Assumptive Models and Research in Biofield Therapeutics

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Abstract: It has been held that biofield therapeutics - 'energy healing with the hands' - those processes generally known as 'energy healing', 'magnetic healing', 'laying on of hands', and specifically identified as Reiki™, Therapeutic Touch™, SHEN™, etc., has no rightful place in science and research. This belief rose from the supposition that the phenomenon was supernatural or metaphysical and thus outside the realm of 'science' or was just a 'placebo' or process of suggestion. From either perspective, it appeared unnecessary to critically examine its functional processes or for practitioners to develop specific techniques for specific disorders; little appeared needed beyond placing the hands at the trauma site and operating in an appropriate mind frame. This has led to a number of poorly conceptualized theories of operational causality and to deficits in research supporting claims of efficacy. Approaches based on these theories are briefly examined. Then, evidence in support of an operational science is presented:

First, examination of clinical effects suggested that the biofield follows the same natural maxims - rules of order and function - that govern operation of electromagnetic fields, astrophysics and hydrodynamics is offered. This was born out when these operational maxims were incorporated into treatment design and clinical outcomes improved.

Second, strong indications of the nature and character of the functional interface between the biofield and the physiologic are shown. Specifically, how the: 1) state of the biofield, 2) felt sense of the emotions in several specific body regions, and 3) capillary perfusion in the organs interrelate, is detailed.

Third, cases from a therapeutic system based on these premises are referenced in support of its validity in practice. It can be shown that re-establishing a healthy emotional state of the patient's biofield at the site of organs dysfunctioning due to retention of painful somatic affect beneficially alters functioning of those organs.

Taken together, these findings suggest a "mind-body" connection by which the emotions directly affect functioning of the organs. In turn, this suggests a neoteric etiology for the formation of psychosomatic and somatoform disorders, one not mediated by conscious intent or by subconscious mental factors. This has profound clinical implications for suffers of disorders such as anorexia and bulemia.

Fourth, clinical research has been heavily impacted by academic disbelief in the phenomenon. Research into best methods has suffered as a result. To be relevant, clinical research must obviate this dogmatic disbelief, include appropriate consideration of the operational maxims set forth, as well as address issues of patient belief in the method.

Key Terms and Concepts: biofield, autocontractile pain response, somatic affect, emotions, capillary perfusion, somatization, psychosomatic disorders, chronic pain.

Introduction

Various forms of biofield therapeutics have been in use both as primary treatment and as adjunct to other widely accepted methods for several thousands of years; healing activities with this method have been noted in all parts of the world.[1]

A wide range of results has been recorded for the various forms of the method. Application of simple techniques cause reduction of edema, release of anxiety and grief and considerable relief of pain. More advanced techniques include anesthesia for surgical procedures and direct access to deeply-held, traumatic emotional memories; indeed, some authorities attribute the discovery of the unconscious to practitioners of an earlier version of this process.[2,3]

Currently, more widespread and effective usage of the method, characterization of the biofield and development of reasonable operational theories have been inhibited by two widely-held beliefs. The first is that the biofield is metaphysical (outside of science) and thus not suitable for study. The other belief, that the process's effectiveness is due only to belief or faith on the part of either recipient or practitioner, likewise has precluded serious consideration.

Because it has been considered outside of respectable science, scientists have generally avoided the serious critical examination necessary to validate or invalidate the phenomenon. Those who have made attempts have been critically examined by their peers.

Likewise, few practitioners of the process have attempted to improve upon rudimentary methods, since it seemed that, being metaphysical, the mechanism of action was largely beyond the practitioner's control or influence.

Clearly, the process has suffered from this lack of science. Because it is suspect, biofield therapeutics needs, more than many alternative systems, to establish itself within the true sciences; but simply naming itself a science will not do that.

I.
Research Assumptions in Biofield Therapeutics

Beyond attempting to prove clinical effectiveness, designers of studies are always attempting to prove the assumptive model. Study design is slanted, knowingly or unknowingly, by whether the designer believes he or she is testing suggestion, a metaphysical force or a field in physics.

There are four causal assumptions that guide both clinical treatment and research in biofield therapeutics. Three of these are metaphysical and do not incorporate principles of applied physics in their understandings. These will be discussed briefly. The fourth, which is based on applied physics, will be discussed separately.

Metaphysical Assumptive Models

The first three assumptions are:

1. *Special Properties:* There are unique individuals with "special abilities" who have the ability to heal others of all or of specific disorders. These skills are sometimes passed on to others but are unavailable generally to others. Under this assumption mental attitude on the part of the practitioner is a major factor.
2. *Spiritual Energy:* Some kind of universal healing power with an internal intelligence; "cosmic energy", qi, prana, etc., is transmitted from an imprecisely identified, external source into and through the practitioner, out the practitioner's hands and into the patient. Under this assumption, transmission is affected by (a) the intent and state of compassion of the practitioner and (b) willingness or "openness" of the patient to receive this external healing power. Any healing effects are believed due to the intelligence of the energy.
3. *Unitary Human Beings:* All sentient beings are vibrating energy fields (as opposed to <u>having</u> energy fields) within a universal energy field. Under this assumption bringing the patient into contact with the practitioner's more healthy vibrational field will cause the patient's less healthy and therefore weaker vibrations to harmonically entrain with the practitioner's, thus promoting the patient's return to health in specific and non-specific ways. Beyond being held near the trauma site, it make little difference how the hands are placed.

