

Upon A Clay Tablet
The Definitive Guide to Healing
with Homeostatic Clay
Volume II

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**For those who seek answers
by asking better questions**

**For those who seek solace
holding fast to and in the center of life's storms**

**For those who seek a more natural way
A truer, both older and newer way**

**For those who seek the greater power
of water, earth and sunshine**

**For those who wish to begin to leave
disease far behind**

**May this work lead you
One step closer
To the place you most need to go...**

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Book Three:
Clay Therapeutics and the Art of Healing

Author's Note to the Skeptic and to the Cynic

I love skeptics. Skepticism is incredibly healthy. Being skeptical requires an ability to think critically and meticulously observe demonstrable facts, separate facts from assumptions, and balance the two with observation. Skepticism demands careful observation of cause and effect. It requires that the individual look at any evidence presented, both scientific and anecdotal, with attentive disbelief, but from a position of emotional neutrality. A rigorous and detailed examination of the situation is the result. And how could that ever be bad?

However, all too often an individual claiming to be skeptical is actually using skepticism as a clever mask, hiding the fact that they are actually cynical, not skeptical. I love cynics as much as I love skeptics. People who are jaded have often been emotional or even physically hurt by giving away far too much personal power in the past to people or situations that eventually went terribly wrong. In a world like the one we've inherited, who can blame an individual for the occasional cynical outlook?

What many cynics don't want people to know is that in truth, they have been the most ardent zealots in the past. The cynic is actually a wounded zealot, but still a zealot.

However, a cynic that is masquerading as a skeptic is an individual perpetuating the exact same harm onto others that he or she originally experienced. Skepticism is a scientific discipline. Cynicism is an emotional state. Skeptics are very willing to believe in truth, while cynics are afraid to believe in anything.

There is plenty of room for both skeptics and cynics alike in the world of clay therapy. I have worked very well with both. This is because I have been both the skeptic and the cynic many times over in the past. I would wager that most people have been. That said, being cynical is not enjoyable. When possible, I try to transmute my cynicism into enthusiastic skepticism, for that is a far healthier and more enjoyable state of being.

The world of natural and alternative medicine is full of frauds, over inflated egos, liars, cheats and even the delusional. Too often, proponents of anything "alternative" become owned by whatever it is the person is peddling. The product becomes more important than people's well being, or the ideology being "sold" becomes more important than listening to the needs of the individual. Oh yes, there is very good cause for both skepticism and cynicism.

As an independent researcher, I have found that generally speaking, there is more misinformation out there than good information. Much of the information available is well-intentioned, but too often mistaken. And greed is a powerful force in the world.

I would like to assure readers of this book that it is my intent to always place the well being of the individual above any ideology. Healing is about the journey every person takes in pursuit of good well being. It is a very personal journey, and no authority can know what is best for any individual. It is the individual's responsibility to discover what he or she most needs. I see it as my job, in this work, to help provide interested individuals with healthy options and a system of holistic health that is far older than our western civilization. I desire to do nothing more and will settle for nothing less! An individual can therefore take what works best, and choose to leave the rest.

This is not a scientific or historical book; that book will follow. I will waste absolutely no time or space trying to convince anyone of anything. This book has been designed to be a functional handbook, so that those who are interested in learning how to safely and effectively practice clay therapeutics can do so with the utmost skill and confidence.

It is therefore up to you, the dedicated skeptic, to evaluate the work in practice. I have complete faith that the results will be both beneficial and quite satisfactory. I stand by my work!

Perhaps some of the more cynical individuals out there would like to know how I overcame my own cynicism. Many years ago, in my crazy youth, when I first started discovering the healing power of living clay, I was extremely cynical. So I decided to do a personal experiment. I sliced open my thumb. I had a good immune system, so in order to get the thumb nice and infected, I had to subject the wound to cleaning chemicals, and wait.

I waited until the thumb felt like it was on fire. The closed wound was fire-red, and puss filled. With every beat of my heart, pain shot down the thumb; the infection was spreading. I then took my favorite green healing clay (this particular clay has since been tested as antimicrobial clay) and applied a poultice. I was amazed at how quickly the pain melted away; within mere minutes the pain was gone. The clay opened up the wound, drained and cleaned it. Within an hour it was clear that the infection was gone, and that the normal healing processes of the body were well underway.

Was I convinced? Absolutely not. Remember, cynics are far more stubborn than skeptics. Over the next month, I repeated my experiment five, six, seven, eight times. The result was the same every time. Finally, I ventured out of the fearful place my mind had been residing in; the cynicism melted away, and was replaced with cautious enthusiasm.

That said, I certainly don't recommend anyone try my little insane experiment at home!

Author's Note on Metaphysics

Many people are likely turned off by the term metaphysics, as the term has been very badly abused by the new age movement for decades. I'm sure an equal number of people equate metaphysics with a rapid launch off of the cliff of sanity into a world filled with feel good delusions.

Meta is Greek. In the context of the word metaphysics, it means "in the company of or over and above". My working definition of metaphysics is "above or beyond the physical world, yet permeating through it". As such, it still is a *physical* science.

As an example, the fact that the moon is responsible for the tides of the ocean is a metaphysical idea. For if we were only using physical science to study waves, we would only be studying the kinetic force of the ocean waves, not looking for the causative factor. As such, metaphysics has been a part of the scientific process since the birth of science. Gravity is definitely a metaphysical concept, and to this day hard science cannot explain this force, because it exists above the physical world, yet permeates throughout it. Wherever there is mass, there is gravity. It is only with the discovery of quantum mechanics and quantum physics that scientists are even able to begin to approach a study of these types of physical forces that most likely originate from outside of our "physical" universe.

I have studied many systems of metaphysics in my lifetime, some more enjoyable and rewarding than others. My personal motivation for studying metaphysics? The answer is simple: For pure pleasure and enjoyment. I find digging deep into the unseen world to be exhilarating. I enjoy keeping an open mind to possibilities, and I love the idea that there are more mysteries in the world than we could ever uncover. I have found that my study of metaphysics has added rich color to my life, and has helped develop a rich perspective about the natural of the world, and those beings which inhabit it!

