Yin/Yang is the fundamental principle that governs everything that follows. Everything in the universe, all of existence is governed by Yin/Yang. In this sense, everything is some aspect of that initial movement. From the *Tai Qi* things move toward greater complexity, differentiating to the more material. Principles become more complex. The *Tai Qi* differentiates into the Six Energies, followed by the Five Elements, the Eight Trigrams, the Sixty-Four Hexagrams and finally the 10,000 Things, which is a euphemism used to denote all that exists, the material world. The principles of each phase govern the phases below it, like the branches of a tree.

In the first phase of this transformation we see the movement from non-existence to existence, the crucial step of creation. Creation begins with *Tai Qi*, the transformation from nothingness, from quiescence to existence. We have the *Wu Qi*, movement as potential only, giving rise to the *Tai Qi*, movement made manifest in the form of duality. Duality, the fundamental characteristic of existence, begins with movement. We have our first insight into exploring the meaning of *qi*.

If we understand *qi* as movement, the proper activity of body functions, it is in perfect accord with the fascia model. If we consider the nature of health or underlying quality of life itself, we begin to see the quality reflected from the *Tai Qi*. We recognize that distinct characteristic of life is movement.

“Health requires movement, life requires movement; when movement ceases, life ceases. When the human organic system is functioning properly, things move well and in a coordinated homeodynamic manner. Blood moves in a steady, tidal flow, connected to such diverse and changing conditions as muscular contraction and release, digestion and mentation. Nerves signal through electrochemical flows in a coordinated system of activity; endocrine glands provide well-timed secretions related to the requirements of the whole. Muscles, fascia, tendons and ligaments direct lubricated joints through complex movements. The respiratory system moves gases in coordinated quantities, while cilia and mucus provide the first line of defense against pathogens. Digestive

enzymes are secreted, and harmonious peristaltic action allows for the transformation of materials into energy. Lymph is pumped and circulated as the body moves. All of this is taking place in an interactive symphony that we call life, from the cellular level to the cosmological level.” (Finando and Finando, 1999, p.12)

Consider the words of Mennel (1992, p.5) in relation to the musculoskeletal system:

“The musculoskeletal system has two equally important functions. The first is movement, and second is support (or containment). The most important part of its movement function is that its absence is associated with death. As movement becomes more and more impaired, the functions of the systems that the musculoskeletal system is designed to contain cannot be maintained, and the other structures themselves become dysfunctional. This in itself contributes to and may hasten the final loss of function of the contained systems.”

It is no wonder that *qi* has yet to be discovered, or even defined. It is truly ‘invisible’ because it is everywhere. *Qi* is not a thing; it is a quality. It refers to the most fundamental quality of life – movement, activity. In the human being, the balance of that coordinated activity is the basis of health. *Qi* is not just movement, but the balance of movement, the proper interrelationships of all life systems, a reflection of the *Tai Qi* in the human form. It is manifest in the proper pumping of the heart, the electrical cascades of the brain, or the twitch of a finger. When it functions in harmony, there is health, when it is impaired there is disease, when it ceases, there is death.

Acupuncture then can be more appropriately seen from the perspective of the remarkable capacity of the human body to return proper movement to impaired areas of activity. It is a therapy that is more about stimulating the body to react and ‘right’ itself than it is about ‘making’ something happen. It is more about the extraordinary human system, the reflection of the *Tai Qi*, than it is about the practitioner, who is only a humble agent, prodding the body to return to healthy movement. The body heals itself; the practitioner makes the appropriate request for it to do so. This model of *qi* explains far more about the nature and action of acupuncture than previous conceptions. It is rooted in the encouragement of an organ, the fascia, to free itself of hindrance, allowing a

return of coordinated activity within the body. The body tells us of such disruption by manifestations of its topology, at times along the terrain of the fascial planes, often in other aspects as well. The stimulation of fascia by multiple needling sites can be viewed as a complex stimulation toward action. The selection of such points determines both the efficacy and efficiency of the therapy. The implications of this idea are extensive, requiring reconsideration of potential for acupuncture therapy, but also a new view of the model of human health and disease.