In these systems, the hands are usually placed just above or on the body; no special orientation is required as no direction is perceived for the emanations from the hands. Some techniques include sweeping the hands through the aura (just above the body).

These three approaches to biofield therapeutics produce good general effects; practitioners of methods derived from each these assumptions report good results with: relaxation, lessening of general anxiety, improved sleep, acceleration of wound healing, fracture repair and reduction of fever and local edema.

Research Accomplished Under These Models

There is no formal research based on the first of these models that is presently available for discussion.

Clinical research under the last two has been limited to studying body-wide effects such as pain, anxiety, wound healing and changes in hemoglobin.

In two controlled studies on Therapeutic Touch (TT), Krieger found significant change in hemoglobin levels in hospitalized patients.[4, 5] In a similar study, Wetzel found significant change in hematocrit and hemoglobin levels with forty-eight subjects receiving Reiki and no significant change with ten controls.[6]

Wirth found significant change in healing rate of full-thickness skin wounds in a carefully controlled double blind study of TT[7] and Keller and Bzdek found highly significant decreases in pain scores on the McGill-Melzak Pain Questionnaire by patients with tension headache in a controlled study of TT.[8, 9]

Although Meehan found no significant difference on the Visual Analogue Scale and Pain Intensity Descriptor Form with post-operative patients receiving TT vs. controls, secondary analysis showed patients receiving TT waited longer before requesting analgesia.[10, 11] Similarly, Heidt found significant changes in anxiety levels of hospitalized cardiovascular patients receiving TT vs. controls as measured on the A-State Self Evaluation Questionnaire.[12, 13,14] Quinn found similar results in a study of TT vs. mimic TT without centering and intention to assist. [15,16]

Quinn, in a replication study on pre-post open heart surgery patients of TT vs. mimic TT and no treatment groups, found no significant differences among the groups. Yet, changes occurred in the expected direction; there was a significant reduction in diastolic blood pressure among the TT group that was not seen in the no treatment group.[17] In another study of TT vs. mimic TT on elderly hospitalized patients, Parkes showed no significant differences.[18]

Collins [19] Fedoruk [20] Ferguson [21] found significant relaxation effects of TT with various subjects in different studies and Quinn-[22] in a pilot study of four bereaved people, found significant reduction of suppressor T cells on all four following TT. Morover, Kramer found significant differences in stress reduction between treatment and control groups in a study of TT with hospitalized children.[23]

Effects of the Models on Research Design

Specific ways in which these three assumptive models affect research design are:

1. *Special Properties:* Attempts to study healing under this premise are usually investigations of individuals rather than systems or methods. Studies must necessarily focus on cataloging factors of individual specialness of a very small number of people. (The reality of such specialness seems belied by the fact that many thousands of normal, "unspecial" people have been and are being successfully trained to do similar healings.)
2. *Spiritual Energy:* Since the force is thought to have internal intelligence - knowing where to go and what to do - there is no perceived need to modify the treatment method for each disorder beyond placing the hands in proximity to the dysfunctioning body part. Likewise, there is no need to design research protocols to include best methods. One focus of clinical research efforts under this model has been on how changes in the practitioner's mental and mood states affect outcomes.
3. *Unitary Human Beings:* Here also, the design of clinical is largely non-specific. Since, by its own definition, the basic assumption is not provable, it is difficult to see how clinical research could validate it. Stating that it is a science and is non-provable is a contradiction; if its basis is truly science, it has to be provable.

According to these models the practitioner is substantially a passive participant.Of themselves, none of these assumptive models imply the need for learning how to improve treatment methods or provide a structure for such learning. Such learning as proceeds is largely limited to noting and responding to clinical effects. (In practice most practitioners operating under these models do try to better their methods but it is difficult without the guidance of a functional theory based on either physics or biology.)

In addition, none of the three assumptions address how and by what means the phenomenon impacts upon the physiologic and biologic processes.

These factors have limited the range and effectiveness of research.

Obstacles to Research

It is quite remarkable, given the amount of negative propaganda about biofield therapeutics that any research has been undertaken and published at all. The task has been, and continues to be, formidable.

The researchers and publishers of these studies are to be highly commended. All of them have had to endure disdain by their fellows and ridicule from those who refuse to study the phenomenon, preferring to condemn it without investigation.

II.

The Assumptive Model of Biofield Physics

Every branch of physics follows definite, specific operational precepts; rules of order and function, rules

that are coherent i.e., mutually consistent. When these rules are understood, processes developed under the branch can be improved.

Evidence of Physics in the Biofield

It is true that the presence of a human biofield has not yet been established with acceptable instrumentation. But lack of instrumentation is not proof, as some skeptics protest, that the biofield does not exist; after all, no field came into existence because it was measured, all existed long before appropriate measuring devices were invented. As will be discussed, the presence of the biofield has been established by equally valid means and its place in physics, rather than metaphysics, as well.

Many fail to recognize that almost every natural process now in physics was once in metaphysics. Fire, lightening, wind, the movement of the sun - all were metaphysical with metaphysical explanations. As our understanding of nature grew, metaphysical explanations for each natural process fell away and the process became acceptable for critical scientific investigation. Magnetism is one such example.