My motive for including a metaphysical element to this body of work is also simple. Sometimes the cause of illness is not physical at all. Sometimes it is caused and held in place by the mind, sometimes illness is caused by a wounded heart (emotional), and sometimes it is caused by a concept that can only be described as destiny.

I feel that I would be doing you, the reader, a great disservice by omitting metaphysics from this work. The system that I am going to present is one that can do no harm; it's an open-ended system that can be included in any treatment system, any ideology, and any belief system (or lack thereof).

My one single goal, however, is not to peddle this system to you, but rather, to help you connect your mind to your heart, and then to your body. Consider that the mind is like gravity,

existing throughout your entire body, and maybe a few inches outside of your body. Consider that your heart has the emotional energy that the mind needs to directly access your body. Consider that your heart and mind need to connect and become as one in order to do this, and yet this can only happen once the two hemispheres of the brain are in harmony.

It is opening up all of these connections that I endeavor to accomplish, so that each person can learn to access the innate wisdom of the body (subconscious), and perhaps even connect with superconsciousness.

The system I will use is not original. It was first presented by Charles Fillmore and mastered by a Christian teacher named Catherine Ponder. Please note that I do not mean to imply that Christians are the only ones that have a useful system of metaphysics. Systems exist world-wide, including one of my other favorites, Qi Gong , originating in China.

While there is plenty of room for belief (and disbelief) in this body of work, there is no room for formalized religion. The author is disinterested in any individual's religious or cultural background; it is not relevant to this presentation, and the author would not even dream of attempting to tell another human being how they should feel about spiritual and religious practices (or lack thereof).

The metaphysical system I will demonstrate explores the relationship between twelve mind powers located in the body, and the physical condition of the body. It is a simple system, and it is practiced without any mysticism.

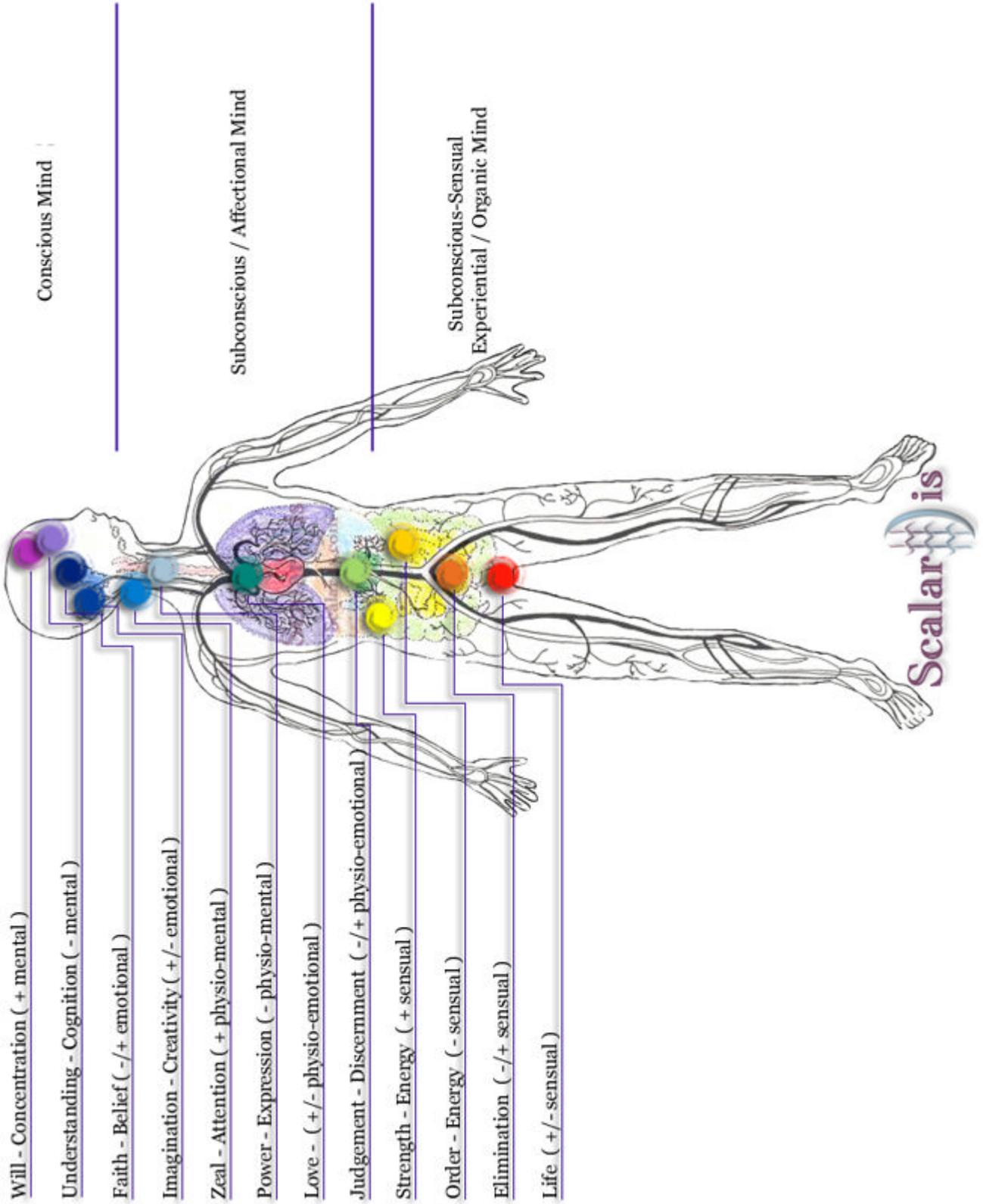
For example, when an individual has a neck ache, it is an imbalance in the mind power of zeal. It usually means that the individual is applying all of one's energy to one task, to the detriment of other tasks that need attention (such as food, or exercise, or relaxing, or attention to important to human relationships being neglected).

