

**Toward an Integral Energy Medicine Model
For Understanding
The Vascular Autonomic Signal**

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ABSTRACT

The Vascular Autonomic Signal (VAS) is a physiological response of the neurovascular system of the body to information being brought into its energy field. This response can be manually felt as a pulse change on the wall of the radial artery. The discovery of the VAS by Dr. Paul Nogier in 1966 brought an **energetic diagnostic tool** to the world, the science of which is not fully understood, and the potential of which has yet to be fully realized. Dr. Nogier believed that the nature of the human body is that we are highly sensitive and powerful instruments, responsive to subtle energy changes. The VAS seems to be a physiological “readout” of this sensitivity, transducing the subtle energy into a physical form that can be detected by a practitioner and used to identify what is energetically out of balance and how best to intervene.

In this dissertation, the VAS is studied from an **Integral Energy Medicine approach** enabling a more expansive and wholistic view of just how potent and effective is this diagnostic tool. Specifically, this study explores both experiential knowledge and theorized mechanisms to facilitate a better understanding of how the VAS can offer such refined information on a person’s symptomatic as well as deep causal pathology. This information is explored through four venues: a literature review that develops an historical and cultural context for the VAS; an exploration of current physiological as well as subtle energetic theories; communications with currently practicing practitioners; and a clinical demonstration of the effectiveness of the VAS in directing acupuncture needles to points for the relief of chronic pain. In the clinical trial, a single treatment of VAS-directed auricular acupuncture resulted in immediate pain reduction in 85% of the cases, with an average pain reduction of all participants of 2.7 points on a 0 to 10 visual analogue scale. As well, an 84% consistency rate was found between two separate mappings of the dominant points indicated by the VAS to be the most important points for treatment.

The author presents the case that with an enhanced framework of understanding the VAS, the potential of the field of auricular medicine may become more realized.

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Chapter One INTRODUCTION

The VAS and Auricular Medicine

Paul Nogier, a medical doctor who taught neurology at the medical school in Lyon, France, discovered in the late 1950's that the ear holds all of the acupuncture points of the body, replicating as a microsystem every part of the body. Nogier and his students systematically mapped these points, opening up the field of **auricular acupuncture**, also called auriculotherapy. Later, in 1966 he made the further discovery of the Vascular Autonomic Signal (**VAS**) by noticing a pulse change when he touched the skin of a patient.¹ The VAS is one physiological response of the neurovascular system of the body to information being brought into its energy field, a response that creates a “signal” that can be manually felt as a pulse change on the wall of the radial artery. This discovery of the VAS brought an **energetic diagnostic tool** to the world that became the cornerstone of **auricular medicine**. The potential of this discovery has yet to be fully realized.

Although the term “signal” as in the “Vascular Autonomic Signal” is the common term that was adopted to refer to this phenomenon, current practitioners see the term “response” as being more accurate. “Response is the consequence of a question”;² says Yves Rouxville, a Nogier student. The VAS represents the body's specific reaction, or response, to the question posed by the introduction of a stimulation into the energy field.

Biophoton research has found that when a body system is stressed and unhealthy, the electromagnetic field extends further out than when a body is free of stress and healthy. It is theorized that this extension of the field is due to an increase in disorderliness and quantity of photons, or electromagnetic signals, being emitted by the body when under

stress. Thus any disturbed structure or function of the body can result in a stressed electromagnetic field, which is reflected by one or several acupuncture points on the microsystem of the ear. When a substance or colour (in the form of a “filter”) has the same electromagnetic signature or harmonic of the signal of the stressed acupuncture point, the two will resonate with each other. The minute irritation caused by this resonance is reflected by a change in the tone of the arterial wall – the VAS.³

Highly developed protocols of auricular medicine have been developed through the experimentation and clinical experience of Nogier and, in recent decades, his students. These protocols involve the use of various filters of information brought into the energy field of the patient while the physician feels the pulse response. Due to the sophisticated nature of the VAS, the practitioner can discover not just the best treatment for a current symptom, but ever more subtle levels of information about blockages to healing, layers of pathology and their appropriate priority for treatment, as well as subclinical and causal level issues.

Interestingly, it is the thumb that is most commonly used to read the VAS. While the thumb is not used in allopathic pulse reading due to its sensitivity, this is the very reason it **is** used in auricular medicine. The thumb and the tip of the tongue are amongst the most sensitive skin areas of the body, as demonstrated in their capacity for two-point discrimination,⁴ and in the brain map discoveries of Wilder Penfield that demonstrate the disproportionate area of the brain given to these most sensitive parts of the body.⁵

As Nolan Cordon, one of America’s first students of Nogier, said in a recent workshop, “All you need to begin is an educated thumb!” An educated thumb has been trained to pick up the subtle pulse changes, and is attached to a practitioner whose

understanding of health brings clarity and meaning to those changes. Auricular medicine “is essentially a diagnostic vocation”,⁶ an art of listening to the body through the VAS. Along with assessment, the VAS is also used to choose treatments in auricular medicine, which may involve auricular acupuncture, or any other tools available to the practitioner.

The Research Question

In approaching the task of a dissertation in my area of focus of auricular medicine, within this Energy Medicine graduate program, I initially considered researching the effectiveness of auricular medicine through a particular protocol developed by Tony vanGelder of Rotterdam, a student of Nogier. In spending time with vanGelder at his clinic, we discussed areas of his work for which he would appreciate more research. VanGelder’s protocol allows for the assessment of organ systems and chakras, which point to levels of health or dysfunction as reflected in these more subtle energy fields. Selected homeopathic remedy treatments have been found to alleviate a cascade of symptoms in the patient. This protocol deserves much wider attention, as it is demonstrating to be a deeply healing and effective medical approach for everything from whiplash to depression.

The more I delved into the subject, however, the more I realized that there was a fundamental question behind any of the protocols used in auricular medicine that seemed to be unanswered.

That question evolved into the following wording: **What are the mechanisms that allow the VAS to be such a refined tool for discrimination, enabling it to offer to the practitioner the subtle information of a person’s symptomatic as well as deep causal pathology?**

The VAS is used and relied upon by auricular medical practitioners around the world as a trusted and central diagnostic indicator for the healing process of their patients. It is a physiological, manually-felt signal that communicates a specific response to any question posed to the human energy system. A trained practitioner can read these signals and use them to define very specifically the area of the body under stress, the cause of stress, intolerances and the most beneficial interventions. Practitioners report a high level of success with patients that often have come as a last resort for serious health disorders. The use of the VAS can also lead to an early warning of subclinical concerns and the ability to reverse developing pathologies. There seems to be a highly ordered science here that is only beginning to be understood.⁷

We can view the human body as a finely tuned instrument, designed to read, reflect and respond to surrounding energy of all levels, whether physical, emotional or subtle. Some, qigong masters for example, have brought this instrument into its potential for being harmonized within itself and, therefore, open to experiencing the most subtle stimulations.⁸ In others we can see an opposite effect of how perfectly the body reflects the state of stress of that person, physically through being over- or under-weight, or through characteristic movements, or emotionally through denial, as examples. This fine instrument of ours will reflect in a most refined way the extent to which we are blocking or open to our potential order, harmony and balance. It occurs to this author that we can hide inside our bodies, but we cannot prevent our bodies from revealing that we are hiding.

As well as reflecting our own state of health or stress, we are always “reading” those around us, picking up subtle cues about their intent and desires - whether they or we are conscious of the process or not. Walking into a room, for instance, we may

immediately pick up “the vibes”, or the collective energy of the room. Our system responds by telling us to relax, or to be on alert.

It is possible to learn how to specifically “read” the signals or messages being absorbed and reflected by the fine instrument of the body, through the sciences of psychology, medicine, intuition, iridology and so on. The VAS, as discovered by Paul Nogier, is one method of getting a detailed readout of the status of this finely tuned instrument, as it answers specific questions and provides a report of the extent to which the system is in harmony or blocked.

Beyond saying that the VAS is an indicator of the body’s response to stimuli, the current understanding of the science behind the VAS seems to be inconsistent and preliminary. Without a clear model of understanding the VAS, I feel that our confidence as practitioners is limited, and that the field of auricular medicine is limited in its potential for expansion. How can a student learn and practice the use of a diagnostic tool without confidence in the source and pathway of information that it entails? It seems to me that a better understanding of the communication mechanisms behind the VAS will generate greater belief in and reliance upon the information being carried to the “educated thumb”.

Clinicians with years of experience in the field of auricular medicine tell me they have great confidence in the VAS because they have seen that it works and is reliable in their clinical practice. Without years of experience, however, reliance on this tool seems to be less sure. It is suggested that only 10% of those who begin the study of auricular medicine actually develop an expertise.⁹ There are probably many reasons for this low percentage, one of which may be the lack of a satisfactory level of understanding of and confidence in the VAS itself.

In exploring a phenomenon - such as the VAS, our way of thinking, the model or metaphor we use, frames the possibilities we are prepared to entertain. If our model is inadequate to explain the fullness of a phenomenon, then our insight and our confidence are similarly limited.

The purpose of my dissertation is **to move toward a model of understanding the VAS that is encompassing enough to enable a greater interest and confidence in what is believed by this author to be a reliable, potent and effective diagnostic tool.**

An Integral Energy Medicine Approach

The potential of auricular medicine seems infinite. It is an approach for many types of dysfunction that is non-invasive, holistic, inexpensive, deeply respectful of the individual, and able to reveal a unique and beneficial pathway that the patient can follow to assist in regaining health. One German practitioner, Rita Klowersa, said what I think many practitioners feel, “The revolutionary side of this discovery still is not recognized.”¹⁰

I suggest that to explore the VAS and its potential fully, a discussion needs to be opened about how we think. Whatever is the current accepted metaphor or model is what will guide thinking, frame the questions and set the pace of development.¹¹ When we consider how information is transferred, for instance, the range of possibilities are affected by whether one holds an image of a uni-directional mechanical clock, or a multi-tasking instantaneous response computer. It is useful to examine our existing metaphor, to ensure satisfaction with the possibilities it offers for exploration, to be cognizant of its limitations, and to be open to its revision. William Tiller, author and a former Materials Science professor at Stanford University, cautions that science tends to be self-congratulatory,

believing that the accepted model is the final answer.¹² And, in Ken Wilber's words, "We are all tomorrow's food!"¹³

A general example of metaphors used within science over this past century has been the development of the two schools of thought, "vitalism", and "mechanistic" thinking. The former contends that there is an intelligence, a life force, determining molecular change, an animating force to our systems that has the intelligence, or capacity, for order that allows homeostasis to be maintained and to evolve. Within this model, we are seen and studied as living, open systems that dynamically respond to information.

The school of mechanism, on the other hand, emphasizes our operation as a complex device and studies the interactions between parts. As a mechanism, we are studied as an apparatus with an established plan and makeup (in the genes), which guides, controls and executes the development of the being. The laws of mechanism provide helpful explanations of how the mechanics of our biology work – but Keller and others maintain that to study only this aspect of science focuses too much on matter and ignores some deeper, causal level questions. Questions like, 'what is the force that animates life and evolution?'

Current thinkers in many fields encourage moving beyond the science of "it", to include in the study of every phenomenon an exploration of how the creative, dynamic nature of life is being expressed.¹⁴ This approach of forming a model that consists of more than the study of the physical level of matter but an inclusion of the more subtle energy of experience and consciousness is what I refer to in this paper as an **Integral Energy Medicine** approach. This approach can expand the discussion toward a more holistic understanding of this incredible discovery of Paul Nogier.

There is an invitation in “Energy Medicine” that inspires a deeper look into the mechanisms of the VAS. The invitation lies within the philosophy of Energy Medicine, which holds that the foundation of life is a unitive energy, operating in different frequency patterns with varying degrees of density, the slowest of which manifests as physically observable matter.¹⁵ Subtle energy is considered to be the prior and causal level for physical form, the driving force for our biochemistry and physiology, with every physical atom being intimately connected to the higher frequency level of subtle energy. In this model, energy is the vital driving force. Even leading edge biologists have now recognized evidence that cellular change is more than genetic and biochemical, but is largely initiated in response to energy changes in the environment.¹⁶

A fundamental premise of Energy Medicine is that there is an inherent unity, connecting all vibrations, all manifestations of energy – a ubiquitous nature to life. The assumption is that there is order in the universe that is reflected in every molecule and in every molecular change process. An exploration of the possibilities of this science can aid us in the development of a holistic model for understanding the mechanisms of the VAS. As Tiller suggests, models are like rungs of a ladder, to be used to climb up to the next level of understanding. “Any model will eventually be proven incomplete ... its primary purpose is to trigger the proper set of questions needed to probe deeper”.¹⁷ Anthropologist Jeremy Narby, in his exploration of the biology of DNA, warns against applying too rational an approach to science, as it can prevent recognition of anything beyond the accepted framework, and minimize or even eliminate the “mystery” simply because it is not understood.¹⁸

The VAS in particular, seems to be “exquisitely ideal” for research purposes from an Energy Medicine perspective. The VAS is **holistic**, as an indicator of the response of the whole system, and it is **energetic**, as a response to information influencing the body. Yes, this approach means journeying even further into conjecture but, as we know, our scientific understanding is always based in a subjective, cultural, historical perspective; no matter how “concrete” we feel the evidence to be.

The next chapter explores this context within which the VAS is currently understood, along with some current theories about the science of the VAS. Following this contextual chapter, an Energy Medicine perspective will be further explored, reviewing some leading edge scientific thinking that might help explain the VAS. A clinical demonstration of the effectiveness of the VAS was carried out by this author, and is presented in chapter four, followed by a summary chapter in which a framework for understanding the VAS with an Energy Medicine approach is presented. The author’s hope is that as a whole, the discussion and findings of this dissertation will move the field of auricular medicine toward an integral energy medicine model of the VAS, and will help auricular medicine gain wider recognition.

Chapter Two THE CONTEXT OF THE VAS

Historical and Cultural Context of the VAS

How historically, geographically and culturally sensitive is our understanding of science! We develop metaphors and models based on our best understanding within those contexts. The field of auricular medicine is no exception. Being utilized within different countries and different cultures, there is a divergence of understanding and emphasis in how the VAS is considered, creating complexity as well as perhaps limitations for the further development of the field. Below, I first place the VAS in the context of historical understandings of the pulse, followed by a look at the divergence of views within the current field of auricular medicine.

An historical context is helpful to gain perspective on how thinking and naming are framed by time and culture. We are a product of our own particular time and place, which determines our ‘tribal’ frame of reference that, then, determines how we think. Occasionally someone breaks through that “box”, or puts a crack in the foundation, and then, eventually a new box is formed within which a new reality is viewed and accepted. The very human history of the development of science, in particular, is a study of those limitations and those breakthroughs into new views of our world.

The VAS is a pulse response, but it is completely unlike either the Chinese pulse, or the Western allopathic pulse in its history, its way of listening to the body, and in what information it is reflecting. The pulse itself has a fascinating history, which sheds light on the centrality of this form of diagnosis within medicine over centuries of time. In “The Expressiveness of the Body”,¹⁹ Shigehisa Kuriyama highlights the pulse as both a key

signal of the “expressiveness of the body”, and as a key point of distinction between Greek and Chinese medicine.

Kuriyama says that the mastery of the pulse was **the most valuable device** of both Eastern and Western medicine, and that in both cases it resulted in “uncanny accuracy of diagnosis”.²⁰ Even though both schools of medicine relied heavily upon the pulse, by the end of the second century A.D., there was a clear divergence in how the pulse was taken and what it meant! The author says that this development was the result of “the geography of medical imagination”.²¹ His phrasing speaks to how the reaches, and the limits, of our culturally based imagination create our accepted reality.

At first glance, to see a Chinese or Western doctor take the pulse looks the same...they hold the wrist and feel intently. But what they are palpating and what inferences they are making from the reading are completely different. For the Eastern doctor, the 12 energy pathways of the body are being read and diagnosed for their level of balance, providing a picture of the health of all of the body organs, individually and collectively. There is not one location for taking the pulse, but six. They are feeling the “mo”, the flow of movement of the vital streams of energy in the body – the whole body.

With their more poetic nature, Kuriyama says the Chinese accepted the subtle and mysterious nature of the pulse, and that “sublime truths defy articulation”.²² They did not need exactness in their diagnosis, and were indifferent to the Western need for greater clarity. With careful observation of over 4,000 years behind them, accumulated knowledge and practical success, the Chinese are confident of their use of this diagnostic tool. Today, the ancient texts of Chinese medicine are still consulted for clinical guidance, whereas Western pulse taking has in large part been replaced by technology.

The history of the pulse in Greek medicine is a different story, one of yearning for clarity and precision. This difference in purpose behind their progress – the Chinese with intuitive and cultural confidence, the Greek/Western with the search for precision, is what makes the pulse such a good indicator of the divergence between these two medical approaches. While the Chinese confidently paid attention to the circulation of blood and breath and qi, the Western doctors sought to measure precisely the rhythm and beat of the heart. Between the two worlds, “Unfamiliar words named mutually unfamiliar perceptions”,²³ and the words trained the touch. Divergence only grew.

In Western medicine, the heart is considered the central organ and focus. The evidence the pulse provided of the successive dilation and contraction of the wall of the arteries, propelled by the systole of the heart, was central to diagnosis. From Galen, 200 B.C., on through the next century, the need for clarity of the Western mind drove an obsessive categorizing of the forms and rhythms of the pulse, which only led to imprecision due to the “idiosyncrasy of perceptions: people don’t all feel things in the same way”.²⁴

This approach led to significant concern and doubt within the world of Western medicine. As Kuriyama states, “pulse knowledge was exquisitely vulnerable to doubt”.²⁵ The inability to agree on how to describe qualitatively the pulse in a consistent manner led Western medicine, largely in the hands of sober and rational Europeans in the late 1700’s, to distill pulse taking to beat counting. The rate could be counted and communicated in a consistent manner. With the clarity of numbers, the pulse became a secure diagnostic tool.