ENVIRONMENTAL INFLUENCES

The fascia is the means by which the external environment interfaces with and influences human physiology. Early China was a world devoid of central heat and air conditioning and humans experienced prolonged exposure to climatic conditions. Acupuncture diagnosis relied heavily on the human relationship to climatic conditions because the human was not viewed in a vacuum, but as dynamic part of the environment in which they lived.

The matrix may be considered to be the environment in which every physiological process takes place. If we remember a number of the roles of the fascia, including protection, shock absorption and communication, we may see the fascia as the organ that physically connects the human to environmental influences. Pischinger (2007) discusses the nature of the Heine cylinder as an “organ of perception of electromagnetic and magnetic variables...[Understanding it] would increase our understanding of problems relating to sensitivity to weather and sensitivity to long term minimal electric and magnetic stress” (pp. 99-100). An interesting question for future research might be the evaluation the effects of temperature, humidity and barometric pressure on the fascia. Certainly the fascia could serve as part of this environmental model of pathology.

THE PULSES

Pulse diagnosis may be explained by the fascia model. One of the great curiosities of Oriental medicine has been the use of the radial pulse as a diagnostic technique. Pulse diagnosis has been considered an art as much as a science, and has been considered an invaluable tool by the experienced practitioner. As with other aspects of Oriental medicine depending on the school of thought, different principles guide the practitioner.

Early acupuncturists examined the pulse at both the wrist and the ankle. Currently, most if not all practitioners examine the pulses on the radial artery at the wrist. The practitioner assesses the pulse at three positions. The middle finger is placed on the styloid process of the radius, the ring finger is placed immediately distal to it and the index finger immediately proximal. Each finger experiences the pulsating artery. In addition to its rate, the practitioner assesses the *qualities* of the pulses. This takes place at each finger position, on both wrists, at a minimum of two depths. Twelve different pulses are palpated, each representing a different organ or channel quality. It may seem unusual that the pulse quality differs with very slight variations of position and depth along a very small section of the radial artery, yet both clinical experience and centuries of practice indicate that this is in fact the case.

As with other aspects of acupuncture theory, the meanings attributed to the pulses vary with style, school and individual practitioner. Some see the pulses as indications of the activity of the organs others believe the pulses to be reflections of the flow of *qi* in the channels. In addition, while each pulse is ascribed to a particular organ or channel, there are numerous variations with respect to which pulse relates to which organ/channel. Maciocia (1989) describes a number of meanings attached to the various pulse positions by different Chinese classics. For example, some believe the pulses are related only to the Yin channels/organs while others see the positions connected to levels of the “Three Burners.”

It might be easy to dismiss pulse diagnosis on the simple notion that numerous qualities of pulse cannot be derived from blood flow along a single artery at positions that are essentially next to each other. However, even a novice can experience the difference in the basic qualities of his or her own pulses by applying this technique. Perhaps the fascia may provide some explanation. Given that blood vessels do not exist in a vacuum, every blood vessel is supported and related to the fascia. From a behavioral perspective, the acupuncturist examines the pulse, applies stimulation to the fascia, and then evaluates the pulse for changes. Some practitioners repeatedly return to the pulse to guide their treatment. Perhaps changes to the fascia might effect changes in the pulse located in close proximity to each other along the radial artery. How is this possible? One possible answer might relate to the anatomy of the fascia. Stecco (2004, p. 12) states that the superficial fascia “blends with the deep fascia at the retinacula of the wrist and ankle.” Perhaps variations of the stresses within the fascia could result in variations in the qualities of the pulses. While a great deal of further investigation is necessary, the locus of connection of the deep and superficial fascia

provides an intriguing possible explanation for pulse diagnosis that even the *qi*/energy paradigm struggles to explain.