Now, clearly, this makes sense from a purely physical standpoint as well; there is little mystery. But, acknowledging the cause and effect of the condition makes an actual connection between the mind and the body, and that connection will more often than not result in a change of thinking resulting in a new action.

In some cases, the metaphysics are a bit more logic-defying. For example, when an individual's left shoulder hurts, it often means that the individual is taking on too much responsibility that others should be "shouldering". A simple mental inventory will often immediately reveal the exact cause of discomfort.

It's the act of engaging in the enquiry itself that has most of the value. In fact, it is actually irrelevant whether or not mind powers actually exist in the body. The secret is in working with *processes*, not realities. The secret is *engaging the entire being* in the process of healing and recovery. It is well known that the imagination can make connections out of unrelated events. My

contention is that it doesn't matter if one is imagining it or not (imagination itself is a mind power); the connections are being made through the body's electromagnetic field, the mind is working at a new level, and an individual is engaging in a mental and emotional process designed to empower positive change rather than sit mired in negativity and a state of powerlessness.



The Twelve Mind Powers

Author's Note on Nutrition

The body has an innate intelligence. It knows exactly what it needs, and it works constantly to attempt to communicate its needs to the conscious mind. However, an individual's conscious mind is often not able to understand what the body is trying to say. Many times, in fact, the mind misunderstands what the body is saying.

Having worked with many nutritional ideologies, and more importantly, many *people* with different dietary needs, predispositions, prejudices and economic realities, my nutritional guidance is going to be very different than the guidance that might be offered by pop nutritional consultants.

The reason? The only time an individual can start the process of healing is right now, and the only place an individual can start to grow is right here. Most dietary ideologies cannot compensate for the fact that every individual is unique. I cannot predict the circumstances of a person's time space, but I can help the individual to start to learn to listen to what the body has to say, and to begin to learn about the history of human nutrition, and to begin to correct dietary habits that are detrimental to health.

For the above reasons, I coined a term and an idea called *nutritional reality*. An individual may think that their diet is perfect, but observation of the body (again, what the body is trying to tell the individual) may reveal a completely different story. If an individual has been unable to heal or experience vibrant health, then the individual may need to throw away every preconceived idea about nutrition, and start from scratch. Furthermore, an individual may need to do that two, three or even four times when seeking out the best individual dietary habits!

Some individuals may need to eliminate all gluten from the diet. Some people may need to restrict calories. Some people may need to eat a high calorie, high fat diet to regain health. Others may need to fixate on foods that are easy to digest.

So how does one go about learning how to listen to the body?

Take, for example, an individual who is overweight. The overweight individual may be experiencing periods of exhaustion throughout the day, coupled with immense and overwhelming carbohydrate cravings.

The individual might think that they eat too much, but the body is stating the exact opposite: The body is trying to tell the individual that the individual is starving. This is both an emotional state (remember the metaphysics) and a physical state.

From a physical standpoint, the body's metabolism is failing. What the body is asking for is a sustainable energy source with far less bio-burden (metabolic waste production). Since the body

has been fed empty calories for so long, the body is doing the best it can to work with what it has been given.

Although such an individual will probably need to make many life changes in order to experience vibrant health, the metabolism can be greatly assisted as quickly as an individual can implement a few changes that the body is desperately calling for.

The empty carbs and fast-burning sugars need to be replaced with cleansing foods, and the body needs to be fed sugars on the opposite end of the glycemic scale. If the individual can accomplish this for even as little as *three days*, then the body will start to shift its cravings. It will begin to learn to work more efficiently.

When the body craves sugars, an individual can feed it blood-cleansing lemon water. When the body is crying out for energy, in-between meals, an individual can sip some green tea sweetened with Xylitol. Natural, enzyme-rich vegetables with complex sugars can be used to curb cravings, such as raw golden-yellow peppers or red peppers.

An individual can learn to listen deeply to the body, and in return, the body itself can begin to learn to listen to and trust the conscious mind of the individual in its decision-making process.

How else can one learn to listen to the body?

The largest organ of the body often has a very clear and concise voice: The skin. A correct diet results in healthy, vibrant skin. Break-outs and skin problems are the result of toxicity due to diet and/or environmental toxicity. Problem dry skin is the result of nutritional deficiencies in the body (especially minerals, usually due to a PH imbalance of the soft tissues).

The digestive system, including the stomach and the colon, usually have very revealing stories to share as well. The metaphysical mind power related to the stomach is that of judgment. The metaphysical mind power relating to the colon is elimination. Amazingly, individuals who exercise good mental and emotional judgment rarely have any stomach pain or discomfort (and imagine that: they often exercise good judgment with their eating habits, as well!). Individuals who have learned the skill of letting go rarely have issues with the colon.

Pain has an incredibly loud and lucid voice. However, very few people have learned to hear the message over the deafening roar. Pain can mean many things. However, chronic pain is often the body's cry for proper exercise and/or proper hydration. By correct exercise, I mean correct posture, correct muscle development, and correct range of motion, including proper body maintenance in the form of activity.

The body will always respond favorably once an individual is able to listen to what it needs, and once he or she finds a way to begin to provide it. Usually, the body will begin to respond

favorably within three days to three weeks. Complete transformation, even under the best circumstances, can take six months to a few years.

In almost all cases, healthy changes to an individual's nutritional state will result in the body starting to cleanse itself of accumulated waste. Using cleansing foods and especially clay therapy can provide the body with the necessary support it needs to regain and maintain vital, vibrant health.

While different people may need to develop very different eating habits, there are some essential needs that are universal.

First, processed foods loaded with preservatives should be eliminated. The body is an amazing vessel, and it can often handle the garbage being fed to it for decades. However, that doesn't mean that individuals *should* feed the body garbage. If we wish our bodies to serve our desires, then we need to start to show the same respect to our body.