The Chinese, on the other hand, continued to describe how the pulse feels to the fingers, its response to an inquiring touch. As a manifestation of the quality of the qi, blood and breath, the “mo” indicates people’s spirits, their life energy. Alternatively, Western

doctors calculate the rhythm of a pulsing artery, telling them about the health of what they consider to be the central organ. The model of thinking of the practitioner defines how the pulse is felt and the information that it expresses.

Within this history and context it is fascinating to consider the VAS, a way of evaluating the pulse not known until the late 1960's. This third pulse is perhaps a blending of the two described above, being both subtle and precise, expressing both immediate and deeper, less obvious health concerns.

It is interesting to note the central importance of the pulse over the centuries as a diagnostic tool, even though it was (and is) considered to be “exquisitely vulnerable to doubt”, relying upon a relatively subjective reading by a practitioner. Perhaps the continued centrality of the pulse is because of its unique capacity to indicate, to express, the overall level of health or pathology of a person. As noted in the title of Kuriyama's book, “The Expressiveness of the Body”, the pulse is a way for the body to express the totality of its current state. The phrase, “To keep one's finger on the pulse”, symbolically expresses this capacity of the pulse to read deeply and fully into a situation.

And perhaps the significance of the pulse is also due to the relationship required between practitioner and patient. To be allowed to touch a person's pulse is to be allowed in to their very energy, their essence. As Marc Lebel, a doctor of Chinese medicine and auricular medicine who trained extensively with Nogier pointed out to me recently, auricular medicine is one of the few medical approaches in which touch continues to be so central. The contact made between the highly sensitive thumb of a practitioner and the pulse of a patient is a most intimate connection, a gesture of trust wherein the patient offers an open palm to the physician, and the physician enters a noninvasive stance of listening.

The history of the VAS actually began in 1945 when Rene Leriche of the College of France was dressing an arterial aneurism after surgery. Leriche observed that when he touched the skin of the scar there resulted strong pulsations in the artery. He later observed that “light stimulations of the skin, and even emotions, could trigger this response”.²⁶ The discovery of this new reflex “could neither be studied nor fathomed at the time”²⁷ – it was outside any model of thinking currently held.

Twenty-one years later, Nogier discovered this signal at the radial artery, where the pulse is typically taken. Nogier reports that due to his own training in Chinese acupuncture, which involved “training in perception of the pulse” his tactile sensitivity had been refined to the point where he was able to notice “a change in the strength of the pulse by touching the ear at the same time”.²⁸ This pulse change is one of amplitude and waveform, not rate or rhythm.

With further study, Nogier hypothesized a mechanism for this signal response. He postulated that the felt change of waveform represents a displacement of the position within the artery of where a retrograde wave that has been reflected back from the digital arteries strikes a direct wave flowing toward the fingertips. One can see this mechanism in water, when waves moving outward meet waves returning back in from the edge of a pool, creating “at the junction of these two opposing movements, a struggle for place”.²⁹ The point of striking creates what is called a “standing wave”, a composite of the movement going in both directions. Any change in the waves moving out will change the position and amplitude of the standing wave that results. A consistent positioning of the practitioner’s thumb is necessary to detect this change in this waveform.

The position and quality of this standing wave will remain the same given the same conditions, because the parameters are unchanged. By decreasing or increasing the diameter of the vessel, in this case the arterial wall, the position of the standing wave will be displaced. Even a micro vasoconstriction or vasodilatation results in a change. Recent physiologic study has charted this change as resulting in a displacement of the rising gradient of the standing wave. According to Anthony deSousa of Switzerland, what one clinically feels when the thumb is kept at the same position on the wrist during a stimulation seems to be not so much the overall change in amplitude of the pulse, which does also change, but the change in the rising slope of the wave.³⁰

While the above mechanism is important to understand, Nogier goes on to note that changes in the quality of the pulse are as important to notice as this more quantitative description of pulse change. There are subtleties being expressed that may be felt using words of Chinese pulse diagnosis, like “peaked”, “sharp”, “vibrating”, “full”. The experience of the flow is as important as the measurement of the change.

It is postulated that the VAS is a change in the arterial wall as the result of a resonance between a dysfunction in the body and the electromagnetic signature of a filter or substance brought into the body's energy field. Just how the subtle energetic communication of resonance actually translates into the physiological signal of the VAS is not completely understood.³¹

As a traditional Western medical doctor who had studied Chinese medicine, Nogier was a good strategic person to bring this third pulse to the world. He combined the best of both worlds, gifting us with a diagnostic tool that is both precise and subtle as it reflects the biology of the patient. With precision, the VAS can guide a practitioner to the exact

location of an active (i.e. indicating stress, or a lack of balance) acupuncture point, and was used by Nogier and others to verify and improve the accuracy of the auricular map of acupuncture points. The VAS can also connect the physician to the whole energy system of the patient and direct the most beneficial interventions for returning to homeostasis.

While the “signal” felt as the VAS response represents a whole system response to filters or other interventions entering the energy field of any part of the body, the ear is particularly useful for locating and measuring change since the ear has the highest density of acupuncture points of the whole body. The ear has been recognized as an easily accessible and highly descriptive microsystem. “Its morphology is one of the most sensitive signs of malformation in the body ... in a standard textbook of pediatrics it is recommended that any auricular anomaly should initiate a search for malformation in other parts of the body”.³²

The profound value of the VAS as a physiological reading of the needs of a patient is yet to be fully recognized. Paul Nogier once said, “... perception of the VAS in auricular medicine permits a broad examination of a subject’s physiology and pathology, and even the mechanisms of the illness and recovery. The VAS becomes “the conductor wire which permits analysis, identification and evaluation of biological parameters”.³³

The Current Field of Auricular Medicine

While there is currently research on the efficacy of auricular acupuncture,³⁴ there is little about the action of the VAS, which is the “cornerstone” of auricular medicine. In reviewing the available literature, it seems that there is much divergence of emphases in current understandings and between practitioners within the field. This situation is perhaps

due to auricular medicine being a relatively new field with insufficient cross-referencing and communication amongst colleagues. Lack of funding and international language barriers remain as significant restrictions for advancement.

The Chinese, who recognize Nogier as the Father of Auricular Acupuncture, and who recognize this field as an update to their traditional acupuncture, have widely adopted auricular acupuncture into clinical practice and research. For the most part, however, the VAS and auricular medicine have not been introduced into their practices.³⁵ Their focus is on the diagnostic tools of auricular therapy, including observation, tenderness and clinically researched maps of ear points.³⁶ When a Chinese doctor includes the pulse in their assessment, it would probably be the “Chinese pulse” that has been perfected in traditional Chinese Medicine.

Similarly, most North American practitioners and researchers are auricular acupuncture therapists, with few moving into the field of auricular medicine. Auricular medicine is not well organized on this continent, in terms of teaching, networking or research. And much of the reference material is only available in French, German or Dutch, making it relatively inaccessible to those relying on the English language.

Most research in North America and China is on the clinical application and success of auriculotherapy, particularly for substance abuse. Oleson, one of the leaders in the promotion of auricular acupuncture in North America, mentions the VAS in his textbook, but as an aspect of auricular medicine as practiced in Europe. His list of diagnostic procedures lists the tools of auriculotherapy, not including the VAS.³⁷

Another reason for the lack of development of auricular medicine in North America may be reflected in Meeker’s caution in his textbook that the clinical problem with the

VAS is that no instrument has been designed to record the VAS adequately, so “the sensitivity of the practitioner is paramount and is the weak link”.³⁸ Perhaps the hesitancy to embrace the VAS fully mirrors a preference in our culture for something electronically measurable. The VAS is considered by some to provide information that is too subjective.

Most of the forty presenters at the '99 International Consensus Conference on Acupuncture, Auriculotherapy and Auricular Medicine in Las Vegas who are practitioners of auricular medicine were from Europe, Russia and Israel. In Holland, France and Germany in particular, advanced protocols have been developed and refined that use the VAS as a sophisticated energetic assessment tool. Europeans have embraced the use of the VAS more than anywhere else in the world.

This reality may be due to the fact that Europe is the birthplace of auricular medicine. When one recognizes that Europe is also the birthplace of other health approaches that recognize the subtle energies, such as homeopathy and transpersonal psychology (Hanneman, Jung, Assagioli), one might speculate the existence of cultural factors that promote the kind of “outside of the box” thinking that has led to these discoveries. Even in Europe, however, the national boundaries and diversity of language limits the networking and growth of auricular medicine. While within Holland, Germany and France there exist relatively strong networks that support practice and research, with busy practices and little outside funding sources, these doctors are still restricted in their capacity to expand and connect the field geographically.³⁹

While for many practitioners the problem with auricular medicine is the inability to measure the VAS with instruments, others are satisfied with its clinical applicability. At a recent meeting of auricular medicine practitioners in Lyon, Anthony DeSousa, an

auricular medicine practitioner and researcher in Switzerland, reflects the latter attitude in his presentation by saying that the VAS is simple to register manually, and so is an effective and clinically accurate diagnostic tool.

Instrumentation for taking the VAS may be possible in the future. An important question is, ‘what might be lost in such a measurement?’ With the history of the Western medical pulse taking, the pursuit of precision resulted in the reduction of the information being sought to be only a measure of rate and rhythm. Felt qualities of the pulse that contribute to the resulting diagnosis of a Chinese doctor are not available without touch. Of note is the relative lack of pursuit of instrumentation to measure the Chinese pulse.

Nogier himself encouraged practitioners to pay attention to qualitative changes in the pulse, not just quantitative. As well, perhaps something else that is crucial to the healing process would be lost without human touch; the effects of the nature of the relationship between doctor and patient.

Attempts are being made to quantitatively measure and “prove” the existence of the VAS, including the work of Michel Marignan of France and Etsutaro Ikezona of Tokyo, who are exploring computerized measurements. If amplitude, rate or rhythm were to be measured, perhaps the task would be easier. DeSousa’s research is now indicating that what is detected when palpating the VAS is the increase in the gradient of the rising slope of the pulse relative to the resting pulse.

Nogier pointed out that, “What we feel (with the VAS) corresponds to something extremely subtle ... extremely small reactions to the least stimulation”.⁴⁰ The VAS as a window into the health of a patient continues to be most perceptible by touch, and not easily detected by currently known instruments.

This deficiency in measurability is seen to be a deterrent to the wider acceptance of auricular medicine.⁴¹ There is a perceived need within the field to prove ‘scientifically’ the existence of the VAS through instrumentation. DeSousa, while not seeing the need for instrumentation for clinical practice, did address the importance of quantitative measurement for the purpose of scientific acceptance. Efim Frinerman, an Israeli practitioner who presented at the Las Vegas conference, stated that the “VAS is a very complicated phenomenon that in the past was explained in a ‘too simplified way’. Today, for future development and integration of VAS-phenomenon into ‘normal science’, it is necessary to refine its concepts and construct equipment ...(for measurement)”.⁴²

The high degree of sensitivity of the VAS as a diagnostic tool demands, at this point in time at least, trained attention on the part of the practitioner. To practice auricular medicine requires focused intent during the entire assessment in order to render an accurate and “clean” signal. It is a “diagnostic calling”, Nogier says, that is appealing to those who have the capacity and interest for the kind of sustained attention necessary for such a subtle relationship with the patient.

While this reality may currently be a deterrent for the growth of this field of medicine, this very nature of auricular medicine may become the stimulus for future recognition and progress as interest grows in the capacity to access energetic information for medical assessment.

Physiological Understandings of the VAS

What are the physiological processes involved that enable the VAS to be so discerning? The VAS has the remarkable capacity of providing, for the clinician with a

trained touch, a focused physical response that represents a reading of the system's total and immediate reaction to a stimulus. Like a computer analysis, the VAS provides a readout that has synthesized information from the whole human system, including the entire range of physiological and subtle level (emotional/mental) energies. What is the current understanding of how this reading is possible?

My research, including a review of literature and attendance at research presentations in North America and Europe, which is summarized in this chapter, has uncovered a number of excellent theories of the physiological processes resulting in the VAS. My observation is that each researcher brings an important understanding to the topic, but there is little integration of the ideas, each of which provide a piece of the puzzle.

The mechanism of the standing wave described above tells us how the actual VAS response of the pulse is created. But how does the creation and transmission of information occur that results in that response? Different researchers present various explanations, all of which are helpful in understanding the action of the VAS. Following is a review of those theories that this author considers to be most significant.

A natural physiological sensitivity to stimuli of the human system is utilized for diagnosis with the VAS. Nogier was very clear about this sensitivity, and taught his students how to work with it. In the English translation of his book, "Auriculotherapy to Auriculomedicine", Nogier says, "The fact that very little energy is needed to mobilize this reflex should not be ignored, because we have there a cause of error that should not be disregarded. Even the external and internal stimuli of the examinee can intervene and modify our findings".⁴³

External stimuli is any stress which impacts the organism, “caused by luminous or magnetic actions, or by the influence of any kind of change encountered in the course of an examination: heat, cold, slight pain provoked by movement ... **Internal stimuli** depend on neural centers. They act on the neurovegetative system (autonomic nervous system), in particular the diencephalons region and even to a degree on the cerebral cortex, capable of launching an emotional storm, disturbing the VAS”.⁴⁴ Whether an external or internal source of stimuli, structural, physiologic, and chemical changes result, putting the autonomic nervous system on alert (the “storm”) as the body’s way of attempting to return the organism to homeostasis. One reflection of this storm is the VAS.

John Ackerman raises an interesting distinction between a return to health, or simply to homeostasis. Most clinicians of auricular medicine, he says, see the VAS as an indicator of how to return to homeostasis. As an indicator of the living system’s response to change, the VAS will indicate how to regain the former level of balance, even if it was not optimum. In this way, the VAS can be used to direct the return of the system to homeostasis.⁴⁵

This distinction relates to the difference noted by Rudolph Ballentine in his book, “Radical Healing”, in which he reviews and integrates many therapeutic traditions, between “**recovery**”, which would be a return to homeostasis or the previous level of balance, and “**healing**”, which from the root of the word means, “to make whole”.⁴⁶ Patients often only wish to return to their immediately previous level of functioning, so may just want the most recently presenting symptom to go away. Many are living at a rather low level of functioning with few or no complaints. Their fine instrument of a body has adjusted, and

found a certain balance to living with their condition. The VAS has the capacity to indicate the best path to “recovery” if this balance is upset.

The protocols of auricular medicine, however, are designed to access deeper levels of healing and change. The VAS can indicate interventions that will lead to a previous homeostasis, or continue on to uncover and balance more causal layers of dysfunction.⁴⁷ As each layer “recovers”, and finds an earlier homeostasis, a deeper (older, perhaps) layer is revealed. Following this process can return a person to ever-higher levels of functioning, and wholeness. As deeper levels are allowed to reorganize, one comes increasingly into alignment – and “health”. Ballentine summarizes any holistic healing process in the following way; “Ultimately you will see that your body represents a weaving together...reminding you of what needs to be addressed next, and providing the ultimate map to guide your healing and growth.”⁴⁸ The VAS is a compass that indicates this map.

Nogier is clear that practitioners must always be mindful of the high level of responsiveness of this diagnostic tool and of the human system. He warns against regarding the VAS as providing a concrete reality. One must “remain alert” to other possible disturbances. “The noise, the light, the emotions, even the words of the physician can intervene. The physician is in close electrical contact with his patient through the continuous taking of the pulse...(and) ought to guard his calm so as not to modify the state of balance ... and so modify the VAS. His neutrality will favor the accuracy of the finding”.⁴⁹ Practitioners have emphasized to this author the need to keep one’s own thoughts and preconceived solutions to what the patient is presenting out of an auricular medicine assessment process.

Pierre Magnin, a biochemist, and a colleague and student of Nogier, expands upon this regulatory response of the body to stimuli. He reported at a recent meeting that at the time of the Nogier discovery of the VAS, physiology was a static science aimed at defining normalcy.⁵⁰ With the VAS phenomenon a “dynamic physiology” was presented that expresses the sensitivity of the body to stimuli, and its ability to respond to changes at the cellular level.

According to Magnin, the VAS is the result of the sensitivity of the nervous system, and its ability to regulate cellular response. Cells have a narrow band within which they function with consistency, “normalcy”. A stressor deregulates the balance, reducing the normal oxidization of the cell, impacting on the oxygenation of the hemoglobin of the whole system and limiting the normal defense mechanisms of the cells.

A healthy system will easily regain balance until the stress is too great and outweighs the organisms’ ability to return to homeostasis. This concept reflects Norman Shealy’s assertion that what matters in the breakdown of a system’s ability to cope with its environment is the degree of accumulation of stress. The accumulation, more than the type of stressor, is what results in a pathological pattern of response.⁵¹

Magnin further stated that unless the cell is able to regain balance, the low oxygen that results causes lesion of the cells, leading to cellular chaos. This chaos information travels through the nervous system to the limbic brain, leading to an alarm of the whole sympathetic system. The VAS is a reaction to a change of information, a reflection of an adaptation response of the autonomic nervous system.