PREVENTION

The fascia model relates to the acupuncture conception of preventative medicine. A concept well known within the acupuncture tradition was introduced in the Jiu Jia Yi Jing (The Systematic Classic of Acupuncture and Moxibustion) circa 300 AD -- ‘The superior physician treats disease before it manifests.’ Some believe this is connected to extraordinary skill in palpation and pulse diagnosis, and it certainly may be, but the idea is in accord with a characteristic of the fascia system. According to the somatovisceral-viscerosomatic reflections, if a physician, skilled in palpation were to detect surface expressions of early stage dysfunction, and treated the related myofascial constrictions, it may provide insight into an overlooked aspect of preventative medicine. It is simply another aspect of acupuncture principles and practice that are best explained by the fascia model.

IMPLICATIONS OF THE FASCIA MODEL

IMPLICATIONS FOR FUTURE RESEARCH

There are numerous challenges that face the researcher of connective tissue therapy. As James Oschman, in Pischinger (2007, p. xiii) states in regard to the study of the fascia system, “It is an intellectual challenge to explore nonlinear whole-system phenomena.” Indeed the study of the fascia as a mediating system for the treatment of a wide range of dysfunction and pathology is an extraordinary challenge. The system functions as a singular organ, involved in virtually every aspect of human physiology, while connecting the physiology to the environment. It requires levels of whole system analysis that are resistant to linear/causal scientific models. It suggests *in vivo* studies that may prove to be extremely challenging considering the extraordinary complexity of the system. Building a body of evidence from a varied range of hypothetical constructs would require innovative research designs. As scientific technology continues to develop, particularly in the area

of imaging systems, it is likely that our understanding of the movement and behavior of the fascia will evolve.

The study of the effect of needle stimulation of (active) acupuncture points is an important area of study. The fascia theory of acupuncture provides a basis for generating a number of hypotheses, not only in regard to the investigation of acupuncture, but related to the broader role of the fascia as well. The extensive landmark work by Langevin has provided great insight into the effects of mechanical stimulation of the fascia, and should serve as the basis of future research. The local twitch response (LTR) evoked by the insertion of a needle into fascia deserves attention, given the dramatic myofascial release produced with limited mechanical stimulation. Aspects of the puncture effect described by Pischinger (2007) require much greater study: the notion that minimal stimulation produces the greatest effect, and the response of the entire regulatory system to a stimulus that exceeds local immunity. The role of the Heine Cylinders and Boghan Ducts may produce useful constructs for research in this area. The effects of multi-needle stimulation are of interest, given that patterns of micro-trauma may provide differing effects on the soft tissue matrix than single needle stimulation. This could parallel the study of acupuncture point selection, creating a number of possible directions for research.

Research in the area of palpation diagnosis could provide important insights into the reflective nature of the fascia. The fascia is best evaluated by practitioners who are highly skilled in the art of palpation. This, however, presents another problem connected to validating the research variables. The identification of such a practitioner is difficult, and might require extensive pre-testing, although this in and of itself would be difficult to construct. Since skill and experience are not necessarily correlated, and because training of such practitioners generally requires close personal interaction, they can rarely be found through large training institutions. In spite of the difficulties, research in this area could prove extremely rewarding. Instrumentation that can identify hypertonicity of acupuncture points, without providing the confounding variable of mechanical stimulation of the area, may open research in this area. The study of somatovisceral-viscerosomatic reflection takes on new meaning given what we've learned about the structure and function of the fascia and may serve toward the evolution of new approaches to health maintenance and disease prevention.

Acupuncture research using the fascia model may become the study of the most developed approach to fascia therapy. As discussed earlier, the theory that the fascia is the

mediating action of acupuncture is not meant to provide validation or support for all of the principles of acupuncture treatment. However, some of the most basic ideas of acupuncture, particularly from classical approaches, may serve as points of departure in the development of research hypotheses. The study of the relationships between acupuncture points and their associated organs might extend understanding of the fascia communication process. Expanding on existing knowledge of the superficial pathways of the channels and their relationship to fascial planes by exploring and charting the deep (internal) pathways of the channels could facilitate a greater understanding of the physiological relationship between the internal organs and their related functions and the anatomical and functional relationship between classically paired organs. Increased understanding would ultimately expand our ability to affect the viscera from the surface.