Next, overcooked food is devoid of living enzymes and has a far diminished nutritional value. There are some rare exceptions, such as roots (which may need to be boiled) and soup stock. Any healing, healthy diet needs to be rich in digestible raw foods loaded with enzymes and foods that are only very slightly cooked.

Finally, the biological terrain of an individual needs to be corrected. The digestive system needs to be healed, and the PH of the soft tissues restored to neutral.

Clearly, if the body is unable to digest the food we are eating, and unable to eliminate metabolic waste, then it will not be able to heal. Furthermore, if the body is unable to utilize the digested nutrients at a cellular level, then all the work being done is for naught!

Dietary, edible clays can play a significant role in this healing process. Edible clays need to return to a place of prominence in natural nutrition. Quality living clay is an amazing source of nutrition. I recommend that several, if not many, different clays be used internally on a very regular basis.

Throughout this work, I will provide some basic nutritional guidance based on successful experience. I am a big believer in evidence based science. In the end only working solutions truly matter. However, I firmly believe that individuals should have a diverse perspective on nutrition and eating. I highly recommend individuals study the works in the section on recommended reading for a well-rounded education on dietary philosophy.

Author's Note on Natural and Alternative Medicine

Ironically, natural medicine is the original “real” medicine, allopathic medicine is the allopathic medicine practiced by the medical profession, and alternative medicine is actually alternative to allopathic medicine. However, for the purpose of this work, the terms natural medicine, allopathic medicine and alternative medicine will suffice.

Natural medicine is the safest form of medicine. Why? Because natural medicine has evolved over thousands of years of time. That which proved useful was kept and passed on to future generations. While there are some highly refined forms of natural medicine (such as Ayurvedic Medicine) most natural medicine is still extremely primitive, and lacks the scientific basis of modern allopathic medicine.

Even so, modern allopathic medicine is the most risky form of medicine. For the most part, we still have no idea how all of the chemical treatments (drug therapy) will effect the human body over a lifetime of regular use, let alone how these drugs will effect the evolving human organism generation after generation.

Our ultimate goal as a civilization should be to take all of the diagnostic knowledge and scientific understanding of health, and combine it with the ancient understanding of nature. Only then will we be able to find harmony between ourselves and our global environment.

In many cases, it is alternative medicine that seeks to bridge the gap between natural and allopathic medicine. But again, there is a cautionary note to alternative medicine as well.

Natural medicine only employs methods found in nature to assist the body: Healing foods, natural water, exercise, sunshine, herbology and earth-based therapies. Alternative medicine, however, takes what we know about the natural world through science, and seeks to refine and harness the power of nature according to our needs and desires (without regard to nature's original intentions). Often times, alternative medicine therapies are therapies that could never even be attempted in the natural world.

For example, nature teaches us that the human body needs plenty of sulfur for healthy skin, hair and nails. Many modern diets are deficient in sulfur. Natural medicine would move us to change our diet to compensate, eating more foods rich in natural sulfur, or even urge us to take regular baths in sulfur-rich hot springs. However, alternative medicine might suggest that we supplement with MSM, which would allow us to reverse a health-threatening deficiency in mere weeks. And while MSM is a completely natural compound found in the body, using it in a concentrated “supplement” form was clearly never intended by nature.

Another example would be the use of electrically isolated colloidal silver (EIS). Silver is very natural, and can be found in nature in low concentrations. There is no doubt that it is antimicrobial. However, nature never intended it to be highly concentrated and used to kill microorganisms in or on the human body. We humans were just clever enough to figure that out for ourselves.

I believe that there is a place for alternative medicine and natural medicine. However, I believe it is critically important to acknowledge both the strengths and weaknesses inherent to alternative medicine.

So, while natural medicine is completely safe (but not necessarily always completely effective), alternative medicine contains a measure of risk; a step into the unknown. Being able to gauge any potential risk depends upon accurate knowledge. While this manual is primarily a natural medicine handbook, I will delve into a few alternative medicine treatment modalities because I believe there are times when a good outcome may not be achievable without them.

I believe we need to take the knowledge that science offers us, and utilize it in a manner that is responsible and harmonious with nature.

Author's Note on Herbology

The true art of herbology lies in the use of raw unprocessed herbs to make herbal decoctions and infusions—medicinal grade herbal teas. Raw herbs are comprised of roots, stems, seeds, leaves, or flowers.

How to prepare each herbal concoction is a specialized art and science. However, the general rule of thumb is that roots require boiling. Teas made from whole plants and seeds are made by bringing water to boiling point and then immediately removing the pot from the heat source. Flower and/or leaf tea is made by infusion. Cold water is brought to a boil, and then removed from the heat. Once the pot has been removed from the heat, the herbs are then added.

True medicinal herbal tea is not your average grocery-store purchased herbal tea in tea bags. Only high quality cookware should be used in the preparation of herbal tea. Pyrex can be used. So can stainless steel. Do not use chemically treated pots in the preparation of herbal tea, because many herbal teas are extremely volatile.

Once the tea has been prepared, the tea is strained so that only the liquid is consumed.

When calculating correct dosage levels, it is always wise to start off slowly. Adults should start off with half doses and increase gradually. Children will need to have a diluted dose. For children 1 year old and younger, herbal tea should be given one part tea to four parts water. For children ages 1-3, the child should be given two parts tea to three parts water. Children three to five should be given three parts tea to two parts water. Children aged 5 to ten should be given four parts tea to one part water. For children over 10 years old, no dilution is required; however, only give the child a small cup per dose.

I have studied several systems of herbology, and have found that the methodologies employed by Raymond Dextreit (author of *Earth Cures*) are both wise and effective. However, practicing herbology can be expensive. Furthermore, it can be difficult to find all of the exact herbs in some concoctions; sometimes substitutions may be required, which involves the individual doing a bit of extra research.