Prior to scientists such as William Gilbert, who began unraveling the phenomenon and firmly established its place in physics, the assumptive models used to explain magnetism were clearly lodged in metaphysics. Among others, the Vikings, who navigated with small natural magnets hanging in the prows of their ships, believed the strange, north-seeking rocks had *"fallen from the North Star and were trying to find their way home"*. This fanciful idea served them well enough; on occasion they crossed the entire Atlantic under solid cloud cover, never once seeing sun or stars for as long as thirty days. Some sailors had the local priest place God's blessing on the strange rocks to insure that they would not fail in their appointed task.

The strange rocks were thought to be 'magic', 'work of the devil', possessing 'intelligence and/or 'blessed by God'. This is not so different from certain views of energy healing where many speak of 'channeling God's energy'', or assert that the 'energy has intelligence' and 'knows what to do'. Or, conversely, that the phenomenon is 'the work of the devil'. Pro or con, both are metaphysical views.

Observations of Directional Effects

Early on, it was noted that reversing the order of the practitioner's hand placements in given locations on the patient's body for a period of time produced opposite effects. That is, at most locations on the body, when the practitioner's hands are placed in one order, patients and well subjects alike report beneficial feelings, i.e., feeling refreshed and relaxed. But when the sequence is applied in reverse order, patients report feeling anxious, disoriented and, if misapplication is long enough, nauseous. (See figure 1.)

Reversed Hand Placement Effects *Figure 1.*

Normal
(refreshed,
relaxed)

Reverse
(anxious, disoriented)

This is basic, important observation strongly implies that a "polarity" exists between the practitioner's hands and also in the patient's body. Since such polarities are always properties of fields, we can therefore infer that a field in physics is present.

More importantly, since the workings of fields can be studied and their principles put to practical advantage, this suggests the possibility of exercising judicious control over the process and further, the likelihood of improving clinical techniques.

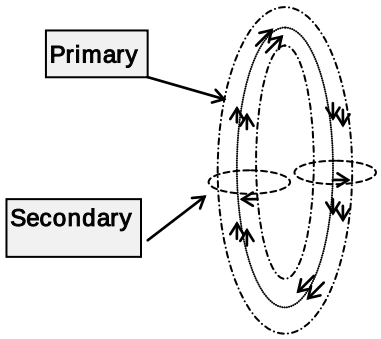
Components of Fields in Physics

There are several basic conditions about field components that hold true for of all fields in physics, including electrical fields, magnetic fields, hydrodynamics, and weather systems.

These conditions include:

- flow, or apparent movement in some cases, in these fields is circulatory in nature, forming complete unbroken loops and
- most fields include small secondary flows which circulate perpendicular to the primary flows.

Primary and Secondary Circulatory Flows *Fig. 2.*



- Note: labeling field polarities - often with + or -, or with N or S - are also used to show movement, or flow, in the field. (Polarities in fields are not the same as polarities in batteries since they do not include a power source between each polar pair.)

These and other fundamental principles of fields in physics were followed as the form and pattern of the biofield were further investigated.

Determination of Main Biofield Flow Patterns

By applying sequential sets of properly oriented polar hand placements (those producing beneficial feelings) around the body and observing their effects, the basic pattern of the biofield was determined to move upward through the right side of the body, loop over the head and continue down through the left side to join at the feet.

Validity of this pattern was established by many hundreds of observations of and by both trained and naive practitioners working on both trained and naive recipients. These included instances where intended placements were unintentionally and incorrectly applied and the resulting undesirable effects were noted.

The secondary pattern, at first inferred from knowledge of how all fields in physics are contrived, was more firmly established by noting that the experience of emotion would frequently occur when hand placements were applied in one direction (back to front) but never in the reverse (front to back), placements which produced heaviness and discomfort.

This secondary flow plays a major part in many therapeutic applications, especially those involving the improvement in deeply conflicted, painful emotions.

Basic Biofield Patterns *Figure 3*

Primary flow

Secondary flow

Biofield Physics as a Clinical Model

This assumptive model states that the biofield is a true field in physics, with conventions similar to those of other fields in physics such as magnetism, electromagnetics and meteorologics.

Under this assumption (a) proper directional flows are foundational to the process (b) belief on the part of either patient or practitioner is not required and (c) mental intention or mood state is a secondary factor of relatively minor importance.

Under this model there is a wealth of opportunity for improved treatment design; this is true for clinical research as well. Instead of being general, treatment protocols are designed specifically for the disorder. This is similar to surgery where there are quite different surgical procedures for each type of surgery.

III.
Results of Applying Physics to Biofield Therapeutics

Treatment methods differ considerably from those in the systems previously described. Briefly, hand placements are specific rather than general, most direct a flow of the practitioner's biofield through the patient's body from front to back (or back to front), rather than being placed above or on the surface.

None of the treatment protocols include suggestion or verbal coaching of the patient by the practitioner as would occur in psychotherapy.

The treatment usually evokes a semi-conscious or altered state and the patient/client is usually in such a state when the emotional effects occur.

Clinical Results

In addition to reduction of pain, anxiety, stress and accelleration of wound healing, applying the principles of physics to treatment design led to specific treatment protocols that have been effective well over 50% of the time with a number of difficult to treat disorders.