The role of fascia in health and disease should become part of large, long-term research studies. Correlational studies concerned with relationships between fascia function and known pathologies may also provide information about the role of the fascia in disease and in reflecting dysfunction. Once again, measurement issues arise in such research, but the questions are no less important. Cohort and longitudinal studies connected to disease and fascia health related to types of exercise, the regular use fascia treatment or stimulation, and/or nutritional support might be accomplished by adding these variables into a multiple regression model of existing longitudinal studies.

IMPLICATIONS FOR HEALTH AND MEDICINE

The fascia paradigm may require revision of current models of health and disease. Pischinger (2007 p. 3), states: “In attempting to cling to the simplistic viewpoint of cause-and-effect relationships, one has no choice but to separate the acute event from its intermeshed biological associations... Focusing on an illness according to its type replaces the individual phenomenon of being sick. Turning this disease into a model makes it accessible to instrumental measurements in a causal-analytical way. Reality is replaced by models, and the more complex the reality is, the more simplified the models become.” He continues to state “The regulatory capability of the extracellular matrix thus has major significance in disease processes. In all acute and chronic diseases, including tumors, regulatory disturbances and changes in the ultrastructure of the matrix can be demonstrated” (p.15).

Langevin (2005) was cited earlier for suggesting that recognition of the fascia as a metasytem would change our core understanding of physiology. This is a prescient idea, and may even prove to be understated. As the functional relationships of the fascia to virtually every aspect of human physiology emerge, not only is a reconsideration of physiology necessary, but the foundations of human health, disease, diagnosis, treatment and prevention must be revisited as well.

The understanding of the fascia mechanism may provide new directions in preventative medicine. Acupuncture has always been concerned with the interrelationships involved in organ dysfunction, and how the pathology of one organ may affect others. The communication function of the fascia, and the possibility of the transmission of soft tissue dysfunction require a reconsideration of the patterns of organic disease, and the mechanisms of such pathology. This function is closely tied to the possibilities connected to preventative medicine. It is interesting that moderate forms of exercise such as walking, i.e., movement, have demonstrated positive effects on cholesterol, blood pressure, diabetes as well as reduced risk of certain cancers. Are we seeing some of the effects of increased fascial and matrix health due to global movement?

IMPLICATIONS FOR ACUPUNCTURE CLINICAL PRACTICE

If we accept that the fascia model represents the explanation for the mechanism by which acupuncture functions, we should consider the question: what would acupuncture practice then look like? Assuming that we are referring to the styles of acupuncture that come closest to classical practice as opposed to the modern TCM model it would basically be the same. In places like Japan, where meridian style acupuncture flourished, there remains a strong tradition of diagnosis and treatment guided by palpation. If the fascia transmits information from the surface to the viscera and vice-versa, then such a palpation-based approach would certainly be quite effective, and more closely approximate soft tissue therapy as compared to many styles of acupuncture currently in practice. Fully accepting the fascia as the mechanism of action of acupuncture provides a number of powerful tenets that can drastically improve the effectiveness of acupuncture therapy. This is not meant to provide a detailed account of acupuncture practiced according to a fascia model, but rather to provide some idea of the focus and methods of such an approach to practice.

The practitioner is guided by knowledge of the fascia system. Understanding the fascia as an organic whole, a metasytem, recognizing the effects of various forms of stimulation, and clearly understanding the anatomy of the tissue under treatment would be fundamental for the practitioner. The study of the superficial and deep channels in terms of myofascial terrain would ground the acupuncture practitioner in the material reality of the human body. The practitioner would utilize knowledge of biomechanics, such as those delineated by Stecco (2004). The knowledge of myofascial pain syndromes and their associated referred pain patterns, as well as common patterns of muscular constriction, would be important for the treatment of pain and would serve as a clear model for fascia treatment.