Individuals who are trying to attempt to regain health by curing a specific ailment may be best served by first using healing foods and clay therapy, adding herbal teas only if they are still needed.

Lastly, I am only providing the basics of herbology in this work; interested individuals are most certainly encouraged to study deeper by reading the work suggested in the "Suggested Reading" section of this book.

Clay Therapy: General Methods of Use and Application

The power of clay therapy to treat illness, reverse chronic disease, and help support vibrant health is unmatched by anything in modern medicine or nature. However, up until this point, there has never been a unified system of clay therapy that has presented an accurate understanding on using the various different clay therapy methods.

When should one use a clay poultice? Or take a clay bath? When should an internal clay supplement be used? Confusion is the last state of being an individual needs to present with when working to heal and recover from any disease condition.

It must be stated and in no uncertain terms that each method used to employ clay therapy has a completely different effect on the body. Although science has not yet completely uncovered and proven these differences or effects, we now how have a wealth of experience to help guide individuals who wish to explore clay therapeutics.

How to use Clay When a Condition is Localized

A localized condition, such as a wound, a bite, a burn, or a contact infection, must be treated by applying clay poultices at least ½” inch thick and surrounding the entire treatment site. The first clay application should last up to 25-30 minutes. However, if the area to be treated drains excessively, then the clay dressing may need to be changed more frequently. At least three applications should be done daily. However, the longer that clay is employed during the healing process, the faster the healing will be; there is no risk in over-using high quality therapeutic clay for the care of damaged tissue. For exact instructions on clay use for wounds and bites, read the upcoming chapter and the case histories.

In too many cases, however, individuals make a tragic error in judgment regarding exactly what is or is not a localized condition. If an individual only applies treatment for a localized condition and the condition is actually only symptomatic, then the individual risks long term failure, even if short-term relief is obtained.

For example, an individual treating chronic adult acne by applying facial masques is only attempting to treat symptoms. Whether or not the treatment is successful, seldom is an actual cure achieved. By cure, I am referring to the restoration and maintenance of vital, vibrant health. It is critical to remember that in natural medicine, the end goal is to seek out actual causative factors and apply skillful wisdom to permanently correct the problem. Having accomplished this, one can also focus attention on alleviating any symptoms.

Skin conditions are metabolic conditions usually caused either by systemic toxicity, abnormal immune system response, and/or liver toxicity. The proper treatment for chronic skin conditions is the “whole body” treatment method.

Another good example is an untreated spider bite. When a venomous creature bites an individual, it is first and foremost a localized condition. However, as time progresses, it can quickly turn into a disease state that affects the entire body (for another example, consider Lyme disease), or at least an entire region of the body. The localized treatment (clay poultices) will work beautifully for the treatment site, but individuals may notice redness beginning to travel away from the treatment site. Such an individual may also start to present with signs of toxicity and/or infection.

The correct treatment for a rapid cure is using the whole body treatment method.

Another example of a mistaken localized problem is a tumor. Unless a clear local cause can be identified, any form of cancer is a chronic disease state in the body, not an isolated local condition. While it is true that clay poultices applied above or upon a tumor often have a dramatic effect (even sometimes shrinking and eliminating the tumor, or conversely, pulling it straight out of the body), treatment can fail due to the fact that the whole organism is not being properly treated.

How to Use Clay for Whole Body Treatment

For any and all disease states that affect the entire body, clay should be used at any point on the body that presents a symptom and clay baths should be used to soothe the body and help reduce toxicity. Furthermore, for chronic disease states and conditions of toxicity, local treatment needs to be done, clay baths need to be done, and clay supplementation (good edible clay) needs to be used.

Furthermore, healing foods may be required, and an examination of the individual diet should be undertaken as well. It is critical to remember that most of clay’s action is catalytic. This means that by virtue of its mere presence, clay causes the body to change; to take certain actions. If the body has enough strength and the proper nutritional resources, then the outcome will be favorable.

Finally, the mental and emotional state should be self-examined. A key principle to keep in mind: Function follows form. Dysfunction is usually, if not always, caused by improper form. Improper form usually starts in the mind. Errors in thought produce errors in action. Therefore, using the mind and the heart to correct whatever form is malfunctioning can result in a far superior state of wellness.

Please remember that the idea of “presenting a symptom” is not limited to skin outbreaks, rashes, and abnormalities. It also refers to organ dysfunction and any presentation of pain and discomfort anywhere in the body. For example, the author once cured an acute (non-recurrent) severe bladder infection in a few short hours using only clay poultices over the extreme lower abdomen. Chronic constipation (whole body treatment) is often cured by using clay internally coupled with clay packs on the abdomen. Do not underestimate the power of these principles in action!

Now, clay baths done correctly help reduce the stress of any toxic condition in the body, and the result is a vast improvement in overall function. Often, relief occurs very quickly. A clay bath works very differently than a clay poultice or clay wrap. When modified water is used (with sea salts, magnesium, etc.), the effect of a clay bath can be extremely revitalizing and therapeutic. Remember, clay truly is homeostatic; it will work to eliminate excesses in the body and provide the necessary stimulation in the event of deficiencies. For some unknown reason, the presence of therapeutic clay seeks to create a state of high energy equilibrium.

Many people make an error in judgment believing that systemic toxicity should first (or only) be treated by ingesting edible clay. Others make the opposite mistake, and think that doing clay baths alone will suffice to cure a state of toxicity. While using edible clay is pivotal to successful “whole body” treatment, it is important that clay be used externally at the same time. Think of it this way: With systemic toxicity (no matter if the toxicity is caused by an infection, heavy metals, poisoning, or decades of poor eating habits), there is a lot of waste circulating in the body, including in the lymphatic system and possibly even the blood stream; furthermore, our body’s natural energy reserve, in the form of fat cells, is often loaded with undesirable contaminants. Does it make more sense to pull these contaminants *out* of the body, or *through* the body? Obviously, when given the opportunity, it is more desirable to pull any waste out of the body via the largest elimination organ in the body: The skin. While western medicine is neglectful of the power of detoxification through the skin, the medical science of balneotherapy is well recognized by medical doctors world-wide (just not in the United States).