Magnin asserts that pathology, the result of system stress, is a powerful amplifier of cellular activity that then becomes visible through the VAS. Reading the VAS response to

various filters (stimuli) is a way of plugging into a feedback loop, a conversation going on in the body. By bringing a filter of information, or a remedy, into the energy field of a patient, an acupuncture point that is active because of the cellular pathology will resonate with this introduction of information, and the VAS can be used to identify the tissue that is under stress, identify the location and intensity of the lesion, and even suggest what might rectify the problem.

Whether a stimulus is taken away or brought into the field can produce the VAS. If a remedy, for instance, is helpful to the body, and a filter of the remedy is used to remove the information about this remedy from the body, the VAS will indicate a stressful change. This phenomenon is similar to that of sleep on a train. If one is asleep on the train, the sounds are not heard, but if the train stops, one wakes up.

The mechanism of “resonance” of acupuncture points that results in the cellular response described by Magnin is understood by some to relate to the research of Fritz-Albert Popp.⁵² His work has shown that all living systems spontaneously emit photons of light, called biophotons, which seem to originate from a coherent photon field within the organism. Popp theorizes that the function of these biophotons is intra and intercellular regulation and communication. A healthy cellular population has been found to emit few photons, while unhealthy cells emit large numbers of photons in disorderly patterns, signaling pathology. The particular biophoton emission pattern may be what creates the unique electromagnetic signature of the cellular state, information that will resonate with the photon information of a filter. Rita Klowersa suggests that this biophoton cellular communication may be the body’s “overall synchronizing system based on electromagnetic information”⁵³

Frinerman of Israel presents another approach.⁵⁴ He believes that the synchronized biological rhythms of the body are ubiquitous, being demonstrable at any level of organization of the system. The VAS, he says, summarizes information concerning these overall biological rhythms, which reflect the functional state of the body. Frinerman proposes that the cardiovascular system (CVS) may be the central harmonizing system that enables the body to present such a summarized response.

He proposes that by striving for an optimal flow wave pattern that is most beneficial for the human system, the CVS harmonizes these rhythms into a single, dominant frequency. This action occurs at the cellular walls of the CVS where they act as sensors, translating information from the blood flow to biochemical signals that are intended to maintain the integrity of the system. When Nitrous Oxide, the main hormone of vascular regulation, is released due to changes in blood flow, it interacts with these sensory cells and alters vascular tone. The VAS is the felt change in the peripheral vascular tone.

Another layer and another potential pathway is added with the model of another student of Nogier, Joseph Navach. His extensive research on the VAS led him to the discovery of what he called neurohormones, compounds that exist inside the body. He believed that these neurohormones are the electromagnetic receptors that resonate specifically to a stimulus. He agreed with the theory that all organic and inorganic substances have an electromagnetic resonance, or signature, and believed that the neurohormones respond to this unique signature or signal. When an energy (in the form of a filter, for instance, or a light) is brought into the field of a patient, and that energy is in resonance with an acupuncture point, Navach says that the neurohormones receive this

signature like a radio receiver, and then facilitate the transmission of this information to the hypothalamus of the limbic system. The neurohormones then facilitate the relay of information from the brain through the autonomic nervous system to the smooth muscles of the peripheral arteries, manifesting as the pulse response of the VAS.⁵⁵

An understanding of the central role of the limbic system is helpful in grasping the body's autonomic response to stimuli. According to Paul MacLean,⁵⁶ the limbic brain, which includes the hypothalamus and the reticular formation, is the part of the brain that turns up or down the intensity of feelings, and provides emotional colouring to all other brain processes. The limbic system receives information from all sensory systems without distinction of its source and then activates a feeling response that reverberates through the whole system – the fight or flight syndrome. Coordinated physiological changes occur through the autonomic nervous system, which innervates the internal organs, the glands, the blood vessels and the sweat glands. This response is intended to regain homeostasis, to optimize survival and self-preservation. The VAS is one result of this survival response to the information change received by the limbic brain. Tiller points out that what makes the VAS such an accurate diagnostic tool is that the limbic system alone, without the aid of the neocortex, is involved in the signal, leaving it “clean” of interpretation.⁵⁷

Without the involvement of the intellect to label the information with a language and time context, the body automatically responds to any micro stress. This lack of discrimination of source “allows outside experiences to be experienced as though they were inside...the visceral brain is not at all unconscious, but rather eludes the grasp of the intellect because its structure makes it impossible to communicate in verbal terms.”⁵⁸ The autonomic nervous system, activated by a limbic system alert, will respond the same

whether the stimulus was a hypnotic suggestion, a dream, an emotional reunion or a physical threat.

Not only are somatic and emotional information translated as the same, but each have a direct influence on the other through the limbic system. Ideas, beliefs and feelings, registered by the limbic system, affect our physical cells automatically, without our awareness. Brain research has shown that “without a co-functioning limbic system, the neocortex lacks not only the neural substrate for a sense of self, of reality, and the memory of ongoing experience, but also a feeling of conviction as to what is true or false.”⁵⁹ The sense of “truth” of what is perceived depends upon this nonverbal system, which then sends out the messages that program cellular change or maintenance.

All of the above research and theories provide a physiological picture of the remarkable and synchronized responsiveness of the body to stimuli of a physical or more subtle nature. Nogier described the human system as a “sensitive reactor” which responds to any stress, whether the stimuli involves luminous, magnetic or nervous system energy, and whether the source be external or internal.⁶⁰

Each model describing the physiological response of the VAS is illuminating. Evidently, the cardiovascular system, the nervous system, the brain and cellular biochemistry and emotions are all involved in the VAS response. But which system, if any, is causal? The following chapter builds upon these physiologic models and takes us further into theories based in an Energy Medicine perspective. The aim is to build a more inclusive model of understanding. We are looking for a good theory, which mathematician Stephen Hawking would call “an elegant model,” which “...describes a wide class of observations, and predicts the results of new observations.”⁶¹

Chapter Three

ENERGY MEDICINE PERSPECTIVES

An Integral Energy Medicine Approach

Physiological investigations alone cannot fully explain the sensitivity and responsiveness of the human system. As with Chinese medicine, there is recognition in auricular medicine that a flow of energy is involved. Nogier explains it like this; “The ear is not only a surface on which are programmed, as on a bulletin board, orders to execute, but a place which permits the study of forces and their orientation ... Circulation of energy... (and) the recording of variations of energies may be discovered, studied, and precisioned by the sign of the pulse. The patient is an extremely sensitive reactor”.⁶² Lebel recently put it this way: In auricular medicine, “the planet’s most powerful instrument (the clinician) is reading the planet’s most powerful instrument (the patient)”.⁶³ VanGelder says that to work with the VAS is an experience of “communicating with the patient in a very subtle way...(involving) only the flow of energy and information.”⁶⁴

If we view the body as a set of separate physical, emotional and biochemical processes, then we have the problem of discovering the causal chain that would explain the mechanism of the VAS. If we view the VAS as a messenger of a unitive energy as it is manifesting within a coherent human system, then perhaps a model for understanding this phenomenon that is inclusive enough to contain the entire communication process involved can emerge.

Joseph Navach, and others, notes that homeostasis seems to be governed by a harmonized effort of the autonomic nervous system along with the other systems of the body. Yet many questions remain. While these body systems are known to differentiate

embryologically, they all respond to each other in a synchronized manner by some unknown mechanism, and at a speed beyond what is understood. As Navach questioned, “How is it that the speed of the homeostasis mechanism is faster than any electrical conductivity of the nervous system or faster than any humoral changes in the blood that can yet be recorded by present technology?”⁶⁵

These questions and others are currently being studied within the International Joseph H. Navach Project, initiated in memory of Navach, and under the direction of Linda Russek and Gary Schwartz of the Human Energy Systems Laboratory at the University of Arizona, and John Ackerman as project director.⁶⁶

Beyond the study of the VAS, others are trying to answer similar questions, that is, what part of the body is the energetic center, the leading point or process? And how does the communication system that maintains and evolves life function? Paul Pearsall argues in “The Heart’s Code” for the centrality of the heart as holding the template for our physiological development and responses.⁶⁷ For Jeremy Narby, in “The Cosmic Serpent”, it is the DNA.⁶⁸ In these and other investigations, there is a presupposition that the seat of our consciousness and our living processes is held within a physical part. What if the source of our intricate, sophisticated living system is not located anywhere but is an orderliness that is all pervasive?

Energy Medicine takes a “vitalism” approach, which holds that there is a life force animating the mechanisms of all living systems. There is order to this force, which dynamically responds to stimuli to regain and maintain homeostasis, as well as to inspire evolution to ever-higher levels of functioning.⁶⁹ The foundation of life is seen as energy, which while it operates at a range of frequency levels, has an inherent unity, connecting all

vibrations. Subtle energy, which exists beyond the rules of time and space, is considered to be the prior and causal level that determines physical form. It is deemed to be the driving force for our biochemistry and physiology, with every physical atom being intimately connected to its higher frequency level.

In this review of the theories of some leading edge scientists, a case is presented for such an approach, an Integral Energy Medicine approach for understanding the VAS. This perspective is based in a metaphor as described by Jenny Wade, of “a single, seamless whole in perpetual flux, of which the manifest world is merely one aspect.”⁷⁰

As Frinerman suggests, the rhythms of the body, and to take it one step further, of the whole human system, physical and nonphysical, seem to be synchronized and ubiquitous, existing everywhere at the same time. Without a physical beginning or end to the process, without a time and space reference, there is ultimately no causal chain of events in how we function.

Taking the view of physicist David Bohm, each cell of the body is a hologram, enfolded within and containing the whole and there is no division between cells, between physiological systems, between mind and matter. There is instead a “thoroughgoing wholeness, in which mental and physical sides participate very closely in each other...”⁷¹ It is this view I wish to explore further.

The Brain, The Mind and The Body

Candace Pert, the neuroscientist who discovered the opiate receptor and whose work describes the human system as **a dynamic information network**, has concluded from her research “we can no longer make clear distinctions between the brain, our mind, and our body”.⁷² As we know from Paul MacLean, the limbic system responds to a stress

from any source, and converts emotional reaction through the limbic brain into cellular response through coordinated physiologic changes. Mind and energy becomes matter. Pert, based on her research in brain biochemistry, states that the effectiveness of the body's "cellular defense mechanism is determined by emotions ... Emotions are the key element that effects the conversion of mind to matter in the body."⁷³ Indeed, the immune system has been found to be "more powerfully influenced by attitude and belief than virtually all other normal factors combined."⁷⁴

Targ and Katra, in "Miracles of Mind"⁷⁵, develop a case based in a review of healing research data from the past 200 years, that mind is "nonlocal", meaning it cannot be confined to specific points in space or time. It is infinite, everywhere at the same time. Their model of understanding suggests that information travels through all space-time simultaneously, including the various physiological systems of the body.

One of Targ and Katra's examples of the lack of division between mind and matter is hypnosis. Franz Mesmer was, in 1779, "the first person to systematically and scientifically investigate the healing of one person through the healing intention of another." Mesmer "had a theory that an invisible magnetic fluid flowed through the human body, animating it and promoting its health and vitality. He believed that sickness resulted from any blockage of the flow of this fluid, and that his therapeutic technique, known as Mesmerism, was able to restore the harmonious flow."⁷⁶ It is interesting to note the similarity between Mesmer's theory and the concept of "prana", and "qi" of Eastern medicine, or the "life force" as it is named more recently in Energy Medicine.

Hypnosis is defined as "a psychological state of functioning at a level of awareness other than ordinary in which the person gives as much significance to inner perceptions as

they generally would to external reality.”⁷⁷ This state seems to open access to the limbic system where there are no inner/outer, or physical/emotional distinctions. As in the much later biofeedback experiments, a directed state of awareness in hypnosis experiments has proven its capacity to alter physiological and psychological systems, such as body temperature, heart rate, enzyme secretion, memory, learning ability, symptoms of illness and even athletic performance.

Experiments even more specifically related to the VAS response of the body include the work of Douglas Dean, at the Newark College of Engineering, in 1965. Dean showed conclusively that the autonomic nervous systems of subjects in his laboratory responded to the thoughts of a distant person.”⁷⁸ Interestingly, what Dean measured was a change in blood volume in the fingers with a plethysmograph, as a measure of a change in autonomic nervous activity in response to directed thoughts from someone in another room. Navach also used plethysmography in his research of the VAS 15 years later.⁷⁹ Without knowing it, Dean was measuring the body’s autonomic response that we now know as the VAS at the same time that Nogier was discovering this system response and auricular medicine. Further experiments of William Braud and others have also repeatedly demonstrated the effect of the mental processes of a distant person on the autonomic nervous system of another.⁸⁰

Candace Pert sees the connectedness of all aspects of our system from a biochemical perspective, concluding “brain and body make and receive the same messenger molecules in order to communicate effectively. They speak the same language,” she says, “the language of neuropeptides.”⁸¹ Neuropeptides are chemical messenger molecules that are received by receptor molecules on the surface of the walls of

cells, which regulate both physiological functions and brain communication in the body. These messengers may be how the limbic system communicates its identification of a stress or change through the rest of the body.

One would assume a relationship between what Pert describes as neuropeptides, these biochemical messenger molecules, and Navach's neurohormones, both identified as transmitters of electromagnetic information through the body. Navach hypothesized neurohormones to be biochemical radio receivers, picking up the electromagnetic signature of new information and transmitting this information to the limbic system.

Pert believes that "emotions are the key element that effects the conversion of mind to matter in the body."⁸² She has found that emotions and stress levels determine the effectiveness of the body's capacity for cellular defense. Another researcher, Lydia Temoshok, defines neuropeptides as "a universal language by which cells from different biological systems interact and alter each other's behaviour. They are a medium of exchange, and what they share is information."⁸³

The source of the orderliness and the synchronicity of our "dynamic information network" is still a mystery. Perhaps it is the "nonlocal mind" described by Targ and Kutra. Another way of naming this concept is the "morphogenetic field" as described by biologist Rupert Sheldrake. Sheldrake proposed that this ubiquitous communication between cells, brain, emotions and other stimuli within the environment is all occurring within an organizing field that transcends time and space but that determines the physical form and behavior of living systems. Sheldrake called this the "hypothesis of formative causation".⁸⁴ In this theory, it is believed that the quality and content of consciousness of the morphogenetic field determines and organizes the whole system response. The

electromagnetic communication occurring within the body may be tied to and reflecting a more subtle communication occurring simultaneously on the subtle level.

Which brings the discussion back to the central question: **“What are the mechanisms that allow the VAS to be such a refined tool for discrimination, enabling it to read the subtle information of a stimulus and present to “an educated thumb” a physiologic response that indicates symptomatic as well as deep causal pathology?”**

The living system seems to know and remember homeostasis, and wills itself to return to that state of balance for its survival. If not blocked, the system will recognize and return to the most beneficial condition known. Healing, in this view, is a natural result of the unblocking of energy pathways, allowing the body to rebalance and realign with the natural and optimum flow of energy. With increased health and inner harmony, or coherence, as an energy system the organism is enabled to reach an ever higher-level refinement of its functioning – a more and more ordered and vital energy.⁸⁵ There seems to be an inherent and omnipresent consciousness, an order, to this process.

This model is in contrast with a “mechanistic” model that holds that we are only matter and chemical processes, and that our ability to live is limited by the second law of thermodynamics – that is, all of life is moving toward maximum entropy, or disorder.⁸⁶ This law points to the eventual decay of everything, including the universe. Even in the mid-1800s, Darwin and other scientists of his time found this scientific “fact” intolerable, to consider that the universe was deteriorating toward eventual annihilation. If that was the case, then what was the purpose of evolution, Darwin wondered?

Physicist James Maxwell imagined a new metaphor in 1867 to respond to this distressing threat of progressive dissolution. He hypothesized that within every living

system lies “**the intelligence of a very observant and neat-fingered being**” that is capable of monitoring and reversing the natural tendency toward entropy. This being became known as Maxwell’s Demon, and was described as “a doorkeeper very intelligent and exceedingly quick”.⁸⁷ Although this model fell into disrepute due to the failure of Maxwell’s theorized mechanisms, there lies within his attempt the root of a model of organisms as **intelligent systems**, which rather than simply deteriorating with entropy, have increased in the refinement of survival behaviour over millennia to develop what we now call consciousness.

Erwin Schroedinger, the physicist seen as the father of quantum mechanics, wrestled with the same question of how living organisms resist entropy during the 1940’s. He marveled at the ability to stay alive, and pointed out a “precious something” upon which living organisms feed, which he called negative entropy. He stated that how a system maintains itself is by “sucking orderliness from its environment.”⁸⁸ The organism has the “astonishing gift of concentrating a stream of order on itself ... of drinking orderliness from (its) environment”.⁸⁹ This “stream of order” that an organism sucks from the environment is a form of energy, which it then uses to coordinate the work of maintaining and ordering life. As physical matter decays, order and information increases.

But who is the “I” that is controlling this process, Schroedinger asked. There is an experiential “I”, consciousness, that is “controlling the motion of the atoms according to the Laws of Nature...”⁹⁰ - an **intelligence** that connects our molecular structure to the order of the Cosmos. The mystery of the science of this “precious something” is far from being solved, but some creative scientists who cannot resolve a universe without intention and intelligence are generating models that reflect the nature of the “negative entropy” of

increased consciousness. Ramachandran, for one, echoes Maxwell's description when he refers to this high-level coordinating phenomenon as "another being inside you that goes about her business without your knowledge or awareness".⁹¹

Nogier noted forty years after Schroedinger's time, that the nature of living organisms is that we are highly sensitive and powerful instruments, responsive to subtle energy changes.⁹² The VAS seems to be a physiological "readout" of this sensitivity. Rather than "the demon", this capacity for whole system response could be called an "***Intelligence***"; a coordinating, dynamic, information network that holds the subtle level information (or intention) that becomes biological manifestation.