Some of these disorders are physical with psychological concomitants, others are frankly psychological or emotional. They include:

- anorexia and bulimia
- non-biologic sexual dysfunction
- anxiety states
- emotional shock
- suppressed grief
- irrational fears
- common and classic migraines
- phobias
- post traumatic stress syndrome
- severe premenstrual tension
- recurrent nightmares

Reality? or Simply Poor Reportage

When this wide a range of positive results are reported for any method, there is a tendency to throw out the reports perforce as being impossible to believe, since a single method with this large a range of positive effects smacks of a being a panacea or a placebo. At the very least, one must consider the possibility of exaggerated reports by unsophisticated observers. It is doubtful that this is the case.

While many of the practitioners reporting these events are not schooled in sophisticated clinical research or in proper research reporting, detailed case histories have been compiled for many of these instances in numbers too great to be summarily ignored or deliberately rejected.

Commonly-Shared Causative Factors

The other possibility is that there are one or more physiological or biological processes common to all these disorders and that application of the biofield is affecting one or more of these shared causative factors.

Even cursory examination shows this to be true. There are at least five common, conspicuous effects, at least one of which occurs in nearly every biofield healing event no matter how plain or dramatic the occurrence. These shared, causative factors are:

1. deep relaxation during the treatment session,
2. reduction of local edema,
3. reduction of fever,
4. lessening of physical pain and
5. betterment of the emotional state (release of fear and anxiety and/or access feelings of well-being).

Any of these basic causal factors can be expected to assist in recovery from many, if not all, of the disorders for which benefit is claimed by biofield practitioners. Indeed, together these five seem likely to be able to contribute powerfully to recovery from virtually all ailments.

What is perhaps most notable among many of the disorders listed earlier is that all involve psychological factors in which emotions are involved. Proper applications of the biofield consistently result in:

- reliving of repressed, painful emotional experience,
- recall of repressed memories,
- abreaction, or the full sensory reliving of forgotten events
- access of previously unavailable beneficial emotions such as restoration of feelings of confidence and positive self-worth.

Behavioral Change Through Emotional Release

Behavioral change following abreaction, the reliving the full emotional experience of a previously suppressed traumatic life-events, are well documented and need not be further elucidated here.

However, the mental factors involved in psychological dysfunction have often been difficult to access, sometimes taking many years of laborious therapy. Usually, in the psychotherapeutic setting, emotions are only accessed after the memory of the precipitating events are fully uncovered.

It is especially important to note is that *both mental and emotional factors occurred simultaneously when the precipitating psychologically debilitating event occurred*. Since they originated simultaneously when the precipitating psychological event occurred, one might conclude that *they need to be unlocked simultaneously for a cure to occur*.

Behavioral Change and Biofield Therapeutics

Such behavioral changes following a series of appropriate biofield treatments are common. Given the frequent recovery of memory and emotional release that occurs, it is, of course, not surprising.

Thus, while they do not always occur simultaneously, properly applied treatments can be a highly effective method of achieving such abreactions.

Clinical Considerations

The primary yardstick that defines whether a disorder is appropriate for this type of treatment is: does

the disorder involve the emotions. Since many disorders involve the emotions to some degree, the yardstick is perhaps better stated as "how much are the emotions involved"? And, which emotions? It appears, from the reported cases, that disorders where the body is heavily impacted by the emotions are more appropriate candidates for treatment by this method than those involving little impact.

Release of debilitating emotions and recovery from their ill-effects is the hallmark of this method. The work has been adopted by many therapists and counselors. (See Addenda)

IV.
Clinical Research Under the Model

Research has been hampered for several reasons. Principle among these appears to be disbelief in the operating mechanism - the biofield - on the part of much of the medical profession. It is often supposed by those who disbelieve in a biofield that belief on the part of the patient is the cause of any positive results.

In fact, many in the medical profession, when presented with clear evidence of positive results following biofield treatments have suddenly decided that there must be much more to placebo than they had previously imagined.

There are two observations that dispute the idea that belief is the operating factor. Many people come in desperation for treatment having already been treated by a series of practitioners of other methods. One must presume they went to those practitioners they believed would help them; why didn't their 'belief' work for them before this?

And, if they believed in biofield therapeutics, why didn't they try this method first, instead of last?

Also, many small children under the age of reason have been treated with strikingly positive results. Similar results have been reported with animals treated for a variety of disorders. "Belief" could hardly be a factor with any of these patients.

Research Accomplished

No large scale studies of this approach to biofield therapeutics have been undertaken. Among other reasons, it is extremely difficult to obtain the use of facilities necessary for studies of some ailments. Notwithstanding, a number of small studies have been accomplished with interesting and positive results.

Significant among these is my own work with over 35 cases of migraine and that of other practitioners who have compiled results of migraines treated with this approach to biofield therapeutics. These cases all met the criteria for migraine established by the ad hoc committee on migraine in 1964.

Of treatments I have given, 24 of the 35 cases aborted in mid-attack, during the treatment. In all of these, there was considerable emotional release and with several the recall of previously forgotten childhood trauma. (In these cases the trauma appeared to be related to the migraine.) Many of the patients involved had reported frequent migraines. A number of these reported no further migraines for significant periods of time following treatment, even though they had been frequent migrainers. (The most significant was one woman who had migraines at least every two weeks and still had not had a recurrence two years following a brief series of four treatments.

More than 20 other practitioners have performed sessions on fewer patients with quite similar results.