And if it is true that clay baths are so powerful, then why does an individual also need to use edible clay? While clay baths work with the lymphatic system to help cleanse the body, and while it has a system-wide revitalizing, stimulating action, a clay bath has absolutely no *direct* effect on any organ involved in digestion. The stomach, the small intestine, the colon and even the liver benefit greatly from consuming clay internally. And as the avid reader will learn throughout this book, vital health begins... and ends... in the colon!

In another situation, an individual might be puzzled as to why localized treatment is still required, when clay baths work so well to help the entire organism. Such an individual, noting that a high quality clay bath is done with at least six to ten *pounds* of clay, may think that the clay bath would have an even stronger effect than a tiny clay poultice. Why, then, bother with the poultice?

This entire thought process is erroneous. Why? Because such an individual neglects to realize that colloidal clay gel “magma” has a strong, unified electromagnetic field. Furthermore, the more clay gel used, the greater the effect. When a single clay poultice is placed on the body, the result is that the body’s resources are marshaled to that specific area. The effect is identical to an intelligent laser guidance system: The clay directs, guides, and corrects the body’s immune system response to the concise area that needs vital support. This is a catalyst reaction caused by the clay. It is not yet known whether this action is due to clay’s ability to work with the energy meridians of the body, if it is due to the transducing effect of clay’s crystalline properties, or if it is due to the energy-providing properties of clay. The only thing known for certain has been acquired through extensive and meticulous observation. Furthermore, clay’s electro-chemical reaction also begins to literally pull out any contributing contaminants in the area being treated.

To illustrate, consider that clay baths were tested on a condition of skin cancer. One bath per day for a week resulted in no change in the condition; the area remained red and irritated, raised, with an itchy painful feeling. Next, three clay poultices were applied to the area for thirty minutes at a time over a 24 hour period. The result? A leveling of the growth to skin level. All redness and irritation was eliminated. Ten pounds of clay were used in each bath, and yet only one small scoop (handful) of clay magma was used for each poultice. Measurable results occurred within the very first hour of treatment.

Conversely, when a clay bath is done, each and every particle of clay separates and becomes completely dispersed in the water. The unified field effect disappears, and each and every of the millions of crystals in the water is free to act independently from every other crystal. Taking a clay bath is like bathing in a sea of millions of the tiniest singing crystals imaginable; each one acting as a nano-vacuum cleaner. The entire body is stimulated, soothed, and nudged back toward a state of equilibrium—at least, as much as possible given the individual circumstance.

An example of a proper and effective treatment strategy was conducted by Cano Graham at the Dunsmuir chemical spill (see Book II Part A). Individuals who were wise enough to elect to use clay therapy drank clay water, applied clay to any lesions or break-outs locally, and took clay baths. The recoveries were complete, and usually within 3 days of treatment application.

Another individual who started clay therapy to treat a brown recluse spider bite noticed that local treatment was amazingly effective for the bite itself, but that he was experiencing problems in

the entire leg. He subsequently took daily clay baths, and achieved a complete cure (this happens quite often).

How to Use Clay for Internal Treatment and Supplementation

Edible clay should be used in all cases of chronic degeneration and immediately in any situation of acute toxicity, and without hesitation. Edible clay should also be used in all cases of malnourishment.

Of course, in general, the author feels that good edible clay is almost as important as having a good drinking water supply. It is only in modern times that humanity has lost the wisdom of using clays as an actual vital source for nutrition.

Regardless of ideological leanings, in cases of acute poisoning of any kind, oral administration of clay water is critical.

In the later chapters of this book, internal clay usage will be addressed in detail. The rule of thumb: One dose of clay is one teaspoonful to one tablespoonful of clay added to eight ounces of water. The standard frequency of use is between once daily and four times daily, depending on the circumstances. Some individuals will elect to take clay every single day without hesitation; others may elect to use clay every other day (or, on for one week and off for the next), or similar strategy. Clay should be taken two hours after any life-supporting medications or expensive supplements, when possible.

When to use a Clay Compress

Clay compresses should be used topically whenever an individual is too weak to tolerate a poultice, or when placing a poultice at the treatment site causes too much discomfort. Clay compresses can also be used when a soothing and cooling effect is needed.

How to Prepare and Store Clay

Preparing Clay for External Use

In an ideal world, clay for external use should be prepared at least 72 hours beforehand, and then charged with energy within four to six hours of use. For best results, a super hydrated clay magma (or gel) should be prepared by mixing the highest quality water possible with clay, in a manner that does not require any “kinetic” mixing. The consistency of the clay magma should be as wet as possible, and yet, not so wet that the clay will not hold together as a gel. Hydrated clay should be slightly sloppy, but moldable.

Different clays require different amounts of water for proper hydration. Sedimentary, devolved clays require very little water compared the evolutionary volcanic clays.

A high yield sodium bentonite requires as much as 4.5 parts water to one part clay to correctly hydrate. Swelling calcium bentonites require between 2.1 and 3 parts water per one part clay to hydrate properly. The author has found that the best all purpose healing clays have swelling characteristics. As such, they hold more water and appear to have a deeper reach into the body than non-swelling healing clays.

Sedimentary clays such as Terramin require about 0.8 parts water to 1 part clay. Some amorphous clays require as little as 0.5 parts of water to 1 part clay.

If clay an individual has purchased does not come with hydrating instructions, then the easiest way to determine how much water is needed is to start field testing: Use one cup of clay, the best water available, and a blender. Add a measured amount of water to the clay, and blend thoroughly. Check the consistency of the clay. Add more water as needed being careful to track exactly how much water has been used.