In this holographic view, every living organism and in fact every cell is a perfect microsystem rooted in and reflecting the ***Intelligence of the Cosmos***. There is energetic order in the Universe, on every level of the seen and unseen, and that order is expressed on the level of the regulatory systems of the body as a physical level expression of this omnipresent order. Being wholly connected, this order, on every level, has an *intelligence*, a consciousness that strives to maintain and optimize order.

Consciousness, or intelligence, or mind, in this model, is the unifying structure within which our biological system exists, responds and evolves – the morphogenetic field. Jenny Wade develops this model in her book, "Changes of Mind: A Holonomic Theory of the Evolution of Consciousness".⁹³ She suggests, based in studies of consciousness, that this physically transcendent source, what she calls mind, predates and survives the physical body. During a lifetime, it orients itself to the physical level as a sheathing of energy that interpenetrates the body. Brain and mind enfold each other, she says, with the physical brain being "a transducer of a holographic universe".⁹⁴ Reflecting Bohm's theory, Wade

believes that physical manifestation flows out of physically transcendent energy that is perceived by the central nervous system. This information is not recorded in a particular cell or structure, but is enfolded over the whole. Information is everywhere and no particular place. Transformations between the physical and the transcendent energy are occurring continuously and rapidly.

It is interesting to view the VAS as one indicator of the coordinated efforts of this subtle/physical system. The VAS provides a summarized, physiological record of our system's capacity to detect and discriminate reliably both physiologic and subtle energetic changes, a capacity only possible with "a detector as sensitive as the human body".⁹⁵ If read by a practitioner with understanding and timeliness, the VAS provides a noninvasive way to tap into the overall Intelligence of the human system, and to gain information that can be used to regain homeostasis and to prevent negative effects of medications, chemical and even electro-magnetic pollution.

My hypothesis is that the VAS is a reliable Energy Medicine assessment tool for dynamic communication with a coordinating *Intelligence* as it manifests within the human system.

Subtle Energy Detector

William Tiller calls the VAS one of the body's biomechanical transducers, a "subtle energy detector", meaning that it facilitates the transformation of subtle level energies, from Wade's "unifying structure of Mind" into a physically observable signal.⁹⁶

According to Tiller, the VAS is well set up to provide a fairly "clean" signal of the messages of the subtle level. Involved are the smooth muscles of the arteries, innervated

by the autonomic nervous system, which he calls an involuntary signal carrier system connected to the hypothalamus of the limbic system. As described earlier in this paper, the limbic brain is relatively isolated from the “noise” (thoughts) of the cerebral cortex, so it can be utilized to identify subtle energy without alteration. In Tiller’s view, which supports the work of Pert and Navach, the hypothalamus receives biochemical messages in response to information, or subtle energy, that has been received by the body “antenna”. This interface where the information held within subtle level energy is transformed into physiological signals is, he says, the point of least understanding.

Tiller points out that a physical level description of the information transfer involved with the VAS (i.e. through time and space), which itself is still not completely solved, is actually only a small part of the answer. The even larger question remains as to how subtle, unseen energy transduces into a neurobiochemical response? Tiller asks, “How can specific information from a filter transfer to the ear – patient – practitioner system?” This is remote transfer, he says, similar to distant healing.⁹⁷ Further, when a practitioner asks a silent question, like, “Is it best to treat with homeopathic remedies or needles?” the subtle energy of this thought also seems to act like a filter and initiates a VAS response.

Tiller himself has conducted experiments wherein “intention imprinted electronic devices” (IIEDs) were imprinted with a focused message, an intent, by practiced meditators. The IIEDs then, at a distance to the imprinting, significantly affected the specific functioning of biological systems. In one experiment, the IIEDs were able to inhibit the cells from being infected by a human parasite.⁹⁸ In these experiments, thought was proven to have a measurable physical effect. How might this phenomenon occur?

Research into the impact of the IIEDs continues, with current efforts in the labs of Robert Nunley and Norm Shealy attempting to raise the pH of water one unit of measurement above the 5.67 normal reading.⁹⁹

Most of us have not fully developed the conscious capacity to detect and discriminate subtle energies. We still need a transducer capable of transforming non-observable subtle energy to physically observable energy. Tiller agrees with Nogier in saying that the human system is such a transducer, or in Nogier's words "a sensitive receptor". The human body is a highly refined, powerful instrument through which energies of all frequencies seem to be received and transmitted in a coordinated manner. Also in agreement with Nogier, Tiller asserts that the presence of a practitioner, as another intelligent system in contact with a patient, must be recognized as an element in this communication system.

Tiller presents a scientific model for how subtle energy might translate into physical energy in his book, Science and Human Transformation.¹⁰⁰ He has projected his knowledge of physical science into the unseen and unknown – conjecturing that subtle energy is organized in a way that is reflective of what is known about energy bands. Tiller hypothesizes that we might better understand the subtle-physical energy interface with the "concept of a mirror relationship existing between the physical realm and the next more subtle realm (etheric level)", both of which function in our bodies.¹⁰¹

In Tiller's model, every *physical pattern* in our known time-space dimension, **positive space**, has a correlate in **negative space** that is a *frequency pattern*. While the positive space is the home of positive mass traveling at velocities slower than the speed of light and is the home of electrical particles, its inverse in negative space is a frequency

pattern beyond the speed of light, so undetectable, and the home of magnetic particles. The space-time physical domain is well known in allopathic medicine. The inverse structure, as a frequency domain, is less understood, the nature of which is only beginning to be explored.

In making the case for the nature of this “negative space” being magnetic, Tiller points out that although “the physical substance making up our bodies is not magnetic ... we find odd magnetic-type phenomena occurring around some of us”.¹⁰² For instance, dowzers seem to respond to subtle magnetic energy shifts; enzyme activity has been shown to be enhanced in a strong magnetic field; magnets can reduce water surface tension by about 20%; a magnetic current has been recorded at the point of but prior to any cellular change; and a magnet placed on an acupuncture point can produce local analgesia. These examples demonstrate that a “magnetic effect can be transferred to the physiological response level”.¹⁰³ Mesmer’s theory of “a magnetic fluid” flowing through and around our bodies may indeed be this magnetic subtle flow of energy that mirrors the electromagnetic flow of our bodies.

Tiller proposes that this model of positive space and its inverse, invisible negative space could explain why magnetic monopoles have not been discovered. Unlike electrical energy, in which positive and negative electricity springs from an electric charge, called a monopole, the similar magnetic monopole has not been found. Perhaps this miss is due to the magnetic monopole existing in the undetectable negative space, with only its effects being felt physically in electromagnetism. This concept of magnetic particles existing in a domain with a mirror-type relationship with the physical domain “restores a sense of

symmetry to electromagnetism”,¹⁰⁴ rather than the currently accepted idea that magnetism is created by the motion of electric charges.

Tiller’s model also springs naturally from the understanding of the inversion relationship between waves and particles. “Anything with a spatial pattern (particle) has a correlate which is a frequency pattern (wave) ... the wave/particle duality of quantum mechanics may be just the natural expression of correlated patterns in the two conjugate (domains)”.¹⁰⁵

This negative space domain is also called the vacuum state, thought by conventional physics to be a chaotic sea of imaginary particles. Tiller hypothesizes, however, that this vacuum space is a highly ordered network of structures with negative mass, “inaccessible to physical senses or present-day instrumentation, by virtue of the requirement that passage through the inversion mirror at the light barrier is a prerequisite for observation”.¹⁰⁶ This “vacuum with its negative energy state and the unobservable particles is exactly the territory wherein the subtle energies might exist”,¹⁰⁷ Tiller suggests.

In the 1930’s, Dirac, a researcher of quantum mechanics, discovered that by stimulating the negative energy state with a light (a photon), a particle (an electron) could be promoted into one of the positive energy states and become physically real. The hole left behind in the vacuum creates an electrical charge. “The absence of a negative energy electron is equivalent to the presence of a positive energy positron”¹⁰⁸ – a mirror relationship. The “Dirac Sea” became known as this sea of virtual unobservable particles.

Unlike the chaotic Dirac sea, however, Tiller projects that the waves and particles of negative space are ordered in a perfect lattice framework, like the lattice of a crystal, filling in all of the space that is free from the limitations of time-space. In place of physical

atoms at the junctures of the crystal lattice, “nodal points” are at those intersections of the negative space grid. “One of the most significant characteristics of a nodal network or a physical crystal is that they diffract waves of appropriate types and wavelengths”.¹⁰⁹

Minute differences in orientation produce signals of varying strengths, creating a diffraction pattern with “a tremendous amount of information”.¹¹⁰

In Tiller’s model, all of nature consists of layers of sublattices, each more subtle. The subtle layer that is closest to the more dense physical dimension is its inverse frequency domain, called the etheric structure. Both of these interpenetrating spaces, the physical and the etheric, are seen by Tiller to be imbedded within the more subtle and more causal levels of the emotional domain, which lies within the mental domain, which is rooted in spirit.

“Information waves, the stuff of consciousness, propagate along the nodal networks placing potential maps on the vast array of nodal points... These nodal points translate the information waves (consciousness) into transmitted energy patterns of particles for interacting with the particles of substance”.¹¹¹ “Since they are configured to be reciprocal lattices of each other, when waves that are traveling in the ... inverse (negative) lattice are diffracted from its nodal network, they are directed to pass through the nodal points of the physical space-time network at a greatly increased intensity (and coarseness). Thus, there is a connectivity and integration of information between these levels via the important mechanism of wave diffraction”.¹¹²

The high velocity of the magnetic domain of negative space is seen as the precursor, seeding the electric space-time dimension of the physical world. “Although one tends to adopt the physical reference frame as the origin of events about which substance in

all the other domains adjust, this is exactly backwards. Action occurs first in the subtle domains and propagates sequentially into the physical domain which adjusts toward an equilibrium force balance”.¹¹³

To move from the etheric domain to the physical involves conversion from magnetic charge at velocities faster than the speed of light to electrical charges in the space-time domain. Only when the waves exceed a critical intensity do they trigger the negative space nodal points to radiate waves into physical substance. Passing this critical intensity is what “materializes” energy from its etheric structure.

Tiller hypothesizes that subtle energy in the etheric domain creates a magnetic potential by coupling with its physical correlate. This magnetic potential generates a pulse of electrical charge in positive space. The “magnetic vector potential occup(ies) the key position on the bridge between the subtle and the physical.”¹¹⁴

Perturbing the system at any one level affects all domains, as the energy waves travel through these interconnected lattices. Tiller believes, based in his experimentation with intention, that “increasing the focus of human intention increases the ...coupling between physical and etheric substances”,¹¹⁵ thus transferring an imprint from the magnetic frequency domain to the electric space-time frequency domain, resulting in materialization of the intention.

“Whatever healing or major change is going on at the etheric level of the body, it is coming from the higher mental level by directed intention”,¹¹⁶ Tiller states. The etheric pattern will eventually manifest in its physical correlate as a physical change. This directed intention is often subconscious, existing as healthy or unhealthy, focused or conflicting patterns in our emotional / mental domains. An understanding of how the physics of

energy may be directly imprinting those patterns into one's biology may increase motivation to clear thought patterns. For "most individuals... their internal nodal networks are fragmented by the chaotic signals generated by the body substance ... thus their lattice size is smaller and less life energy is constructively radiated into the body from the nodal points".¹¹⁷ This view seems to correlate with Popp's findings that the more unhealthy a system, or cell, the more disorderly the pattern of biophoton emission, and the less able the system is to discern the appropriate response to incoming energy patterns.

If a high state of inner self-management has been achieved, however, Tiller says the body substance will receive, reflect and radiate more etheric substance. Energy will flow more freely, increasing the capacity of the networks of sublattices to transfer energy. This increased flow results in an abundance of energy, greater harmony and ability to manifest life-giving force. "If our intention is focused and clear, some correlation should be observed between our act of intention and events in our sensory world".¹¹⁸

Ken Cohen speaks of these effects of inner self-management in his book, "The Way of Qigong". He says the practice of qigong focuses the qi and balances the brain hemispheres. The degree of brain wave coherence increases significantly for qigong practitioners, indicating greater communication within the system, and "that conflicting aspects of the self are being harmonized."¹¹⁹

Tiller's model speaks strongly for being focused and clear as a practitioner of auricular medicine, while working within a patient's energy field. It reinforces Nogier's caution about "guarding one's calm". The intention, or lack of intention, of the practitioner is surely an influence in the subtle energy being read by the intelligence of the system with which one is working. Without inner self-management, there could exist more

interference, limiting clear information transfer to occur between the subtle and physical domains involved.

Tiller's model seems to be consistent with current neuroscience discoveries that demonstrate that the internal points of our brain, a pattern-forming system, are engaged in interactive communication with something more subtle. V. S. Ramachandran, a neuroscientist and author of "Phantoms in the Brain",¹²⁰ confirms from his research the findings of Canadian neuroscientist Wilder Penfield of the 1940's that maps of the body exist on the surface of the brain, known as the "homunculus". In contrast to the accepted dogma of neurology, however, Ramachandran found that these maps are not fixed. While largely stable to ensure reliability, these maps, which determine our perception and functioning, are constantly being updated and refined in response to new input. Like Tiller's maps that form on the more subtle nodal networks, these maps at the physical brain level are information-wave-sensitive. "A neurologist might conclude that God is a cartographer," says Ramachandran. "He must have an inordinate fondness for maps, for everywhere you look in the brain maps abound".¹²¹

Similarly, leading edge cellular biology research "is now soundly based upon a universe created out of energy as defined by quantum physics ... Consequently, we now recognize that receptors (in the cells) respond to energy signals as well as molecular signals".¹²² One of these biologists, Bruce Lipton, notes that even in mainstream medical research it is being revealed that electromagnetic fields have a regulatory influence on cell physiology. "Pulsed electromagnetic fields have been shown to regulate virtually every cell function," Lipton says, "including DNA synthesis, protein synthesis, cell division and differentiation, morphogenesis and neuroendocrine regulation. These findings are relevant

for they acknowledge that biological behavior can be controlled by invisible energy forces, which include thought”.¹²³ Lipton’s work seems to corroborate both Navach’s and Pert’s pieces of the puzzle, that biochemical and electromagnetic receptor cells are fundamental to this process of information transduction and transference.

Through original cellular biology research, Lipton has concluded that the membrane of the cell operates as the “brain” of the cell – not the nucleus as was previously thought. Both brain and skin (membrane) are derived from ectodermic tissue, and both “read” the signals of the environment, assess the information, and then select appropriate programs in response. In this view, our brain is indeed everywhere in the body, existing in the skin of every cell. Tiller suggests, “The skin is the link which ties the organism and the universe together”.¹²⁴

Lipton calls the receptor-effector protein complex pair that exists on the membrane of the cell “a unit of perception”.¹²⁵ Cellular behavior is regulated by two sets of signals; perception and actual physical stimulation, with perception being able to override physical stimulus, as is demonstrated through hypnotherapy, and through Pert’s biochemical research that shows that emotions are the key to physiological function.¹²⁶ Like the brain of Ramachandran’s research, cells will adapt, Lipton notes, to “new” signals, even if the new signal is a perceived stress, a belief. “If a person believes that the environment is hostile, their body will live in a stressful environment even though the real environment may not be hostile”.¹²⁷

Cellular response can be divided into two functional categories; organisms are attracted toward elements that are perceived to support their life or repulsed from threatening stimuli. This basic cellular response is perhaps at the root of the physical

response we read as the VAS that is a reflection of the body's effort to maintain homeostasis. "The more relevant a stimulus is to the organism's survival, the more polarized (either + or -) the resulting response. In humans, the extremes of the two polarities might appropriately be described as love (+) and fear (-)".¹²⁸

The nature of the VAS is that it provides data indicating to the practitioner whether new information represents something beneficial or hostile to the system. The physical level antenna, or receptors, and the receptor-effector pathways, including the cellular, nervous, hormonal, vascular systems, produce a coordinated, summarized response to the system's perception of the incoming stimulus – is it good or bad? Is it love or fear? This polarized cellular response of the physical positive/electric structure to the information held in the mirror of the negative/magnetic space could be the basis of the immediacy and the superior discriminating capacity of the VAS.

Gravity is associated with dense physical mass. In contrast, negative mass will produce a levitational force. If enough etheric substance (with its negative mass and its magnetic action) is injected into a physical substance through intention, Tiller says the object can overcome its normal gravitational force and the object will be attracted to the negative mass. This, Tiller says, is how unexplainable but observed phenomena occur: like walking on water; like the author's own felt and seen experience of a psychic surgeon's hands moving through my skin into my belly without utilizing a physical opening; and like firewalkers being able to walk over hot coals without physical effect. Enough intention has been focused to overcome the laws of positive time-space domain and to inject etheric substance and laws into the physical. In this way, magnetic attraction seems to reorganize and overcome physical laws. The magnetic, subtle realm of energy

will override and alter the physical manifestation. Indeed, what we might name as “miracles” may simply be phenomena that are operating in negative space, so not explainable within physical laws.

Charles Shang, a medical acupuncturist, reflects Tiller’s model of the two conjugate structures when he presents the case for the existence of meridians. Shang says there is a surface magnetic field flowing around the body, and acupuncture points are “singular points of the surface magnetic field where the surface magnetic flux trajectories converge and enter the inside of the body”.¹²⁹ At these points, subtle energy wave flow yields a physical “magnetic vector potential” and generates an electrical field. The acupuncture points become “points of great influence” with a high level of electrical conductivity. These points are responsive to even the smallest stimulation.