Other pilot studies, with positive results have included:

- a pilot study on 13 suffers of severe premenstrual tension where 11 had noticeable improvement, of these all experienced the emergence of traumatic emotions, many associated with childhood events,
- a study on in-hospital major depressives where all of the active group showed change in emotional states and improvement in dreaming and 5 of 6 showed marked behavioral improvement,[24]
- a study on treatment at the thymus during chemo-therapy that resulted in reversal of falling white blood count with all 4 patients.

In addition, numerous case histories have been gathered on:

- childhood learning disabilities and
- anxiety attacks.

While none of this is conclusive, there are far too many events such as these to warrant outright dismissal as being either impossible or merely placebo.

V.
The Biofield, the Emotions and the Mind-Body Connection

That there is a mind-body connection which may be outside the conventionally understood parameters of brain centrality is becoming increasingly clear. However, the exact pathways of the connection have not been detailed with precision. Proposed mechanisms have included obscure neural pathways as well as concepts such as migration of macromolecules between the brain and the immune system and "cellular memory" - the idea that memory is stored in the body's cells instead of, or in addition to, the brain.

In most discussion of the mind-body connection, the place of emotion - or emotions - has been of little interest. But, given their pervasive effects, examining their dynamics and role in the mind-body link seems critical. Since the felt-sense of the emotions pervades the body at the same time emotions affect the thoughts, it is possible that the experience of emotion plays a much bigger role than generally suspected.

Somatic Affect: the Felt Sense of Emotion

In any event which can be termed "psychological" or emotional in nature, both mental thoughts colored by the emotions and felt-sense factors of emotion occur. These felt-sense factors, or emotional sensations in the physical body, are termed **Somatic Affects** in this paper. An examination of the various somatic affects reveals a number of interesting factors, factors which impact heavily on the body and lead to a reasonable explanation for the variety of biofield therapeutic effects previously noted.

An often overlooked, but important factor of emotion is that *the various emotions produce distinctly different somatic affect states in the body*. An over-arching observation is that some somatic affects are pleasurable in tone but others are painful.

Also, there are few descriptions of the differences in individual somatic affects or their bodily locations in the literature. Perhaps this is because the experience of somatic affects - the felt sense of emotion - is so viscerally understood that the subject needs no further elucidation. That there is a personally-felt difference between somatic affects is quite obvious to anyone who has felt more than any one emotion; i.e., clearly the feeling of love is vastly different from the feelings of fear or grief or of anger.

What has been less noted, but is easily determined, is that the loci, or center of the experience of the various emotions is not the same for all; each emotion has a specific bodily location for its associated somatic affect. Again, while this has not been documented in the medical or scientific literature, evidence of the truth of this statement can be found in other literature; it is imbedded in the language we use in ordinary conversation.

Somatic Affect and the Biofield Applications

It has been repeatedly established that when a trained practitioner properly applies the flows between their hands to certain specific body regions for a few minutes, somatic affect, emotionally tinged thoughts and emotional memory are frequently lifted into awareness. These emotional regions, or sites of somatic affect appear be centered inside the physical body in four principle regions.

Note: The therapeutic (biofield) flows that bring the emotions into experience follow the secondary circular movement from the spine to the front of the body shown in figure 3.

Regions of Somatic Affect

There is much descriptive language that clearly describes these locations. For example; "heartsick" and "broken hearted "refer to specific somatic affects which are experienced centrally at mid-chest, "venting your spleen" and "full of gall" refer to somatic affects experienced in the upper abdominal region.[25]

The four principle regions of emotion and their associated somatic affects are shown in table 1.

Table 1 **Specific Regions of Somatic Affects**

Mid Chest	Love Sadness Awe
Upper Abdominal Region	Anger Simple Fear
Lower Abdominal Region	Guilt Shame Embarrassment Confidence
Perineum	Terror Emotional Shock

[A more complete examination of other aspects of emotion, especially in relation to the biofield, is outside the scope of this paper but is detailed in a related document.[26]]

VI.
Linking the Biofield with the Physiologic: Bodily Responses to Somatic Affect

The evidence seems clear that the body reacts in the presence of emotion, especially painful emotions. Of major concern is the question; why does the body react to emotion at all? It is possible to identify and describe at least one major physiologic process that is at work and to postulate at least one biologic process of body-wide significance.

Somatization of Emotion

That the psychological state - or emotional state - of a person can somehow be translated into somatic disorders is well known but the modus of action is poorly understood.

Literature on the concept usually suggests that the mind affects the body in a deleterious manner, probably by inducing production of various neurotransmitters. While neural pathways in the disorders postulated under this model have been defined, different neural factors for the different emotions have not been delineated.

Every organ or other body part can be involved in somatization. Whether it is poor response of digestive organs in the anorectic, a "nervous bowel" in the over-stressed, reactive and harried executive, or simple angina in the close partner of a heart attack victim; the hallmark of somatization is malfunctioning of the organs, *organs responsive to painful somatic affect*. These effects accumulate over time.

Physiologic Reaction to Pain

To understand how the body responds to emotion, to somatic affect, we must first examine how the body responds to physical pain.

There are differences in the way the body responds to pleasure and to pain; the body relaxes when it feels pleasure and contracts when it feels pain. The first of these conditions is usually considered beneficial, or at least benign. It is the second, the bodily response to physical pain, that is of concern here.