Diagnosis and treatment are primarily guided by palpation; what the body reveals is considered to be primary information. The skill of human touch can be extraordinary. Used as a method of evaluation or diagnosis, it can be quite powerful. It is a skill that is fundamental to fascia acupuncture. The skill required to palpate an acupuncture point to identify simple location is different than the skill that is necessary to palpate the qualities of the point, qualities that might be described as full, vacuous, resilient, or neutral. The skill of palpating the channels, identifying areas of constriction, heat, cold, or flaccidity is equally necessary. The palpation of myofascial trigger points and muscular restrictions is a fundamental part of practice, since fascial constrictions affecting the musculature may reflect visceral as well as muscular dysfunctions. The assessment of skeletal imbalances or constrictions is a fundamental part of an acupuncture practice based upon the fascia model. Organ palpation is also applied when appropriate. Myofascial palpation and manipulation is utilized to enhance the results of the acupuncture treatment in addition to the evolution of a diagnosis.

In short, the acupuncture that employs the fascia mechanism returns to an extremely hands-on practice. The patient's body, as experienced through the skills of the practitioner, serves as the basis of both diagnosis and treatment, rather than a system of charts and syndromes. In the practice of TCM, memorized patterns have led the practitioner away from experiencing the patient; systems and principles have replaced palpation skills and the direct experience of the body. The fascia model requires a return to deriving information directly from the surface of the human body. It requires listening to the body first and foremost and applying principles to what it tells us. The information about the body is not limited to palpation, but touch is critical, essential, to the practice.

Observation of the patient is constant; the focus must always be with the patient.

Observation requires attention to the patient from the moment he or she enters the office. Awareness of gait, posture, voice, how they sit or stand or get on or off the treatment table, their habits of movement, how they carry their purse or backpack, their posture when they write, the tension with which they hold a pen, all can provide essential information about the dysfunction with which the patient presents. This requires an effort on the part of the practitioner to make the patient the exclusive center of his attention, to observe a unique individual who may or may not present symptoms that may be easily categorized in a known pattern or syndrome, and who may or may not be able to explain his symptoms clearly.

The treatment of myofascial pain syndromes with acupuncture requires that points be located according to an understanding of referred pain patterns and identification of constricted points. Needling will often induce a local twitch response, producing a generalized release of the affected muscle. Examination by palpation should be local and distal, front and back, right and left, according to longitudinal and spiral myofascial sequences. The location of acupuncture points along meridians may or may not concur; needling is totally dependent on areas of constriction found by palpation. Subsequent to acupuncture treatment, appropriate myofascial and fascial manipulation is performed to maximize function of the fascia. After initial release, the patient is generally taught simple range-of-motion exercises and focal stretches that are performed without pain, gently, briefly and very frequently to re-educate the myofascial sequence to non-reactive movement. The application of moist heat at home is generally suggested.

Treatment of functional or visceral disorders requires understanding of basic organ/channel relationships similar to meridian style acupuncture. Discussion aimed at revealing symptom patterns and history will provide basic information. Skilled practitioners may use palpation of the radial pulses as a basis for questioning regarding symptomology. Identifying areas for palpation will generally be guided by symptom patterns and channel functions. Points along channel pathways, often correlated with myofascial sequences, are palpated for constriction. Myofascial trigger points known to produce the functional disorder are palpated for taut bands and restrictions, as are local points, and those associated with the somatovisceral and viscerosomatic reflection zones. Points that display tenderness, fullness or vacuity are the focus of treatment. Command points, Five Phase point selection or any other classes of points may be used dependent upon the response of the point to palpation. Point selection is based on clinical experience and

patient response. The quality that the point demonstrates when palpated is more important than any particular treatment principle. The body tells us what to treat.

The practitioner must be a detective. Myofascial restrictions may result from a wide range of sources. An understanding of the patient's daily patterns is important; how he works, sleeps, reads or exercises, how he reacts to stress, how much time he spends sitting, what sort of diet he follows, what environmental influences he regularly encounters, all take part in determining the factors that may be effecting or perpetuating his condition. Each condition will lend itself to certain perpetuating factors, and clinical experience will build the skill in identifying such issues. Once again, by closely focusing on what the body is presenting, and how a person moves or holds himself, we can begin to understand the influences in their life that may be source of perpetuating their condition.