Tiller provides an explanation as to how the mirror relationship of the two conjugate spaces, physical and subtle, would both be affected in the case of physical stimulation of acupuncture points. Electrical ion flow is restored by the stimulation, generating an increase in magnetic energy and unclogging the etheric level meridian channel for the flow of qi. Point stimulation of the skin would also generate a physical impulse in the autonomic nervous system (skin and the autonomic nervous system are embryologically connected, as they are both ectodermic tissue), initiating the system’s capacity to return to balance.¹³⁰

According to Shang, meridians are the “intercellular signal transduction system”.¹³¹ This communication system formed in the embryo, he says, preceding and determining the development of the nervous system. That a magnetic, negative space signal system, operating at speeds faster than the speed of light, as described by Tiller, and by Shang in

describing meridians, is involved in intercellular communication fits with the Energy Medicine model suggested earlier of “a single, seamless whole in perpetual flux, of which the manifest world is merely one aspect.”¹³² In this model, subtle energy is like an interpenetrating sheath, the driving force for our biochemistry and physiology, with every physical atom being intimately connected to the higher frequency level of subtle energy.

Perhaps the interaction of the two mirrored domains of magnetic etheric energy and electrical physical energy, as manifested in the mirrored flow of etheric meridians and the physical autonomic nervous system, represent the communication system of the dynamic information network of our human system, and around which the other physical systems organize. Would this model explain the speed of response of the VAS, which Navach noted to be faster than electromagnetic energy?

We are extremely sensitive receptors, with amazingly coordinated systems of response. The nature of magnetic energy as described by Tiller, and the model of interpenetrating layers of sublattices throughout all of negative and positive space that allows information waves to be so interconnected, and to travel and transform into energy patterns at any energy level, provide a plausible model to understand how the body can respond to information that is not touching it. In negative space, there are no time-space limitations, so those laws do not apply. If mind is nonlocal, it has no space or time restriction. Practitioners using the VAS as a diagnostic tool must remember that a question in their mind can transmit an energy pattern into the etheric domain of the patient who is within such close electrical contact. The energy field of the practitioner becomes interconnected with and a factor in the communication system being assessed.

Magnetic energy of the etheric body may be what Schroedinger thought living systems were “sucking” from their environment in order to counteract the physical pull of entropy. The mutually exclusive forces of attraction (love) and repulsion (fear) to which our cells respond may be the basic organizing principle behind the *Intelligence* that coordinates all neurobiochemical and cellular change in the body. Magnetic energy, as an etheric structure reflecting higher-level consciousness, could be the communication medium that governs this *Intelligence* and its capacity to coordinate and energize life.

Our human system seems to be a transducer of a most sophisticated nature that is capable of transforming subtle energies into organized physiological responses that represent the urge for homeostasis. This process represents the capacity of our systems to communicate and respond to stimuli with a high level of consciousness and intelligence. The VAS is one remarkable tool provided for us to open this door of communication.

The next chapter describes the clinical research of this dissertation, completed for the purpose of demonstrating the discriminating capacity of the VAS as a clinical assessment tool. As a tangible signal representing physical, energetic and/or consciousness changes, the VAS provides a response with great immediacy. More research is needed to demonstrate its clinical applicability. In the following chapter is this author’s contribution.

Chapter Four

A CLINICAL DEMONSTRATION OF THE VASCULAR AUTONOMIC SIGNAL (VAS)

Related Research

Research that is specific to the VAS is not prevalent, nor well published, perhaps due to its being a relatively new field with limited resources and language barriers. Having been discovered and developed in France, much of the research and development has come out of the Institute started by the founder Paul Nogier, the Groupe Lyonnais Etudes Medicales (G.L.E.M.) in Lyon where Nogier's students and colleagues continue his work. In Germany, Frank Bahr, who was one of Nogier's first students, has developed an association of medical doctors who study and practice protocols developed by Bahr, and similarly in Holland, Tony vanGelder and others have developed and teach auricular medicine protocols. The international community comes together rarely, the journals are under funded, and any research that occurs is a result of the initiative of these doctors who primarily are practicing physicians.

Three important opportunities came my way that brought me into contact with people in the field of auricular medicine, the first being the international gathering in Las Vegas in August 1999 called the International Consensus Conference on Acupuncture, Auriculotherapy and Auricular Medicine. While the majority of presentations and practitioners represented auricular acupuncture, some of the main players in auricular medicine from around the world presented their work and research at this conference. It was here that I gained an understanding of the field, and that I met the doctors who

became my mentors over the next two years – Michel Marignan, Bill Tiller, Beate Strittmatter, Tony vanGelder, John Ackerman, Nolan Cordon, Terry Oleson, and Steve Meeker - who helped me put in my first needle.

In the fall of 2000 I traveled to Rotterdam for a first hand experience of vanGelder's practice. He generously allowed me to observe as he worked with his patients, teaching me his protocol along the way. This experience was a thrill, and greatly moved me along in my understanding of auricular medicine.

The third opportunity came with a phone call from Ackerman in June 2001 inviting me to attend a meeting in Lyon at GLEM that was specifically to review VAS research! What a timely opportunity! Previous to this I was feeling frustration due to the lack of published research and the lack of accessibility to the little that was done. This meeting gave me personal interaction with key researchers of the VAS, helping me to cross language and cultural barriers and to gain a sense of the direction and interest of those in the field. Here I met Roland vanWijk, Marc Lebel, Paul Nogier's son Raphael, Anthony deSousa and Yves Rouxville, and reconnected with John Ackerman and Michel Marignan. My notes from this meeting, from the Las Vegas conference and from following conversations have provided an important foundation for this dissertation.

The research interests regarding the VAS are predominantly related to proving its existence, and concurrently to developing technology to measure the VAS. This focus is seen as necessary for auricular medicine to become a more widely accepted medicine in the mainstream of medicine. At the GLEM meeting, deSousa presented research on the physiology of the VAS, applying measurements of the pulse wave to determine the actual definition of a VAS response in efforts to improve accuracy in how the VAS is palpated.

Marignan presented his experiments with a system that includes a pressure-sensitive electrical probe that can record the standing wave at the radial artery and a computer program (Stuttgart Neural Network Simulator - SNNS) that learns the natural wave pattern of the pulse and then detects any change in that pattern. As it takes two to three days to complete one trial, this research had only been completed on three people. What it produced, however, was an accurate graph of the difference between the predicted, or normal curve of the standing wave, and the standing wave during the time that a VAS was palpated. Like the physician, Marignan said, the SNNS must begin a session by learning the normal pattern of the pulse of the patient prior to testing with the VAS.

Professor Magnin presented his research in cellular biology, which was included in Chapter Two. His approach greatly contributes to an understanding of what is occurring on the physiological level to produce a VAS response. As a response of the body to tissue pathology, Magnin sees the VAS as a direct indicator for the identification of the location of cellular lesion and what would rectify the imbalance.

VanWijk of Holland described his research that is asking the question, “What is the true vehicle of information transfer that results in the VAS reading?” In his experiments, when the doctor knew whether he was holding a placebo or an ampoule that should have tested positive with the patient, he had 93% accuracy in getting the expected response. When he did not know the contents, there was no consensus. VanWijk suggests that the transmission of information is other than through the filters. In another experiment, one physician got consistent results, but a second physician got different yet internally consistent results. VanWijk suggests that the choice of remedies, for example, may be the result of the interconnection of the patient and the physician. He believes that

regardless of the particular remedy chosen, beneficial results will occur due to the intent of both parties to stimulate healing. He sees the VAS as an indicator of the interconnection that is specific to this pair of patient – physician. Further research was suggested that would separate interconnectedness from a lack of interconnectedness to provide an objective evaluation of the VAS. In practice, however, the connection with the practitioner is always present, and is a condition to be considered. It was observed that this research problem is similar to the fact that colour frequency wavelengths can be measured, but colour itself cannot be perceived without the eye. The perception and intent of both human bodies involved in the interaction of the VAS seems to be an integral component of the results.

John Ackerman raised the work of Fritz-Albert Popp, a German biophysicist who has researched the biophoton emission of living systems.¹³³ This research indicates that every living system both emits a unique electromagnetic signature, and has a radar capacity for picking up signals from other systems. The example was given of the moth, which can detect and find a mate that is up to a mile away.

Ackerman suggested that when doctors palpate the radial artery of a patient, they are opening a channel, or circuit, that connects them into the feedback loop of the body as it is picking up and responding to stimulations of any new electromagnetic information.

At the end of the meeting, Raphael Nogier, son of Paul Nogier, commented that he felt the proceedings had well represented current research on the VAS, and that they should be published as the best available research. This option is being considered by G.L.E.M.

Strittmatter reports on other research on the VAS carried out by Professor Moser of the University Graz, Austria. An attempt was made to measure the VAS using a “sensory jacket” that had been developed in Austrian-Russian space research, and used to examine the Chinese pulse. Various types of stimulation were used in Moser’s experiment, with heart rate, speed and amplitude of the pulse wave being measured as the body responded. Computerized graphs of the results demonstrated significant physiological changes in response to a stimulation, particularly in response to hand clapping, light and the German 3-volt hammer. The test also showed that patients with a medium pulse strength (compared to just noticeable and very noticeable) showed the most significant physiological response to stimulation. The conclusion of this research is that “measurement of the VAS by technical equipment is far less sensitive than the subjective detection of a trained therapist.”¹³⁴ This sensitivity is said to be due to the refined two-point discrimination of our skin and in particular of our thumb.

Another major project involved in VAS research is the Joseph Navach Project of the Human Energy Systems Laboratory at the University of Arizona. John Ackerman is the Project Director.¹³⁵ Co-organizers of the Lyon meeting with GLEM, this project is attempting to connect people internationally who are involved or interested in VAS research, and intends to assist in a coordinated effort to validate the VAS and to develop its automation. Picking up on the research done by Navach prior to his death, the project continues to address unanswered questions raised by Navach and others. Such questions include: verification of the role and dynamics of physiology, biochemistry, biophysics and subtle communication of this phenomenon; comparison of the discriminating

capacity of the VAS with other subtle energy diagnostic tools; and proving the clinical effectiveness of the VAS.

In the context of all of the research above, and based in discussions with some of these physicians, I developed the following protocol for my clinical research with an aim to demonstrate the reliability and efficacy of the VAS as a diagnostic tool. Behind every protocol of auricular medicine is the VAS, along with an inherent trust in its refined discriminating capacity on the part of the clinician. Those who practice auricular medicine tell me they rely on the VAS 100%, and trust it fully because it has proven itself in their clinical experience over many years of practice.

This investigator personally became fascinated with the discriminating capacity of the VAS as a physiological indicator that potentially can tell a practitioner much about the health of the whole human system – emotionally, mentally and physiologically. It seemed to this investigator that one reason for the low level of attention garnered by auricular medicine could be the lack of current understanding of what is happening when one is using the VAS, and the lack of published “proof” that the VAS can be relied upon clinically. It is in this context that the following clinical trial was performed.

Methodology

The purpose of this clinical research is **to demonstrate the reliability and validity of the VAS as a guide for clinical assessment**, in this case for locating auricular acupuncture points for the effective treatment of chronic pain.¹³⁶ The focus is on accurately locating effective points, not longterm healing of the pain. Whereas an immediate change in pain will be used as a research indicator, longterm relief of pain is not an expected outcome from the one acupuncture treatment given. The pain rating of

one week post treatment was also recorded, however, as another indicator of the effectiveness of this method for pain relief.

Thirty-five participants responded to the invitation to participate in this research, which offered one free acupuncture treatment for chronic pain. Chronic pain for this study was defined as pain having been experienced over at least a three month period. In some cases, the pain was intermittent and changed in degree of severity. In one case, a person was not included in the study because there was no pain to record on the visual analogue scale at the time of her appointment.

The majority of participants responded to an ad in the local paper, while others heard about the research through a doctor or from friends. Respondents came at an appointed time to my research clinic, which was held over a 6-day period in a medical doctor's office.

The research design was a pre-test post-test study to determine the effect of VAS-directed interventions for chronic pain patients. Only one treatment was offered, as the focus was on the diagnostic effectiveness of the VAS rather than on healing. The two main indicators in this study of the effectiveness of the VAS as a diagnostic tool were:

1. The level of concurrence between point locations found on the ear by the VAS as located and mapped in an initial session compared with a second session half an hour later, and
2. The change in pre- and post-test pain ratings as marked by the participant on the visual analogue scales.

The informed consent form and the data record sheet used by the investigator are in appendix A. After signing a consent form, participants filled out a pain history

assessment form and the visual analogue scale for pain rating from 0 (no pain) to 10 (extreme pain) to determine pre-test levels of pain for one or two identified body areas where they were currently experiencing pain.

Participants then moved to an adjoining room where they were seen by the principle investigator, a certified auricular acupuncturist also trained in auricular medicine. Assessment included a review of their history, location and duration of pain and range of movement if applicable.

Prior to using the VAS as a diagnostic tool, a reading of the strength of the pulse was determined and recorded. The VAS was then used to measure the extension of the electromagnetic field (EMF) as an overall reading of the state of imbalance of the participant. In response to appropriate filters, the participant was tested for the presence of blockages commonly accepted in auricular medicine as possible interferences for clear energetic information: Scar, Oscillations, and First Rib. For Scar and First Rib, any blockages found were treated with a temporary needle, using the VAS to direct the needle placement. Oscillation was cleared with a homeopathic ampoule placed on the body to remove the information of this interference, a method used by vanGelder. Blockages were noted as successfully cleared when the VAS measurement of the extension of the EMF signified a positive change.

With the morphine filter on the participant's arm (which intensifies reactions as it connects to the sympathetic nervous system), the VAS was used to determine tissue type of the pain area. This determination was done by putting each of the three tissue types – endoderm, ectoderm, or mesoderm - on the neck (parasympathetic, removing information). If it brought the field in when on the neck, it was determined to be the

tissue type of the pathology. This filter was then put on the arm with the morphine filter, putting the field back out. Which phase – 1, 2 and/or 3 was determined next. The phase indicates the depth of the particular pathology being addressed, phase 1 being most acute, phase 3 indicating excess energy and phase 2 indicating deficiency, the latter generally regarded as the most chronic stage. Not all phases need treatment in all cases. If phase 2 was indicated as the place to begin, then phase 2, 3 and 1 were treated in that order. If phase 3 was indicated as the first point phase, then only phase 3 and 1 were treated.

After the VAS indicates which tissue type and with which phase to begin, the most dominant pain points were searched for with the VAS in each area of the ear. For the purposes of this study, the ear was considered to consist of three main areas, the lobe, the concha (the lower floor of the ear) and the upper region above the concha. The indicated tissue type and phase directed the investigation to one of these thirds as the place to begin, based in accepted locations of auricular therapy.

The most dominantly active pain point was considered to be the one that initiated the strongest VAS when a point finder, the black and white hammer, was in the stream of energy emanating from that point. Scanning the ear with the hammer at a distance of approximately 10 - 15 cm. was used to detect this strongest energy point. Points were then tested for response to both the black and white side of the hammer for priority (vanGelder). These points were not treated, just mapped on the first ear map.

Participants then moved to the waiting room for a half hour wait while the investigator saw the next participant. Having the participant return after a lapse of time for a second assessment of the location of dominantly active ear points was designed to

demonstrate the “stability reliability” of the VAS in its capacity to draw the practitioner to the same points as found on the first visit.

As the only investigator, I placed the first map and intake information in an envelope with the client number on it when this first session was completed. This information was not referred to when the participant returned for the second time. Data recorded at that time was added to that participant’s envelope for later analysis.

The second session began with placing morphine on the arm, then using the VAS in the same method as the first session to indicate key pain points in phases 1, 2 and/or 3. These points were marked on the ear with a pen, and mapped on a second ear map without referencing the first map.

Both times, points found were checked with the tip of the hammer for tenderness, another test of activity. An imbalance in the body is reflected by tenderness of the acupuncture point. It was also intended to check the located points for correlation with the NETII, an electrical point finder. For the first few participants, correlation was recorded. The investigator was noticing that for phase 2 points, the NETII often did not respond, while for phases 3 and 1 it did. The NETII malfunctioned, however, during the testing; not turning on and off consistently, so this part of the design was abandoned.

Once mapped on ear map 2, the VAS-located points marked on the ear were treated with temporary acupuncture needles. The same points were treated on the other ear, each time the exact needle placement being guided by the VAS. Then Master Points, which were active as indicated by the VAS, were treated to complete the pain treatment protocol (e.g. Master Sensorial, Thalamus, Point Zero, Shen Men), also with temporary needles. The same Master Points were tested for activity with the VAS with all patients,

and treated only if active. A scan of the ear was then done with the hammer and any remaining active points treated. Finally, the EMF measurement was taken and recorded.

Range of movement was assessed when the participant got up from the table if applicable. They were asked to return to the waiting room, wait 10 minutes, and then fill out a second visual analogue scale for a post-test measure of pain rating for the one or two body areas they had identified. They could then either wait for me to take out the needles, or go to a washroom to remove their own needles prior to leaving. At this point, the needles would have been in about 20 to 30 minutes.

Identification and Interpretation of Findings

The thirty-five respondents to this research trial represented a cross-section of people similar to those who might enter any practitioner's office, including 10 men and 25 women, ranging in age from approximately 34 to 80 years. Income and education levels, although not requested information, also seemed to cover a wide range.