Physiological reaction to physical pain is well known but discussion in the literature is peripheral; the "splinting reflex" is one of the few examples that appear. This reflex causes flesh surrounding broken bones to automatically stiffen. Since the reflex involves much more than just splinting broken bones, a more complete descriptor: the *AutoContractile Pain Response (ACPR)* is used in this paper.[27]

ACPR is generally thought to be innate, wise and beneficial and not under conscious control. Certainly the first and last are true but the second, upon critical reflection, is not. ACPR is wise and beneficial when it protects the flesh around a sharp-edged shattered bone from tearing and shredding, but it is anything but helpful or even benign when it prevents a dislocated shoulder from settling back into its proper place. From analysis of these and similar events I conclude that ACPR is neither intelligent nor under conscious control - as anyone who has tried to relax a dislocated shoulder can certainly attest.

ACPR and Painful Somatic Affect

Although it has not been previously established in the literature, it can be shown that ACPR reacts to emotional pain in the same manner as it does to the physical - it involuntarily contracts.

All of us have likely watched a small child try to breath and cry at the same time and observed that the pain of emerging sadness prevents the child from drawing a full breath. As the chest expands the pain expands with it and ACPR is activated. The result is a broken string of gasps as breathing is punctuated by sharp, involuntary contractions.

Or, perhaps we have tried to run while in a state of fear or been on a roller coaster and found ourselves struggling desperately to will an in-breath while ACPR - our innate "wisdom" - was clutching our diaphragm in response to the pain of the fear.

Likewise, ACPR is activated when we experience the pain of embarrassment (and the belly contracts forcing blood to the face and neck) and the pain of terror (when the bladder or bowel contract violently and expel their contents).

Table 2 **ACPR and Somatic Affects**

Pleasurable *ACPR not activated*	**Painful** *ACPR activated*
Love	Grief
Joy	Terror
Excitement	Fear
Confidence	Shame

These examples are not meant to illustrate the full range of somatic affects that can be experienced at these regions. However, these are the four principle regions where somatic affects occur.

One thesis of this paper is that ACPR has major implications in the development of many, if not all, psycho-medical conditions.

VII.
The Formation of Psychologically or Emotionally Influenced Physical Disorders

The steps by which somatization of the emotions (the expressors of the psychological) occurs are not obscure.

Accumulation of Painful Somatic Affect

ACPR appears to be a continuing process; it is ongoing, cumulative and tenacious. It is clear that the process is not easily reversible, as anyone who has tried to 'let go' of the heart pain of unfinished sadness can attest. Unless and until the painful emotions come to full experience and are resolved, ACPR will continue to activate each time the painful somatic affect re-emerges.

In addition, every new emotionally disturbing event with characteristics similar to earlier disturbing events will impact the body at the same region of painful somatic affect as the earlier impacts.

Thus, the effects of ACPR accumulate over time. This accumulation of contractions is likely the process

by which the 'body armoring', that was first identified by Wilhelm Reich, [28] occurs.

This accumulation results in long term tension that *impacts the specific region of somatic affect, and the organs within that region, more than it does the rest of the body.*

ACPR and Long-Term Effects on the Body

Concepts of stress and tension become somewhat elusive when attempting to define the process by which they affect the body. Individuals respond quite differently to identical stressful situations. Their response differences include differences in specific organ function as well.

It may be that the reason one person's organs respond differently from another person's under the same stress factors is because of different accumulations of regional tension acquired in life.

If it is true that tension and ACPR are involved in this process of somatization, there would need to be either many identifiable factors at work or one global factor that would affect all organs.

While we often think of tension as affecting the only straight muscle tissue, the effects of tension appear to encompass smooth muscle tissue and likely other tissue as well.

More than straight muscle tissue is involved when the heart races at the same time the skin goes pale in fear. The two muscle types are involved in these completely opposite effects. The straight muscle tissue in the heart is pumping it madly - while the smooth muscle tissue of blood vessels in the layers below the skin is constricted. (Attempts to explain this differences by changes in epinephrine levels are inconclusive and open to debate.)

It is smooth muscle tissue that is involved in capillary perfusion and capillary perfusion is global. While there may be other factors, tension is both global and specific and capillary perfusion is both global affected and specifically affected by tension.

Tension and Capillary Perfusion

Capillary perfusion, being both body-wide and specific in nature, is a logical candidate for a mechanism that could selectively affect each of the organs when affected by ACPR in response to long-term painful somatic affect.

The health of all organs in the body is profoundly affected by capillary perfusion. Inadequate perfusion seriously impedes normal organ functioning; lack of perfusion will cause organ failure by death of the organ's cells. By reversing inadequate perfusion, cell injury can be reversed and cell death prevented.[29]

It is possible that there are other factors that universally affect many or all organs or other body parts, but impaired capillary perfusion alone would be enough to account for disorders of somatization where ACPR and somatic affect are involved.

Anatomic Specificity

The idea of anatomic specificity, that certain disorders tend to group within certain physical and psychological parameters is not new. Around 1910 Adler suggested the idea of "Organ Inferiority". In 1950 Franz Alexander and his associates postulated "Typical Specific Constellations", the idea that certain specific disorders constellate within certain emotional conflict parameters. Their work was not successful. The track they followed is not so different from the one presented here, but they focussed on psychosocial factors rather than on the specific emotions involved.