Once the desired consistency has been achieved, discard the clay. It will be slightly denatured and may contain undesirable metal ions leached from the metal fins of the blender. While clay hydrated with a blender is not likely dangerous, there is *never* a need to use a blender to make the most exquisite, natural, hydrated clay (an individual wouldn't throw their amethyst crystals or quartz crystals into a steel blender, so why do the same with these amazing nanocrystals?). Dry milling is completely different than wet processing clay.

Now that one is ready to make a batch of clay, a high quality, sealable container is needed. Glass or ceramic containers with a wide base work best. Sprinkle clay into the bottom of the container, about ½ thick. Next, add the proper equivalency of water on top.

For example, if the hydration ratio of choice is 2.50 cups of water to one part clay, and you sprinkled ½ cup of dry clay into the container, then the next step would be to gently add 1 ¼ cups of water on top of the clay.

In this manner, carefully fill the entire container, by layering water on top of clay, and then clay on top of water. Do not mix or agitate the container. Once the container is sufficiently filled, seal it and set it aside. Sedimentary clays will be ready to use within 12 to 24 hours. Volcanic-origin, evolutionary clays with swelling potential take longer, with the amount of time required equal to the swelling characteristics of the clay. Clay with only the slightest swelling potential will need about twenty-four hours whereas a high yield sodium bentonite (for example) is best left alone for as much as 72 hours.

Having waited for the clay to naturally hydrate, obtain a second container identical to the first. Carefully turn the clay by scooping it out of one container (using a plastic or silicon utensil) and into the next. It should be clear that the clay is nice and evenly hydrated; a perfect blend. The last “turning” of the clay will help blend any slight inconsistencies that may exist.

The clay is now ready for charging and use.

To charge clay, remove as much clay as will be needed from the container into a new container (any non-metal container will suffice, provided it is easy to work with). Place the clay outdoors, in direct sunlight, with a thin cloth (like cheese cloth) on top of the clay to protect it from contamination. Allow the clay to sit in the sunlight for at least 30 minutes, just prior to use.

Alternately, an individual may elect to be as creative as possible. Naturally produced far infrared can be used to charge clay, as well as naturally produced sonic waveforms, a TDP mineral lamp, or energy high quality energy source, provided the energy is created using a natural process (it is wise to avoid using scalar energy produced by artificial electronic means).

To make a clay compress rather than a clay poultice, take a small amount of hydrated clay gel and add a small amount of water. Diluting the clay gel makes it easier to soak a dressing.

Once clay has been used, it should be discarded.

Making and Using a Clay Poultice

The Traditional, Standard Clay Poultice

Once the clay magma or gel is ready for use, obtain a clean dressing or thin, white cotton cloth. Cut the cloth to the approximate size of the area to be treated. The dressing size should be the size of the treatment area plus a few extra inches around the perimeter, so that the dressing can be secured to the body (if needed) without interfering with the clay poultice.

Next, carefully and gently apply the appropriate amount of clay to the dressing without overly compressing the clay. While one can apply the clay directly to the body, and then apply the dressing, in many cases it is more convenient and less messy to apply the clay to the dressing prior to placing the clay pack onto the body. The clay should be at least $\frac{1}{2}$ inch thick to $\frac{3}{4}$ of an inch thick. Some individuals elect to follow the general guideline of using a palm-sized amount of clay for a single treatment. In most cases, this is excellent guidance. However, it would be more concise to say that enough clay must be used to cover the entire area to be treated, with a small amount of clay overlapping the area around the perimeter.

The clay poultice does not have to be made perfectly, and it can be carefully adjusted after being placed upon the body. In many cases, an individual will not need to actually secure the poultice to the body. After a short period of time, a good clay will stick to the skin (but it can potentially slide around). If an individual is going to be moving around during the treatment, then it is wise to secure the poultice using some medical tape or an ace bandage, depending on the area.

When using medical tape or an ace bandage, only apply the tape or bandage *around* the clay poultice, on the edges. Always try to avoid overly compressing the clay.



A small area of less than 1 centimeter square is being treated

Clay Therapy: General Methods of Use and Application



**Clay Poultice to treat neck strain, the mindpower of Zeal
Located at the nape of the neck - Roughly 5 inches by 5 inches, ½ inch thick
It doesn't matter if the dressing is slightly oversized**



**This Green Desert Calcium Bentonite is ideal for even the most severe treatment needs
Clays with at least some swelling potential work excellently for external therapy
There is between 2.25 to 4 times as much as water as clay
And, it is the water working with the clay crystals that allows the clay's
energy transducing properties to interact with the body**



Compressing this clay will result in the compression of charged layers and may interfere with the clay action, as will overly mixing hydrated clay

The New Principle in Clay Therapeutics

In the case of growths or any tissue abnormalities (disease states), it is wisest to use an amount of hydrated clay between twice as large (by volume) as follows: from twice the size to *geometrically larger* than the size of the abnormality. If one is treating a cyst that is estimated to be 1 centimeter squared, then the clay magma applied should be at least two centimeters squared. The principle of applying a poultice $\frac{3}{4}$ " inch thick should be followed, which may be more than needed, but most importantly, will be enough clay to suffice.

If, on the other hand, one is treating say a bone in the leg, and the marrow of that bone has become cancerous, the entire bone must be treated as being in a diseased state; the entire bone may be 30 centimeters long, and an average of 6 centimeters thick. The clay used, by this principle, is calculated by volume, and should be 30X30 centimeters by 6X6 centimeters. The clay pack will need to be applied all the way around the leg, and should be thicker, if at all possible, than the $\frac{3}{4}$ " guidance often given for clay packs.

The usual method of treating an appendage in this manner would be to use a plastic or even a wood bin. The entire appendage would then be "soaked" in a bin full of hydrated clay magma or gel. When such a treatment is not readily possible, then using a clay poultices $\frac{3}{4}$ " thick around the entire leg would be an alternative.