The conditions at onset of pain varied as well, with more than 25% indicating illness as the trigger, and more than 35% relating the onset to an accident or surgery. Four participants felt their pain began with an emotional trauma, and another 30% said they did not know of any particular conditions that may have initiated the problem. The length of time participants had been experiencing the pain ranged from a few months to 40 years, with an average of eleven years, and a mean of six years.

Each person was asked to identify one or two body areas experiencing pain, and Table 1 shows the range of areas identified by participants.

Table 1: Areas of the Body Identified

Area of Body Identified	# Times Identified
Lower Back	10
Shoulder	9
Neck/ Back of Head	7
Knees	6
Hip	5
Leg	3
Fingers/Hands/Thumb	3
Side	2
Abdomen	2
Buttock	2
Upper Body	3
Head/Sinus	2
Bladder/Anus	2
Whole Spine	1
Ankle	1
Total	58*

* In 23 of 35 cases, individual had two areas of the body treated.

Another characteristic of the respondents was the strength of their pulse, seen by some to be an indicator of the strength of their system to respond to treatment. Twenty-one of the thirty-five participants were deemed by the investigator to have a medium-strength pulse (60%). A weak pulse, which was noted for ten of the participants, can be seen as an indicator of system deficiency. Four people had a “strong” pulse, perhaps indicating hypertension, or excess. Strittmatter reports that in research conducted at the University of Graz, Austria, those with a medium pulse had the best VAS in response to various interventions.¹³⁷ A medium pulse, then, seems to indicate a patient with whom it will be easier to communicate through the VAS - in this case, 60% of participants.

The presence of blockages to assessment also demonstrated a variation amongst participants. Prior to searching for dominant pain points, each person was tested for the presence of scar, oscillations and first rib blockage. Scar presented with twelve participants, first rib with five people, both scar and first rib with one, oscillations with one person, and no evidence of any of these blockages for sixteen participants. In all cases of blockages, they were cleared prior to assessment, at least temporarily.

Stability reliability, one of the important measures of the effectiveness of the VAS as a diagnostic tool used in this study, is defined as “reliability across time: a measure that yields consistent results over different time points, assuming what one is measuring does not itself change.”¹³⁸ The Stability Reliability of the VAS was tested by the level of concurrence between VAS-located points as mapped in an initial session compared with the ear map of a second session completed half an hour later without referencing the first map. There was no treatment of the points in the first session and the participant simply waited in another room. While changes would occur in the participant,

in the activity of acupuncture points as well as in the investigator between sessions, these changes were assumed to be minimal.

A total of 93 points were located by the VAS as dominant pain points on the 35 patients (an average of 2.7 points per person). Of these points, 78 were identical on the second map. In other words, 84% of the time, the dominant active points found by the VAS were the same on the second map as on the first, demonstrating a high level of stability reliability within one practitioner.

The 16% lack of complete concurrence between points found in the two sessions is assumed to be less a reflection of the accuracy of the VAS, but more a reflection of loss of activity due to the half-life of active points, changes in the participant and the investigator over time, as well as the lack of full proficiency of the investigator. These variables, changes over time and inaccuracies of the practitioner, would presumably be in effect in every clinical situation to some degree. This reality may be what leads some to conclude that the VAS is too subjective and not a reliable diagnostic tool. Gaining confidence and proficiency in the use of the VAS takes time, support and practice. As a practitioner of the VAS for only two years, however, this investigator was able to acquire a stability reliability measure within one practitioner of 84%, indicating favourably the strength of this tool.

In 65% of the cases, all points marked matched completely between the two maps of the participant. For 26% of cases, one of the points for a person did not match, and 8% of the time two points were incorrectly matched. Table 2 illustrates this information in another format, relating the data to the number of points found in each case.

Table 2: Degree to Which Points on Ear Maps Match

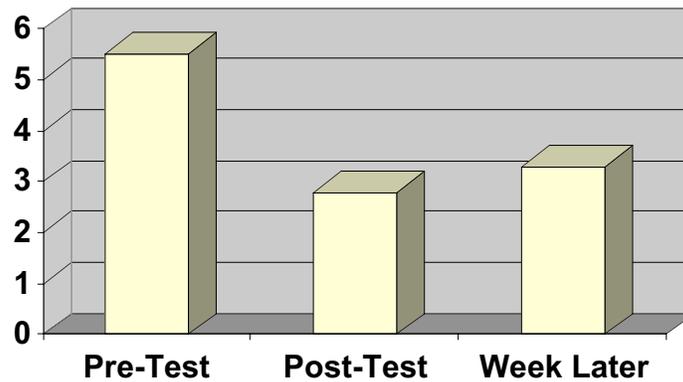
Points Matched	% Of Times Matched	
1 of 1 points matched	8 %	(3)
1 of 2 points matched	3 %	(1)
2 of 2 points matched	14 %	(5)
1 of 3 points matched	8 %	(3)
2 of 3 points matched	23 %	(8)
3 of 3 points matched	43 %	(15)
Total	99 %	(35)

In the three cases when there was only one point used, it always matched in the second test. Six times the VAS indicated only two dominant points, and only one of those six did not match in the second test. The remaining twenty-six cases involved three points each. A full match of all three points occurred in fifteen of those cases.

The second important measure of this clinical trial was the **Predictive Validity** of the VAS as a clinical assessment tool that can locate acupuncture points that will, if treated, relieve chronic pain. Predictive validity is defined as the ability to predict the occurrence of a future event or behaviour that has a logical connection to an intervention. While a measure of “reliability”, as above, indicates dependability or consistency, validity means truthful, indicating a true connection between a cause and effect.¹³⁹ *Predictive* validity indicates a true and predictable connection, as in the ability of the use of the VAS to locate important points for the treatment of pain. Both reliability and validity are important for building confidence in the use of a tool or a construct.

In this study, predictive validity was demonstrated through the occurrence of pain relief as a result of treating points found by the VAS. The change in pre- and post-test pain ratings as marked by the participant on the visual analogue scales provided the most important data. As illustrated in Figure 1, of the 58 body areas identified by participants, on a scale of 0 (no discomfort) to 10 (extreme discomfort), the average pre-test pain rating was 5.5. Ten minutes after treatment, the average pain rating had decreased to 2.8. One week later, participants were asked for a pain rating for the same body areas identified in the session, and these responses averaged to 3.3 on the visual analogue scale, a full two points below the initial pain levels.

**Figure 1:
Change in Average Pain Ratings**



Overall, of the 58 body areas identified, 85% had a decrease in pain immediately after the treatment. Three people had an increase in pain from the beginning to end of the session, and no person had no pain change at all.

One person experienced an increase in pain in both body areas identified, while two others experienced a pain increase in one area of the body. For two of the three cases of increased pain, it was reportedly due to an aggravation related to lying on the table, or sitting in the waiting room.

The average pain reduction of all participants was 2.7 points on the visual analogue scale. Nineteen participants had their pain reduce to 1 or less on the pain scale after treatment for at least one of the body areas they identified. Seventeen of those people still had a pain rating of 1 or less in one or both body areas one week later.

One week later, 68% of the identified body areas were still in less pain than when the participant came for this research trial. For only eight of the 35 participants was there no change in pain in any area from pre-test to one week after the treatment - Table 3.A and 3.B below. Figure 2 provides another look at the data, illustrating the shift along the pain scale of 0 – 10.

Most participants experienced the greatest effect in pain relief immediately following the treatment. While the percentage of those experiencing moderate or high pain levels was climbing back up a week after treatment, extreme pain continued to drop. As we can see, almost 50% of the participants were in the low category on the pain scale one week later.

Predictive validity of the VAS as a diagnostic tool for locating important points for the treatment of pain is implied by these results. This experiment is a first step in determining that using the VAS to assess the best location for needle placement for the treatment of chronic pain can predict a favourable outcome of pain relief. To verify predictive validity, this experiment should be repeated with a control group with whom there is no treatment.

Table 3.A: Degree of Change in Pain Rating

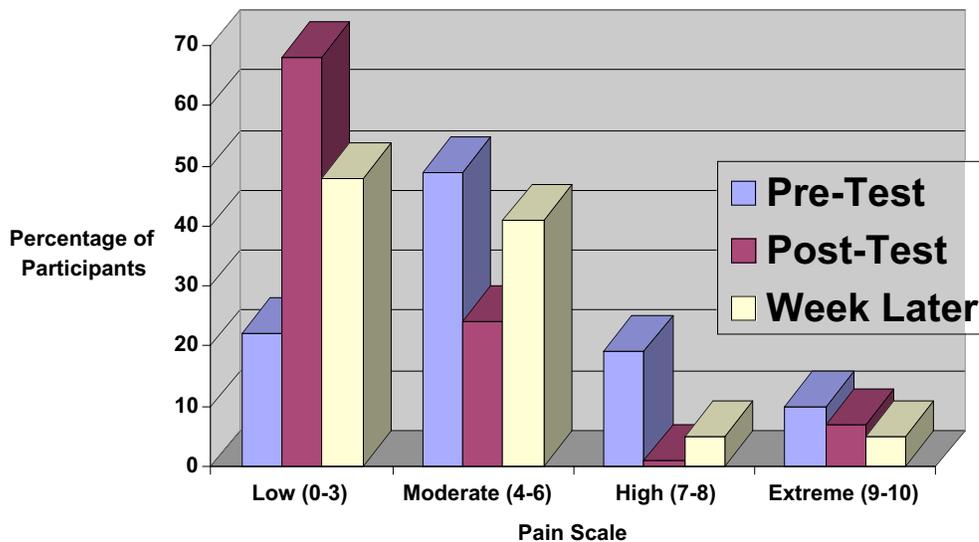
Pain Rating	Pretest to Posttest	Pretest to One Week
Changed by:	# Body Areas	Later -- # Body Areas
Increase in Pain:		
+ 3	1	1
+ 1	2	0
+ . 5	1	0
No Change:	5	17
Decrease in Pain:		
-.5	0	2
-1	7	5
-1.5	2	1
-2	7	7
-2.5	1	0
-3	12	8
-4	12	8
-5	3	4
-6	2	1
-7	1	1
-8	2	1
Total Number:	58	56**

** N = 58 as one person who had two areas treated could not provide a reading.

Table 3.B: Summary of Shifts in Pain Rating

Pain Rating	Pretest to Posttest	Pretest to Week Later
Pain Level Increased	7 % (4)	2 % (1)
No Change	8 % (5)	30 % (17)
Decrease in Pain	85 % (49)	68 % (38)
Total	100 % (n = 58)	100 % (n = 56)

**Figure 2:
Shift in Experience of
Pain Ratings**

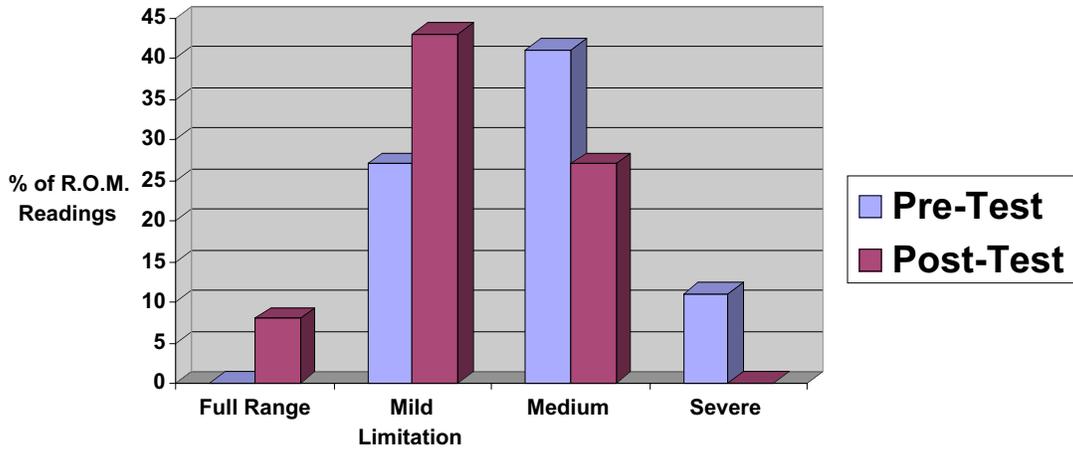


Another measure of predictive validity was a change in range of motion from pre-test to post-test. This variable is not applicable to all cases, as the area of pain may or may not limit movement. For eight of the participants of this study, range of motion was not applicable. One reading was taken per person, except in the case of two people who had two readings each, resulting in N = 37. Table 4 and Figure 3 show the results. Most experienced a one level improvement. Two people improved by two levels. Three people regained full range of motion.

Table 4: Change in Range of Motion

Type of Change	# People With Change
No Change	15
Mild to Full Range	2
Medium to Full	1
Medium to Mild	7
Severe to Full	0
Severe to Mild	1
Severe to Med	3
N/A	8
Total	37

**Figure 3:
Change in Range of Motion**



The third and last measure of health status improvement for the participants was the change in the VAS reading of their electromagnetic field (EMF) at the ear. A wide field is seen by some practitioners to be an indicator of imbalance in the body system, with a field of 6 cm or less considered to be generally balanced. The goal in any auricular medicine session is to bring the body system into greater homeostasis, or balance. One measure of this improvement is the width of the field. When a three-phase filter hits the edge of this electromagnetic energy emanating from the acupuncture points of the ear, the VAS responds, indicating an exchange of new information is occurring with the body's system.

Table 5 below summarizes the changes in the EMF as measured at the beginning of the first session, and again at the end of the treatment in the second session. The table indicates a marked improvement in the EMF of those treated, with only one person having an EMF of more than 6 cm. (in the category of 6-10). The full raw data for this study is found in Appendix B.

Table 5: Change in Electromagnetic Field Readings

Change in EMF (cm.)	Pretest % of Participants	Posttest % of Participants
0 to 5	0	77 % (27)
6 to 10	3 % (1)	20 % (7)
11 to 15	17 % (6)	3 % (1)
16 to 20	20 % (7)	0
21 to 25	29 % (10)	0
26 to 30	29 % (10)	0
Above 31	3 % (1)	0
Total	101 % ¹⁴⁰ (35)	100 % (35)

Finally, some experiential observations based in the clinical experience of this study provide data of a more qualitative nature about the application of the VAS as a diagnostic tool:

- Six people remarked that they could feel the effects of my hammer being in the stream of electromagnetic energy of their ear prior to touching the ear, when I was as much as 10 cm. from the surface of the ear. These remarks were unsolicited, and came as a surprise to the participant, and to me. They either thought I was touching them, or noted feeling pressure, warmth or tickling sensations on their ear. It felt to them, as to me, like we were connected through an electrical current. One person could clearly tell me the area of her body in which she was feeling a warmth or tingling as I moved the hammer around in the area beyond her ear (“That is my sinus. That’s my left arm.”). These sensations are not unusual when a needle is placed in an acupuncture point, but it is more unusual for someone to notice the change prior to touching the point. This experience confirmed for me that the VAS had directed me to an important stream of energy for that person, and illustrated the subtleness of the direction provided by the VAS by its ability to lead me into a strong energetic connection with the participant.
- Over time, when I had worked with a number of people in one day, I began to feel a sensation like an electrical current in my thumb that was resting on their pulse. I make no conclusions about this sensation, but noted its consistency.
- When asked by someone where I felt the EMF, I noticed that it was not just with my thumb on the pulse, but also an intuitive sense of when my right hand was meeting the edge of the field. When I paid attention to this experience, I realized

that when I made the connection with the EMF, the feeling that resulted affected my whole body system, both physical and subtle.

Summary of Results

The aim of this research was to determine and demonstrate the efficacy of the VAS as a diagnostic tool. One reason for the low level of attention garnered by auricular medicine could be a lack of faith in the clinical use of this tool, which an increased number of research trials can hopefully overcome.

Stability reliability, indicating one can rely on the tool to lead to the same results over time and/or with different practitioners, and predictive validity which indicates a predictable outcome, as in the ability of the VAS to locate important points for the treatment of pain, were the two main measures of this study. Both reliability and validity are important for building confidence in the use of a tool or a construct.

A high level of stability reliability was demonstrated by this research trial, with the dominant active points found by the VAS being consistent 84% of the time between two assessments done half an hour apart.

Predictive validity was demonstrated through the immediate occurrence of pain relief as a result of treating points found by the VAS. The change in pre- and post-test pain ratings as marked by the participant on the visual analogue scales provided the most important data. Of the 58 body areas identified by the 35 participants, on a scale of 0 (no discomfort) to 10 (extreme discomfort), the average pre-test pain rating was 5.5. Ten minutes after treatment, the average pain rating had decreased to 2.8. One week later, responses averaged 3.3 on the scale, a full two points below the initial pain levels.

Overall, of the 58 body areas identified, 85% had a decrease in pain immediately after the treatment. Three people had an increase in pain from the beginning to end of the session, and no person had no pain change at all. One week later, 68% of the identified body areas were still in less pain than when the participant came for this research trial. For only 8 of the 35 participants was there no improvement in pain in any area from pre-test to one week after the treatment. Therefore, one can conclude that by using the VAS to assess the best location for needle placement for the treatment of chronic pain, one can predict a favourable outcome of pain relief.

Recommendations for Further Study

Limitations of this study include being unable to use the NET II for another test of reliability. One comment from some of the study participants was that this demonstrated a lack of reliability of the technology! To repeat a similar study with NET II comparisons, however, would be very worthwhile, with a backup NET II recommended.

Another primary limitation was being a single practitioner in the study. Testing stability reliability over time was achievable under these circumstances, but it would also be most interesting to test the stability reliability between two practitioners following the same protocol. Similarly, to repeat this study with a control group would further test predictive validity.