Capillary Perfusion with Edema and Fever

The other two shared, causative factors involved with many conditions responsive to biofield treatments (listed earlier) are edema and fever. The role of capillary perfusion is less clearly involved here.

Reduction of capillary perfusion through the impact of ACPR in response to either physical or emotional pain may account, at least in part, for these two conditions. If so, reversing the effects of local tension through biofield applications would explain the reduction of both these conditions that occurs.

IX.
Research Design Considerations

While existence of biofield, may be <u>inferred</u> from clinical studies, demonstration of its existence must necessarily await development of appropriate measuring devices by the physics laboratory. Until then, clinical research can continue to demonstrate efficacy.

Effect of Erronous Assumptions

The assumption, by many on peer review committees and elsewhere, that any beneficial effects are the results of placebo or suggestion has greatly affected research design. Under this assumption, results are believed to be merely reflect (a) the strength of the patient's belief in the method and/or (b) the patient's belief in the practitioner's ability to heal. (In clinical practice this supposed belief is <u>not</u> demonstrated; most come as a last resort rather than first choice.)

Disbelievers in the process usually insist on study designs with far greater placebo control than called for with other disciplines. In effect, designs of this sort are not meant to prove or disprove the existence of the

biofield but to *prove that the process is something other than what it is*. This, at the least, is poor science. Some designs, proposed by those not conversant with practice of the discipline, have been so large and unwieldy as to be completely impractical for both financial and functional reasons. Control for placebo is appropriate, unreasonably large studies are not.

Types of Studies

Most published research studies so far have been of simple methods; reduction of pain and anxiety and wound healing where it is easy for detractors to claim that placebo and other non-specific effects are the cause. The true worth of biofield therapeutics will be shown by studies involving more complex and difficult to treat disorders.

Blinded Practitioners and Raters

Except for simple procedures such as reduction of pain and anxiety, practitioners cannot be blinded since treatments are not fixed but follow the emotional changes that occur during treatment. Practitioners will need to observe facial changes and other bodily reactions in order to adapt the procedure appropriately. However, raters can easily be blinded and should be.

"Sham" Maneuvers

So far, attempts to create sham maneuvers in studies have confounded the results: sham treatments have been somewhat effective. In devising "sham" biofield treatments, where similar but inaccurate hand placements are used, attention must be paid to the physics of the field.

Mixed Methods

Some methods mix mental healing techniques with biofield approaches. While these combinations can be appropriate in the clinic, they are inappropriate in research. These factors must be separated out during research or the results will be confusing and unusable.

In Summary

As it changes from "Energy Healing" to "Biofield Therapeutics", the phenomenon is crossing the diaphanous border between metaphysics and physics, between rejection and acceptance. In the process it will likely continue to be vehemently attacked by those scientists willing to condemn it without examination. This makes careful attention to all research details vital.

A recent column by a noted skeptic[30] included this quotation by Sherlock Holmes: *"It is a capitol mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts"*. The expressed opinion spells out the reason why much of biofield therapeutics has failed to be developed or be accepted: until recently it has had no reasonable theory based on data.

The theories described have been developed from data resulting from careful observation and consideration of clinical events. In the process, some earlier ideas of causality fell by the wayside, others became more firmly established. These advancements were then studied, in their turn leading to further clinical and theoretical advancement.

If the theories presented in this paper are correct and if the pilot studies are any indication, many who suffer from disorders and conditions not now readily treatable by more usual means stand to gain immensely.

Applications of the various systems of biofield therapeutics have far outstripped the clinical research that has so far been funded. There is abundant evidence for proceeding with further appropriate clinical investigations.

Hopefully, such investigations will not be impeded by unsupported academic disbelief but will proceed vigorously.

Addendum

In practice, as with any other broad-scale approach to healing, a number of different clinical procedures bases on the propositions presented here are in use. These include diagnostic procedures as well as treatment plans.

Diagnostics

Treatment plans are developed by noting which of the emotion regions - regions of somatic affect - are most involved. It is understood that in most conditions several emotions may be involved to some degree but there will likely be a dominant one.

Careful questioning is necessary at intake. This questioning parallels the usual psychological approaches. Instead of questions such as "How do you relate to your father?", the practitioner asks questions that clarify which emotion(s) was involved. Questions such as "What emotion did you feel when the accident occurred?", or, "Describe what you feel in your body when you recall the situation that preceded the trouble you are having?"

As an example, one woman, referred both by a psychologist and an anesthesiologist, who was suffering from reflex sympathetic dystrophy, was asked, "What did you feel when you twisted your ankle?" Her response was short and quick, "Stupid!" (She had slipped and twisted her ankle three years prior, there was no discernible injury beyond minor swelling that subsided in a few days but pain had persisted for three years. The nerves had been surgically severed to halt the constant pain but the pain returned. She walked with a pronounced limp - the calf was atrophied - with the aid of a cane, took no responsibility for her health and demanded that the doctors "fix her".)

The treatment session, which was focused on the lower abdominal region (region of somatic affect of shame) produced an abundance of tears, tears that had not come forth is the three years following the incident. When she arrived for the next session, she was walking without the cane and announced that she had decided to enter a behavioral modification program.