Classical acupuncture talks about the development of the practitioner. Such development is extremely important for the practitioner of fascia-based acupuncture. The practitioner must, among other things, develop the ability to completely focus on the patient. This is not only crucial for the development of the numerous levels of palpation skills that are required, but simply for observing and listening to the patient. The concerns, problems, reactions and issues of the practitioner must be completely put aside during treatment. The patient must become the sole focus of attention. This attention must then be focused upon the palpation skills that require a relaxed awareness of one's hands, evolving skills that can detect as little as ten microns of movement (Paoletti, 2006).

Some of Dr. Paoletti's descriptions of palpation skills are revealing (pp. 205-206):

“If the practitioner fails to establish a good ‘rapport’ with the patient, there will be no exchange of information in the other direction.”

“The patient and their tissues must be treated with respect, and we should act as if we were asking permission to establish a dialog with the tissues.”

“Once you have learned to properly listen to the patient, it is surprising how quickly the tissues begin to ‘talk.’ The sooner that mutual confidence is established, the sooner there will be a response.... Although if the basic rules are

not adhered to, it is quite possible to spend hours in contact with a tissue without deriving any information whatsoever.”

Palpation is difficult. It is far more than a mere physical skill. It requires a certain awareness and openness on the part of the practitioner. It requires a focused attention that takes extensive development. All of these skills are acquired far more easily for the practitioner who has attained one particular skill in their process of development. That single important skill is proprioceptive awareness of the myofascia. Such awareness is quite difficult to develop, but possible through a number of means. Martial arts, particularly the inner or soft styles like Tai Qi Chuan, or Hatha yoga and advanced forms of dance, such as ballet are all possible sources of such training. Many practitioners of these arts do not develop such proprioceptive awareness of the myofascia, but if one focuses on such awareness as a goal in training, it becomes possible. There are many levels of such awareness, but even a rudimentary level of development will provide extraordinary understanding when it comes to palpating and treating the fascia.

In acupuncture teachings it is often said that a skilled practitioner must learn to experience his own *qi* before experiencing the *qi* of another. In relation to understanding the fascia, this is a powerful truth.

CONCLUSION

Acupuncture has undergone numerous transformations over the centuries. It has changed as a result of the careful observation of the ancient Chinese medical scholars whose work is reflected in a series of classic texts produced over hundreds of years. It has changed as a function of the tides of religious and philosophic thought that ebbed and flowed over the millennia. It has transformed as a function of its interaction with varying cultures as it spread across the East and ultimately into the West. It has been altered according to social considerations, manipulated in connection to economic considerations, and undergone restructuring related to political influences. There have been numerous schools and their various branches, popular teachers, and chance errors related to often-misunderstood translations.

The issue regarding the concept of *qi* is understandable in a world prior to recent fascia research. The terrains of the natural topology of the body, the fascial planes, became invisible lines of conduction and were called the meridians. The new knowledge of the action and intense interrelationship of the fascia to every aspect of human movement and activity was not fully comprehended, and was expressed in terms of the maintenance of activity. Considering that much of this powerful information about the structure and function of the fascia comes to us from relatively recent research, in fact, just ‘moments’ ago compared to the age of acupuncture therapy, the insights of Classical Chinese medical theory were extraordinary.

As yet, however, there has been little or no transformation of the basic principles of acupuncture related to modern science. It is time for another transformation, one based on the rapidly emerging knowledge of the fascia as an organ/system. It is, interestingly enough, a change that will in many ways return the acupuncturist to the roots of the profession, and at the same time guide the practitioner toward more effective practice. It also provides a rational basis, once and for all, for the researcher to explore a new universe of implications regarding soft tissue health and acupuncture therapy.

“The chains of habit are too weak to be felt until they are too strong to be broken.”

Samuel Johnson

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