In designing the protocol for this study, a pain protocol was created and tested that had very good results. To have this protocol tested by other practitioners would be an exciting follow-up.

While this study focused on the VAS itself as a diagnostic tool, there is also a need for more research on the healing effects of various auricular medicine protocols.

Practitioners report obtaining excellent results with patients who have often come with serious and chronic conditions. To be able to provide more evidence is important for the advancement of the field.

Research measuring changes in the electrical conductance, as well as other measures of energetic change, occurring for both patient and clinician during an auricular medicine session would be fascinating.

Another limitation of the study was my own relative level of experience. To develop my skills further and then perform similar research is something I hope will occur in the future.

I also encourage attention be given the research recommended by the Joseph Navach Project of the Human Energy Systems Laboratory at the University of Arizona. It would further the field of auricular medicine to pursue these suggested research projects, such as: the predictive validity of VAS-directed choices of treatment; the reliability of using intent instead of a physical filter to stimulate a VAS response; a comparison of the results of a VAS and filter assessment with the measured response of the autonomic system to stimuli placed near but not touching a body; an integration of biophoton research with VAS research; and to prove the clinical effectiveness of VAS-directed applications in specialties such as preventative medicine, public health, environmental medicine and plant culture.¹⁴¹

Chapter Five CONCLUSION

In this final chapter, we return to the central question of this dissertation: **What are the mechanisms that allow the VAS to be such a refined tool for discrimination?** The answer to this question includes, and moves us beyond, physical level descriptions of the information transfer involved. Indeed, pursuing an understanding of the VAS leads us into considering the dynamic communication network of our whole human system.

The VAS seems to be a summarized response of the whole human system to any change of information, whether the stimulus has originated externally or internally to the system, and whether touching the body or not. A model for understanding this phenomenon that is inclusive enough to contain all aspects of the change process has yet to be defined. That the VAS is an autonomic response of the physical body to a stimulus is actually only a small part of the answer. Larger questions remain about the complex and subtle information transfer processes that result in this neurobiochemical response. The VAS allows us to ‘listen’ to the communication occurring within the body, but our understanding of to what we are really listening is still limited. The willingness to explore these questions could move us toward a more inclusive model of understanding.

In summarizing the research of this dissertation, this author has chosen to use Tiller’s framework as presented in “Science and Human Transformation”. Tiller suggests that life is an ongoing information transfer between frequencies of Consciousness, Energy and Matter. To include all factors of this “dynamic equation of nature” is to form an Integral Energy Medicine model, taking into account the effects of all aspects of our nature:

physiology, electromagnetic energy, subtle energy and consciousness. Not to include all factors is to ignore data and limit understanding.

Since they are not yet physically measurable, subtle energy and consciousness are not validated within the accepted scientific-medical model. Yet the effects of energy, and of focused consciousness, on the human system have been well documented – measurements of the effects of electromagnetic pollution, photography of variations in light around a body, hypnosis effects on physiology, distant healing and the ability of biofeedback to control autonomic responses. To study the phenomenon of the VAS fully necessitates exploring the domains of information transfer occurring between all levels: subtle, electromagnetic, biochemical and cellular. By including consciousness, energy and matter in the conceptualizing of a model of the communication that occurs through the VAS there is more opportunity to develop a model inclusive enough to satisfy and reflect the whole wonder of the VAS and the human system it represents.

Figure 4, “An Energy Medicine model for understanding the VAS”, offers an overview of the relationship of consciousness to energy to matter in the human system that will be summarized in this chapter. The VAS provides a physically observable signal that indicates the body’s summarized response to changes occurring in consciousness, energy and/or matter. Figure 5, “An Energy Medicine Model of information transference in the human system” provides a more detailed summary of the findings of the research of this dissertation, also discussed in this chapter. It shows the possible interconnections responsible for the transformation of energy into matter, and the role the VAS can play in regaining and improving the state of homeostasis.

Figure 4: An Energy Medicine Model for
Understanding the VAS

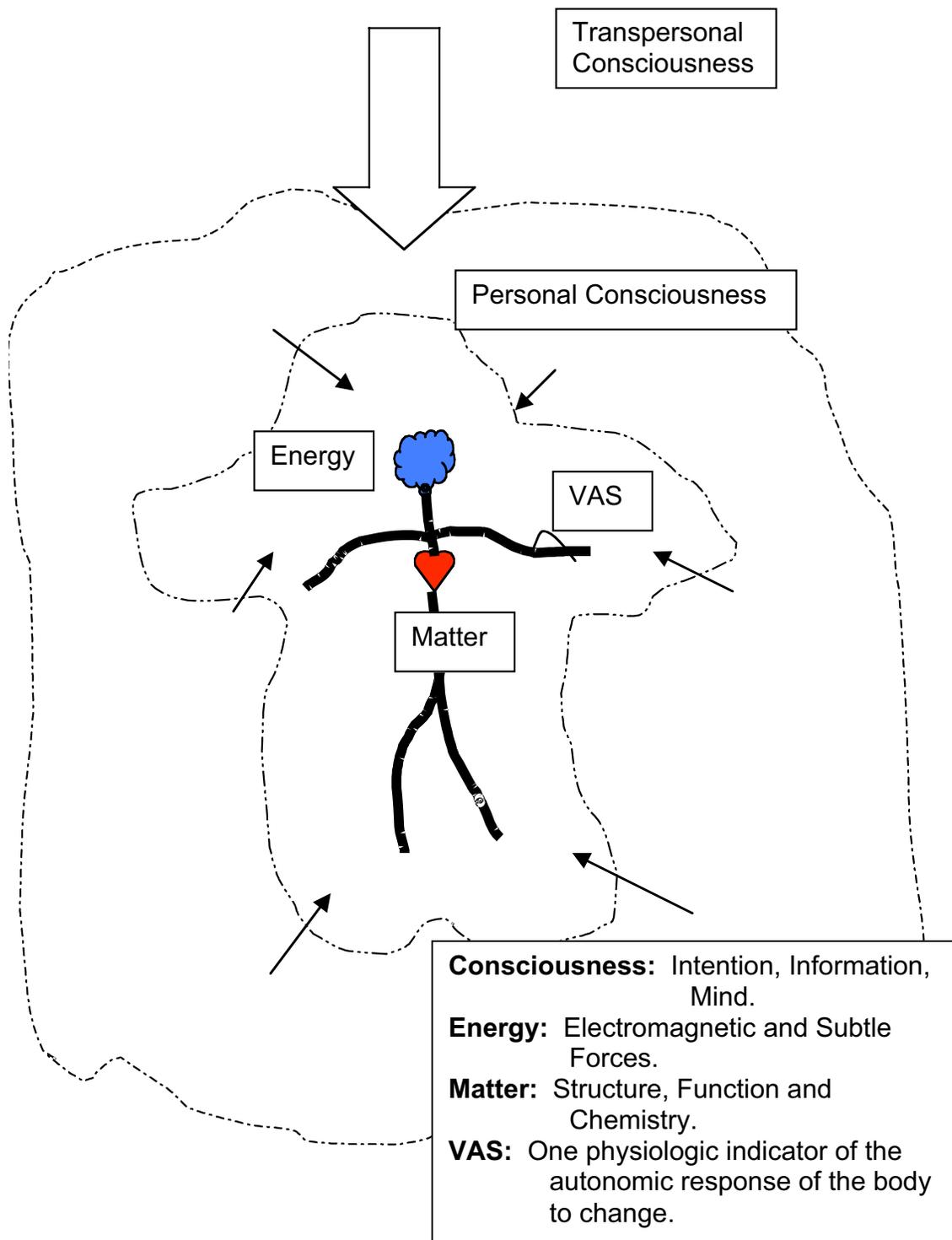
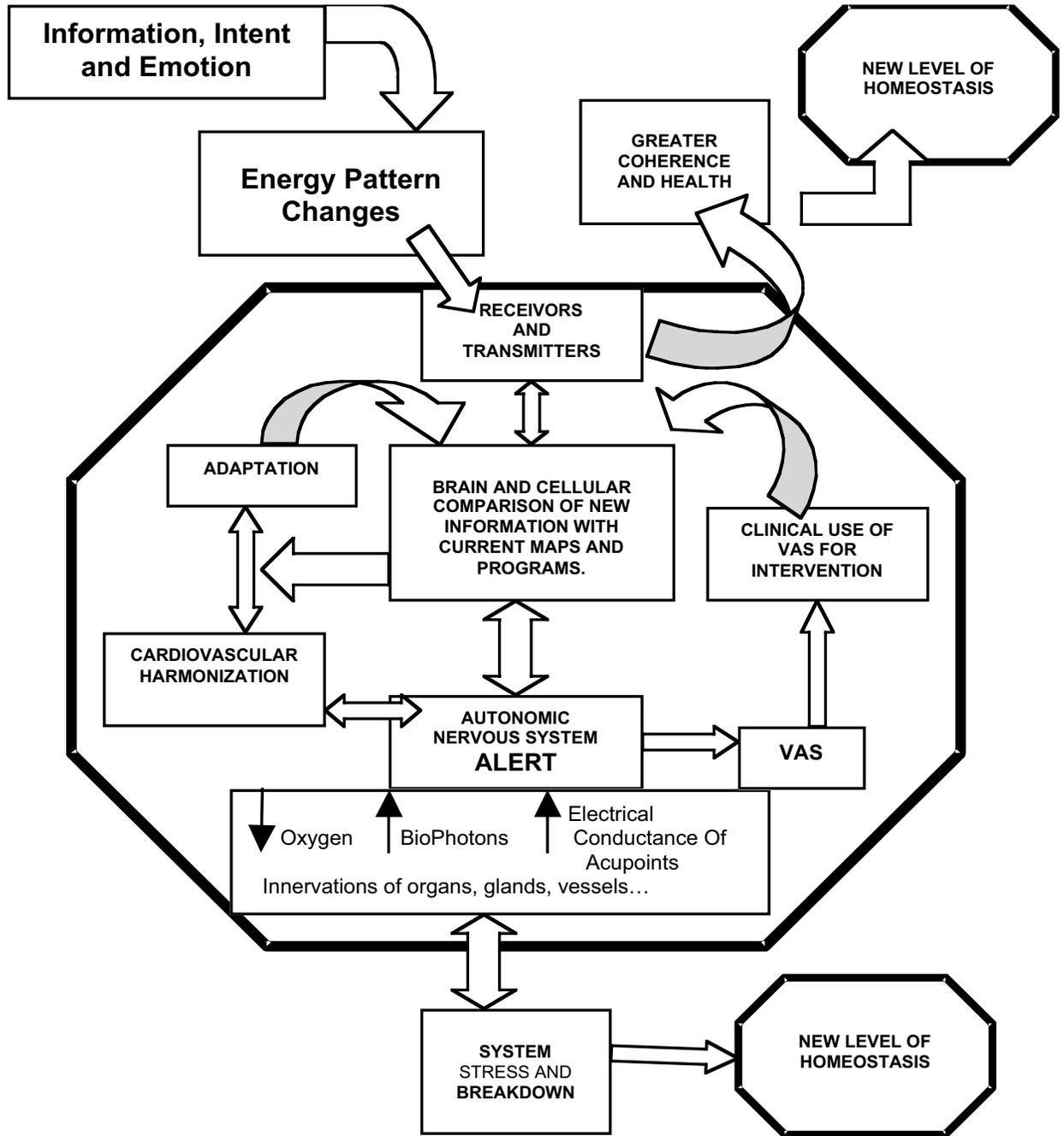


Figure 5: An Energy Medicine Model of Information

Transference In the Human System



Matter – Physiologic Sensitivity and Response

Homeostasis is a state of balance of the internal processes of the body, maintained by various feedback and control mechanisms. The living system seems to know and remember homeostasis, and wills itself to return to that state of balance for its survival. Figure 4 illustrates the actions involved in maintenance of homeostasis. If not blocked, the system will recognize and return to the most beneficial condition known. If a block (an accumulation of stress) is preventing this natural rebalancing, the VAS, as an indicator of the system's response to change, can assist by indicating to a practitioner which interventions would enable regaining a former level of balance. Auricular medicine protocols are designed to lead the assessment into ever-deeper layers of remembered homeostasis and into ever-greater levels of coherence of the system, and health.

Homeostasis seems to be governed by a harmonized effort of the autonomic nervous system along with the other systems of the body. Even though these body systems differentiate in the embryo, they all respond to each other in a synchronized and perhaps instantaneous manner. The speed and coordination of physiologic response, and which, if any, mechanism is the leading process, are factors not yet understood. It is clear, however, that the VAS is a result of this sensitivity of the human system.

Whether the source of stimuli is external or internal, and whether touching the body or not, the introduction of a change or a stress results in structural, physiologic, and chemical changes which either initiates or results from the autonomic nervous system going on alert. This response is the body's way of attempting to return the organism to homeostasis. One reflection of the "storm" that results from this alert is the VAS.

The autonomic nervous system regulates cellular response, working to maintain cells within the narrow band of functioning that is “normal”. One level of what occurs within a system alert is that if a stressor overcomes the cellular ability to regain balance, oxidization of the cell is reduced, leading to “cellular chaos”. This chaos information goes to the limbic brain, resulting in an alarm of the whole sympathetic system.

The limbic system, which seems to be at the root of this autonomic response, responds to a change, activating a response that reverberates through the whole system – the fight or flight syndrome. Whether the stress is physiologic or emotional, the information is registered by the limbic system and affects coordinated changes automatically, without our awareness, via the autonomic nervous system. This response is intended to assist in regaining homeostasis, to optimize survival and self-preservation. The VAS is one result of this survival response to the information change received by the limbic brain. Bill Tiller points out that what makes the VAS such an accurate diagnostic tool is that the limbic system alone is involved in the signal, without the aid of the neocortex, which would add language and interpretation. The response read through the VAS is “clean” in this way, and automatic.

Brain research has found that the “maps” held by the limbic system against which new information is being measured, are what determine our perception and functioning. These maps are constantly being updated and refined in response to new input. The body does adapt, and what was a stress can become part of the new homeostatic balance. In this way, our systems can be in a state of relative stress and unhealthiness, yet a state of homeostasis at the same time. For instance, some of us are more, and some of us less capable of living within the level of pollution of our environments.

Another view of the synchronized nature of our physiology is that the cardiovascular system is a central harmonizing system that enables the body to maintain its integrity and present the summarized response of the VAS. As with the functioning of the autonomic nervous system, it is theorized that this system strives to maintain an optimal pattern of functioning through a feedback loop involving biochemical signals. The cardiovascular system is seen by some to be the system responsible for maintaining a harmonized rhythm of all the physiologic systems of the body.

The biochemical messengers responsible for physiologic information transfer have been called neuropeptides; protein links that act as chemical messenger molecules that are received by receptor molecules on the surface of the walls of cells, thereby regulating both physiologic functions and brain communication in the body. While cellular biology has generally acknowledged this process as occurring only on the chemical-molecular level, there is now recognition that, as with the limbic system, cell receptors respond to signals from many sources.

Cellular response can be divided into two functional categories; organisms are attracted toward elements that are perceived to support their life or repulsed from threatening stimuli. The more relevant a stimulus is to the organism's survival, the more polarized (either + or -) the resulting response. The nature of the VAS is that it indicates the body's response to a stimulus, providing a window with great immediacy into whether something is beneficial or hostile to the system.

Energy – Forces and Frequencies

Paul Nogier recognized the ear as much more than a static map, but as a dynamic site which permits the study of energy forces, their orientation and circulation, reflecting the responsiveness of the whole body. He was clear that the human body is an extremely sensitive reactor to energy. VanGelder reports on his experience with the VAS as being an experience of “communicating with the patient in a very subtle way...(involving) only the flow of energy and information”. Tiller calls the VAS one of the body’s biomechanical transducers, a “subtle energy detector”, meaning that it provides a physically observable signal of transformed subtle level energies.

The trigger for response that can be felt as the VAS is a change of information. The information comes within an energy force, the nature of which Nogier said could be luminous, magnetic or a response of the nervous system to any impact on the system. This nervous system impact could result from an influence encountered during an examination; such as heat, or cold or pain, or an emotional disturbance of either the patient or the clinician. In respect for the highly sensitive nature of the human system, clinicians using the VAS repeat testing to ensure the finding is not a “transient” response. Nogier cautioned his students to “guard their calm” during a session. The close electrical contact with the patient through the continuous taking of the pulse means the practitioner can modify the system balance and hence the VAS.

Most of us have not fully developed the conscious capacity to detect and discriminate the energetic forces at play. We still need a transducer capable of transforming non-observable energy into physically observable energy. The human body is

a highly refined, powerful instrument through which energies of all frequencies are received, transmitted and transduced into matter in a synchronized process.

The human system has antennae, receptors and transmitters that manage the communication pathways, the nature of which is not fully understood. Navach is one researcher who isolated what he called neurohormones, compounds that exist inside the body. He believed that these neurohormones are the electromagnetic receptors that resonate specifically to a stimulus. Assuming that all substances have an electromagnetic resonance, or signature, resulting from their emission of biophotons (signals of light), neurohormones would be the compounds that receive this signature like a radio receiver. Navach proposed that the neurohormones then facilitate the relay of information to the hypothalamus of the limbic system, and from the brain through the autonomic nervous system to the smooth muscles of the peripheral arteries, manifesting as, among other responses, the VAS.