The observations and concepts described in this paper have been codified into and form the basis for one system of biofield therapeutics, SHEN Therapy™.*

Several forms have been developed to implement intake and treatment. These are available from:

The International SHEN Therapy Association
PO Box 801 Edmonds, WA 98020
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NOTE:
Operations Office of ISTA
the International SHEN Therapy Association
Is currently at:
20 Yellow Ferry Harbor
Sausalito, CA 94965-1326

* *SHEN is the acronym for Specific Human Energy Nexus*

[1] Biofield Therapeutics in Manual Healing Methods, Rubik, Beverly and Pavek, Richard, Eds., 1994. Expanding Medical Horizons,
Report to the National Institutes of Health: D.C.: GPO

[2] Ellenberger, Henri F. 1970. The Discovery of the Unconscious: The History and Evolution of Dynamic Psychiatry. New York:
Basic Books.

[3] Crabtree, Adam 1993. From Mesmer to Freud. New Haven: Yale University Press

[4] D. Krieger, "Therapeutic Touch: The Imprimatur of Nursing, *"American Journal of Nursing*" 7, 1975, pp. 767-784

[5] D. Krieger, Relationship of touch with the intent to help or heal subject's in-vivo hemoglobin values. Unpublished paper presented
the ANA, Kansas City, March 21, 1973

[6] W. Wetzel, Reiki Healing: A Physiologic Perspective, Journal of Holistic Nursing, Vol. 7 No 1, 1989, pp. 47-54

[7] D. Wirth, "The Effect of Non-contact Therapeutic Touch on the Healing Rate of Full-thickness Surgical Wounds", Subtle Energies 1.
1990, pp. 1-20.

[8] E. Keller, The Effects of Therapeutic Touch on Tension Headache Pain, Masters Thesis, University of Missouri - Columbia.

[9] E. Keller and V. M. Bzdek, "Effects of Therapeutic Touch on Tension Headache Pain", *Nursing Research* 1986, pp. 101-104

[10] T. C. Meehan, *An Abstract of the Effect of Therapeutic Touch on the Experience of Acute Pain in Post-operative Patients,*
Unpublished Ph.D. Dissertation, New York University, 1985

[11] T. C. Meehan, The effect of Therapeutic Touch on experience of acute pain in post operative patients. Doctoral dissertation, New
York University, 1986

[12] C. D. Spielberger, et. al. STA manual for the State-Trait Anxiety inventory. Palo Alto, CA. Consulting Psychology Press

[13] P. Heidt, *An Investigation of the Effect of Therapeutic Touch on the Anxiety of Hospitalized patients,* Unpublished Ph.D.
Dissertation, New York University, 1979

[14] P. Heidt, Effects of Therapeutic Touch on Anxiety Level of Hospitalized Patients. *Nursing Research*, 1, pp. 32-37.

[15] J. Quinn, *An Investigation of the Effect of Therapeutic Touch without Physical Contact on State Anxiety of Hospitalized*
Cardiovascular Patients, unpublished Ph.D. Dissertation, New York University

[16] J. Quinn, Therapeutic Touch as Energy Exchange: Testing the Theory, *Advances in Nursing Science,* 983, vol. 6 pp. 42-49.

[17] J. Quinn, Therapeutic Touch as Energy Exchange: Replication and Extension, *Nursing Science Quarterly,* 1989, pp. 78-87.

[18] B. S. Parkes, *Therapeutic Touch as an Intervention to Reduce Anxiety in Elderly Hospitalized patients,* Unpublished Ph.D.
Dissertation, University of Texas at Austin, 1985

[19] J. W. Collins, *The Effect of Non-Contact Therapeutic Touch on the Relaxation Response,* Unpublished Master's Thesis, Vanderbilt
University, 1983

[20] R. B. Fedoruk, *Transfer of the Relaxation Response: Therapeutic Touch as a method for the reduction of Stress in Premature*
Neonates, Unpublished Ph.D. Dissertation, University of Maryland, 1984

[21] C. K. Ferguson, *Subjective Experience of Therapeutic Touch (SETT): Psychometric Examination of an Instrument,* Unpublished
Ph.D. Dissertation, University of Texas as Austin, 1986

[22] Quinn, J. Psychoimmunologic Effects of Therapeutic Touch on Practitioners and Recently Bereaved Recipients: A Pilot Study.
Advances in Nursing Science 15:4, 13-26

[23] Kramer, N. A. Comparison of Therapeutic Touch and Casual Touch in stress reduction of hospitalized children. Pediatric Nursing
16:5, pp. 483-485

[24] Beal, M., Pavek, R. An uncompleted controlled study of SHEN and major depression, Milwaukee County Mental Health Center,
1985

[25] Handbook of SHEN, (Sausalito, CA: The SHEN Therapy Institute, 1987) p. 14

[26] Pavek, Richard R. *A Critical Examination of the Nature of Emotion.* In process.

[27] Pavek, Richard R. and Daily, Terran, "SHEN Physioemotional release therapy: Disruption of the autocontractile pain response"
Occupational Therapy Practice, 1990 vol. 1, No 3, pp. 53-61

[28] Reich, Wilhelm, 1979. Selected Writings, New York: Farrar, Straus and Giroux

[29] Hardaway, Robert M., Capillary Perfusion in Health and Disease, 1981, Mount Kisco, NY, Futura, p. iii.

[30] Epstein, Michael, The skeptical perspective: alternative medicine, in the *Journal of Scientific Exploration*, Winter 1993 vol. 7,
no. 4, pp. 435-438