These biochemical receptors and transmitters of electromagnetic energy, whether they are neurohormones as Navach believed or neuropeptides as Pert named them, seem to be fundamental factors in the synchronized process of information transduction and transference. According to Bruce Lipton, it is now recognized in mainstream medical research that cells are influenced by electromagnetic energy as well as by physiologic change. In fact, pulsed electromagnetic energy has been shown to be able to regulate virtually every cell function. These findings acknowledge that invisible energy forces can control biological behavior.

Through original cellular biology research, Lipton has concluded that the membrane of the cell operates as the “brain” of the cell – not the nucleus as was previously

thought. Both brain and skin (membrane) are derived from ectodermic tissue of the embryo, and both function by “reading” the signals of the environment, assessing the information in relation to what was already programmed in the cells, and then selecting, or creating, appropriate programs in response. In this view, our brain is indeed everywhere in the body, existing in the membrane of every cell, and our capacity to receive and translate incoming information is ubiquitous. Perhaps the “limbic system” includes this cellular function and is much more than the brain and autonomic nervous system.

Lipton calls the receptor-effector protein pair he found to exist on the membrane of the cell a “unit of perception”. As with the limbic brain, these molecules are regulated by two sets of signals – perception and actual physical stimulation, with perception able to override physical stimulation, as is demonstrated by hypnotherapy.

Brain research verifies that our sense of self and our reality is dominated by perception. According to Pert, emotional reaction to stimulation is the key to the conversion of energy into cellular defense mechanisms. Cells will adapt, Lipton notes, to “new” signals, even if the new signal is a perceived stress, a belief. Whether a body lives in a stressful environment has more to do with perception than with physical reality. Shealy reports that the immune system has been found to be more powerfully influenced by attitude and belief than all other normal factors combined.

Our brain, perhaps along with every cell, is a pattern-forming system, which neuroscience is now demonstrating to be engaged in interactive communication with something more subtle than biochemistry, and that is the information carried in energetic forces. The physical brain is “information-wave-sensitive”, according to Tiller.

Tiller proposes a model for understanding how energy can become matter. He suggests that every physical pattern in our known time-space dimension, **positive space**, has a correlate in **negative space** that is a frequency pattern. The space-time physical domain is well known in allopathic medicine, and is what we normally identify with as human beings. The inverse structure, as a frequency domain, is less understood because of its unobservable particles traveling faster than the speed of light, rendering them inaccessible to physical senses or present-day instrumentation. Tiller suggests that this negative space is the domain of subtle energy.

Hypothesized to be a space containing waves and particles in a highly ordered network of structures called sublattices, the nodal points (being where layers of lattices connect to each other) diffract waves of energy. Minute differences in orientation produce signals of varying strengths, creating diffraction patterns that carry complex information. In Tiller's model, all of physical nature is connected to the subtle energy of these interpenetrating layers of sublattices.

Acupuncturist Charles Shang presents another view, which is that meridians are the "intercellular signal transduction system". This communication system formed in the embryo, he says, preceding and determining the development of the nervous system. Shang's description of meridians seems consistent with Tiller's model of a magnetic, negative space information system operating at speeds faster than the speed of light, and may explain the instantaneous, ubiquitous nature of the human response system.

Jenny Wade pictures our system as a "seamless whole in perpetual flux". As in Figure 4, the information transfer system of Figure 5 is held within an interpenetrating sheath of Energy: electromagnetic, magnetic and other subtle forces. In this model, energy

patterns create biochemistry and physiology, with every physical atom being intimately connected to higher frequencies. The VAS is one physiologic indicator of this intricate process, a way to “listen in” on the information transfer occurring. Through the VAS, a practitioner can listen to this interplay for guidance for how to clear blocks that inhibit energy flow, and how to increase overall coherence of the system.

Consciousness – The Intelligence

The source of the orderliness and synchronicity of this “dynamic information network”, and of the wisdom of our information transfer system is a mystery that continues to intrigue researchers. To hold an Integral Energy Medicine approach, however, is to view our system as dynamically responding to the information held within energy, which is held within a higher level information source called consciousness, or mind. Consciousness is deemed to be the intelligence, the animating life force that operates beyond the limits of time and space, and that holds and directs our capacity for order with its intent. The difference between energy and consciousness is one of degree of influence; just as energy manifests as matter, consciousness begets energy, according to Tiller.

Biologist Rupert Sheldrake called this force the “morphogenetic field”. Sheldrake proposed that communication between cells, brain, emotions and other stimuli within the environment is all occurring within an organizing field that transcends time and space but that determines the physical form and behavior of living systems. Sheldrake called this the “hypothesis of formative causation”. In this theory, the content of consciousness of the morphogenetic field determines and organizes the whole system response. Targ and Katra named it “nonlocal mind”, meaning that consciousness cannot be confined to specific

points in space or time. Its information is infinite, everywhere at the same time, including the various physiologic systems of the physical body.

In the model of Figure 4, consciousness is presented in two forms – Personal and Transpersonal. Personal consciousness is the mind of our own making, our beliefs and our past experiences that are programmed into our cells and our brain. This level of consciousness programs us to react in a certain way to incoming information, based in and determining our perceptions and emotions. We all hold a personal consciousness, known as ego in A Course in Miracles. It is predominantly fear based, and protective in nature. Physiology and health are greatly affected by what is held in this consciousness. When a clinician is palpating the VAS of another person, the most accurate results will be gained when this level of consciousness of both humans is clear and calm.

Fortunately, there is more – Transpersonal Consciousness is beyond the realm of our own limitations and fears. This is the “Higher Intelligence”, the unifying structure that connects all that is. This consciousness connects, sustains and inspires us to grow into greater consciousness. As more of this transpersonal energy is allowed to flow through our more matter-oriented aspects, we become less attached to and restricted by physical laws. The quality and content of the “morphogenetic field” is advanced, and we evolve in consciousness.

Tiller suggests that through intention, the information held within subtle energy (with its negative mass and magnetic action) can be injected into a physical substance, overcoming its normal physical nature. A levitational force overrides the gravitational force and an attraction to negative space results. This, Tiller says, is how unexplainable but observed phenomena occur: like walking on water; like my own felt and seen experience

of a psychic surgeon's hands moving through my skin into my belly without utilizing a physical opening; and like firewalkers being able to walk over hot coals without physical effect. Enough intention has been focused to inject etheric substance and laws into the physical and overcome the laws of the time-space domain. In this way, subtle energy, including emotional energy, can override and alter the physical manifestation. Indeed, what we might name as "miracles" may simply be phenomena that are operating in negative space, so not explainable within physical laws.

This model of a determining force of consciousness has roots in the theories of physicists since the mid-1800s. Models were proposed of organisms as intelligent systems that through evolution increased in the refinement of survival behaviour, which over millennia became what we now call consciousness. Schroedinger, the physicist seen as the father of quantum mechanics, pointed out during the 1940s a "precious something" upon which living organisms feed, which he called negative entropy. The organism has, he said, the "astonishing gift of concentrating a stream of order on itself ... of drinking orderliness from (its) environment". This orderliness maintained, directed and evolved, the human system. Schroedinger hypothesized an experiential "I", consciousness, to be what is "controlling the motion of the atoms according to the Laws of Nature." This life force is known as qi in Eastern medicine, a force that animates all living things.

Jenny Wade, based in studies of consciousness, suggests that consciousness (mind) predates and survives the physical body, but during a lifetime it orients itself to the physical level as a sheathing of energy that interpenetrates the body. Brain and mind enfold each other, she says, with the physical brain being a transducer of the order of the Cosmos. Physical manifestation flows out of transcendent energy that is not recorded in any one

particular cell or structure, but is enfolded over the whole. Information is everywhere and no particular place. Transformations between the physical and the transcendent energy are occurring continuously and rapidly.

If every living organism and in fact every cell is a perfect microsystem rooted in and reflecting the *Intelligence of the Cosmos*, then the potential capacity of those systems is to reflect the energetic order of the Universe. Including the regulatory mechanisms of the physical body, the nature of this Intelligence is to strive to maintain and optimize order on every level.

It is interesting to view the VAS as one indicator of the coordinated efforts of this unified system. The VAS provides summarized, physiologic data of the state of our system as matter, energy and consciousness. If interpreted by a practitioner with understanding and timeliness, the VAS provides a noninvasive way to tap into the overall Intelligence of the human system and lead the body into higher levels of coherence and health.

To move toward an Integral Energy Medicine model for understanding the VAS as is proposed in this dissertation would move the discussion beyond the level of the accepted mechanical responses of the physical body and into the larger potential of the VAS as a reliable Energy Medicine assessment tool. To see the VAS as a physiologic tool that provides a gateway into dynamic communication with the coordinating Intelligence of the human system could provide a foundation for the advancement of auricular medicine.

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APPENDIX A:

**Data Record Sheet and
Informed Consent Form**

**Vascular Autonomic Signal
As an Energetic Assessment Tool**

Data Record Sheet

Individual's Initials: _____ I.D. Number: _____
Date: _____ Time: _____
Year Pain Began: _____
Conditions at Onset: Accident _____
Surgery _____ Emotional Trauma _____
Illness _____ None Known _____

Pre-Test:

1. Pain Location: _____
2. Pain Rating: _____ (0-10)
3. Range of Motion _____
4. Frequency (%time) _____
5. **Pulse:** weak _____ medium _____ strong _____
6. **Electromagnetic Field** (distance from ear): _____

Treatment One:

7. Blockages:

- Scar:** a) Present _____ b) Tissue Type and Phase _____
c) Cleared: Yes _____ No _____
- Oscillations:** a) Present _____ b) Cleared: Yes _____ No _____
- First Rib:** a) Present _____ b) Phase _____
c) Cleared: Yes _____ No _____

8. With Morphine on Arm

VAS determined locations:	Tenderness	NetII Active
a. _____ (Meso, Endo, Ecto)	b. _____	c. _____
i. Phase Two	_____	_____
ii. Phase Three	_____	_____
iii. Phase One	_____	_____

9. VAS points marked on ear map #1.

Treatment Two:

10. With Morphine on Arm

VAS determined locations:	Tenderness	NetII Active
a. _____ (Meso, Endo, Ecto)	b. _____	c. _____
i. Phase Two	_____	_____
ii. Phase Three	_____	_____
iii. Phase One	_____	_____

11. VAS points marked on ear map #2.

Location Correlation
Phase Two: Yes _____ No _____

Phase Three: Yes ____ No _____
Phase One: Yes _____ No _____

12. **Points treated** (with combination of temporary needles, semi permanent needles and seeds). Bilateral points treated.
13. **Master Points treated** (temporary needles):
a. Point Zero ____ b. Shen Men ____ c. Thalamus ____
d. Occiput ____ e. Autonomic ____ f. Tranquilizer ____
g. Master Cerebral ____ h. Master Sensorial ____

Post Test:

14. Pain Rating: _____ (0-10) 15. Range of Motion _____
16. Electromagnetic Field: _____
17. Change in Pre and Post Pain Rating: Increase: _____ Decrease _____
-

Data Analysis:

Stability Reliability of the VAS:

Number 10 above: ear map One point locations match ear map Two

Equivalence Reliability of VAS:

Number 6c and 8c: VAS points verified by NET II.

Number 6b and 8b: VAS points verified by Tenderness.

Predictive Validity of VAS:

Number 16 above: Change in Pain Rating

Informed Consent Form

Auricular acupuncture is a therapeutic intervention that involves stimulating active acupuncture points on the ear for the purpose of alleviating health conditions of the whole

body. While based in ancient Chinese acupuncture practices, a medical doctor in modern France developed the field of auricular acupuncture and auricular medicine.

Auricular medicine goes one step further than auricular acupuncture by using the electromagnetic energy field of the body for assessment of imbalances in the body system. Any disturbed structure or physiological function of the body can result in a stressed electromagnetic field, which is reflected by one, or several acupuncture points on the ear. A pulse reading, called the Vascular Autonomic Signal (VAS), indicates the location and typed of disturbance by the body's response to stimuli being brought into the body energy field. The VAS can be used: to assess the location of a particular stress in the body; to find the best treatment, including dosages and priority; and to determine causal level issues underneath symptoms.

The VAS is essentially a way to "listen to the body". The purpose of this PhD research trial is to determine the reliability and accuracy of the VAS as a guide for the clinical assessment of the location of acupuncture points on the ear that can be effectively used for treatment of chronic pain.

Pain is a symptom, telling us that something is out of balance, or under stress in our body. Chronic pain is the result of an accumulation of distress, perhaps from a series of accidents, nutritional deficiencies and mental-emotional stress along with the body not having opportunities to drain toxins from its system. Acupuncture is one way to open pathways to drain and rebalance the body system. If the pain is the result of many layers of distress, however, it is likely to take several treatments to address those layers and to re-educate the body to return to homeostasis.

This research trial is offering one free auricular assessment and treatment for chronic pain. Chronic pain is defined as having been experienced for more than a three month period, either intermittently or steadily. Longterm relief from this one treatment is not expected in most cases. The contribution of the study is intended to be a demonstration of the VAS as a reliable clinical assessment tool. This inquiry does not address the extensive healing methods of auricular medicine.

By signing this consent form, I affirm that I have read this consent form and agree to participate voluntarily. I understand that this auricular medicine session may not have direct or longterm benefit for me, and I understand that there are no known risks involved in my participation.

I also understand that my identity will not be disclosed in the reporting of findings of this research study.

Participant's Signature

Date

Participant's Name (Print)

If you would like additional information concerning this study, or auricular medicine, please contact Muriel Agnes by phone at 902-351-1010.

Thank-you for your participation.

Muriel Agnes, MAEd,
Certified Auricular Acupuncturist,
Th.D. Candidate.

More information also available through: www.upml.fr/glem,
www.auriculotherapy.org, or www.auriculotherapy.com.

APPENDIX B:
Collected Data

Data Collected

Id Number	Pre-Test Pain Rating	Post-test Pain Rating	One Week Later	Affected Area	ROM Pre-Test	ROM Post-Test	EMF Pre-Test	EMF Post-Test	# Of Points Matched	# Of Points Marked
301	3	0	0	Low Back	2	1	15	1	2	2
3001	3	1	1	R Hip	3	2	24	4	3	3

2902	6	2	2	Low Back	2	2	20	2	3	3
2902	3	0	0	L Side	88	88	88	88	0	0
2103	3	1	1	L Should	4	2	24	3	2	3
2103	6	4	4	Low Back	88	88	88	88	0	0
2804	7.5	0.5	0.5	Spine	2	2	26	2	1	1
2801	4	0	0	Headache	88	88	30	6	2	2
2201	5	5	0	R Leg	88	88	18	3	3	3
2201	5	0	2	Neck	3	2	88	88	0	0
2102	7	6	10.1	L Should	2	2	18	6	2	3
2102	6	4	10.1	Neck	88	88	88	88	0	0
2105	5	2	2	Shoulder	4	3	88	88	1	2
2105	7	3	2	Hips	88	88	14	3	0	0
2301	6	5	5	Neck	3	3	24	6	2	2
2301	9	7	5	Bladder	88	88	88	88	0	0
2302	5	2	5	Hips	3	3	16	4	3	3
2302	10	2	10	Legs	88	88	88	88	0	0
2205	3	2	5	Low Back	1	1	30	2	1	3
2101	6	6	6	Low Back	3	3	12	4	0	0
2101	4	1	4	Head	3	1	88	88	3	3
3002	6.5	5	6.5	U. Back	88	88	20	3	0	0
3002	8.5	9.5	8.5	L. Back	88	88	88	88	1	1
2303	8	2	0	Knees	3	2	30	12	1	3
2303	10	2	6	Neck	3	2	88	88	0	0
2202	6	2	2	Fingers	88	88	30	6	3	3
2202	3	0	0	Neck	88	88	88	88	0	0
2903	6	2	1	Neck	88	88	15	2	3	3
2903	5	1	5	R Should	2	2	88	88	0	0
2905	7	3	6	Knees	2	2	35	2	1	1
2907	2	1	1	R L. Back	2	1	15	2	2	3
2901	7	1	1	R. Side	88	88	20	2	3	3
2901	6	5	5	Anal Area	88	88	88	88	0	0
2803	8	4	8	Knees	3	2	24	4	3	3
2803	6	6	6	Sinus	99	99	88	88	0	0
2805	6	1	4	Hands	88	88	24	6	2	2
2805	6	3	4	R Leg	3	2	88	88	0	0
2802	7.5	4.5	7	Abdomen	88	88	20	6	2	2
2203	2	0.5	0.5	L. Back	88	88	24	3	3	3
2203	1	1.5	0.5	Shoulder	2	2	88	88	0	0
2304	4	0	4	Shoulder	3	3	30	1	3	3
2305	4	0	4	Low Back	4	3	30	5	3	3
2305	4	0	4	Knees	88	88	88	88	0	0
2904	5	3	0	R Hip	88	88	30	4	2	3
2904	10	10	10	Upper Body	2	2	88	88	0	0
2104	8	3	4	Low Back	4	3	30	6	1	3
2104	6	4	6	Knees	88	88	88	88	0	0
3003	8	9	5	Buttock	88	88	30	4	2	3

3003	6	9	4	R Ankle	88	88	88	88	0	0
3004	2	1	0	Shoulder	2	2	20	4	3	3
3004	1	0	0	L Thumb	99	99	88	88	0	0
2206	3	0	3	R Hip	3	3	24	3	2	3
2206	5	5	5	Chest	88	88	88	88	0	0
2906	3	0.5	0	Abdomen	88	88	10	2	2	3
2106	4	1	0	R Should	3	3	24	4	0	0
2106	4	1	0	Buttock	88	88	88	88	2	3
2701	10	6	6	R Should	3	2	18	4	3	3
302	5	2	3	Knees	3	3	12	4	3	3