To further illustrate the principle, if I'm going to stimulate an ailing liver, then the clay pack that I am going to use will be the standard ½" inch thick to ¾" inch thick poultice placed over the treatment site. However, if the liver is cancerous, then I know that if I am going to have any real hope at a favorable outcome employing external clay therapy, I must find a way to use a clay pack that is at least twice the size of the liver itself. This would mean wrapping a very thick clay pack over the liver and around the torso to cover both the front and backside of the body.

Doing so may not be possible, due to clay quantities on hand or lack of tolerance by the individual being treated. In such a case, one needs to use as much clay as the individual can safely tolerate. In many such cases, the individual has a hard time tolerating even a clay compress, let alone a clay pack of that size. One may have to proceed with small amounts of clay applied, and try to allow the body to adjust to clay use.

Sometimes following the clay poultice size calculation principle is not feasible. Sometimes it is not necessary. Caution should be employed when using massive amounts of clay for any treatment. The safest course of action is to start off with a clay compress, move to a poultice, and then if an individual has been successful at strengthening the body via nutrition, cleansing and healing foods (and if the individual has been carefully listening to how the body has responded to the clay therapy being used), then one can move on to the larger clay packs.

At this point, I ask the reader to realize that I learned clay therapy from a group of people who would just as soon use 50 pounds of clay for a single treatment and who often, on a daily basis, would soak the entire body in 300 to 600 pounds of clay in a clay pit. There were individuals who never expected to walk again, wheelchair bound, who went to the desert to die, who eventually walked away after a few months of clay therapeutics and lived a long, pain-free life. This group of old-timers wouldn't let their "trusts" be deterred by detox reactions or any cleansing issues. Whining was allowed but good-naturedly ignored. They would just keep throwing the people into the clay, giving them plenty of edible clay to drink, and feeding the body with the freshest foods available. They would bake them in the sunshine, bathe them in the most therapeutic hot spring waters, and throw a friendly, jovial party at each sunset.

So this new principle that I'm offering to those who wish to master the practice of clay therapeutics is based on success with numerous, yet very select, serious cases of both acute illness and chronic physical degeneration that I have both personally been a part of and reported cases that I have studied... specifically, cases that have been wildly successful where others have failed with clay therapeutics. I attribute success in such situations directly to the fact that as much clay as necessary to get the job done was used, even if that meant taking an entire leg, and placing it in a large bin filled with clay.

Due to cost issues, a base green swelling smectite clay can be used in emergency situations, and enriched with an individual's favorite high quality therapeutic clay, as needed. I recommend at least 10% therapeutic grade clay be used, but in truth, it would be far better if at least 25% therapeutic clay be used.

Finally, only one, rarely two, treatments with massive amounts of clay is necessary in any given day; for the remainder of the day, any standard traditional treatment protocols may be applied.

Preparing Clay for Internal Use

Not all clay is suitable for internal use. Be certain that the clay chosen is quality edible clay.

Preparing clay to use internally is quite simple. Add the desired amount of dry clay to eight ounces of water. Mix the water with a plastic or silicon utensil. If possible, allow the completely aqueous clay to sit for between ten and thirty minutes prior to consuming. Some edible clays have undesirable contaminants in them, such as sand and silt. Both will settle to the bottom of the glass, and can be dumped out. Only drink the clay that is in colloidal suspension (held in the water), not any sandy silt at the bottom of the glass.

The standard dose of clay is between one teaspoonful and one tablespoonful of clay. Many individuals like to let the clay sit out in direct sunlight prior to drinking. Some people enjoy adding the clay to a health shake or smoothie. If an individual is taking clay for maintenance or purely nutritional reasons, taking clay in a health shake is fine.

Some individuals do not like consuming clay water. While taking clay naturally is the best method, individuals can elect to use a simple capsule maker, and fill “double O” capsules with dry powdered clay.

There are those individuals with food intolerances that take small amounts of clay with each and every meal. For those individuals, the best way to take clay internally would be in magma form, rather than in water. That way, the clayish water doesn't dilute the HCL being produced for digestion. Also, taking the clay magma will not cool digestion as much as drinking a glass of clay water.



Green Calcium Bentonite Colloid



A Mixture of Green and Red Edible Clays

Storing and Handling Clay

Dry clay may be stored in exceptionally clean and sealed plastic containers without significant problems. However, even polyethylene plastic can begin to break down under extreme conditions. The following guidelines will help to prevent the plastic from breaking down and leaching into the clay, when being stored in plastic:

1. Store the containers in a climate controlled environment with a room temperature variance of 20 degrees (F) or less. Prolonged exposure to sunlight or heat may cause the plastic to break down.
2. As a prudent precaution, store the plastic containers away from strong electromagnetic fields (such as microwave ovens and extremely high voltage devices).
3. As a precaution against faulty seals, store the clay away from contaminated environments, such as garages and storage sheds containing plastics, rubbers, and all petroleum based products which regularly outgas. If clay must be stored in such an environment, make absolutely certain that the container is completely sealed.
4. Never store clay in metal, or allow clay to come into prolonged contact with metals.
5. Use strong plastic containers. Malleable plastics, due to their flexible nature, may be more subject to breaking down through natural weathering and stress than hard plastics.



Airtight plastic containers with a good reusable seal are convenient, light weight, and provide protection for dry clay

Storing and Handling Clay

Hydrated clay should never be stored in any plastic container for prolonged periods of time. Once clay has been mixed with water for use, it should be stored in sealed glass or ceramic containers. Hydrated clay *will* slowly break down the plastic over long periods of time.

Hydrated clay may be safely stored in HDPE plastic *for shorter periods of time* if absolutely necessary (as an example, making a bucket of pre-hydrated clay for use with clay baths). As a precaution, hydrated clay stored in plastics for longer than 72 hours should be used for externally purposes only. To ensure product purity, even hydrated clay for external use being stored in plastic containers be used within three to four weeks.

Hydrated clay should always be stored in an air-tight, sealed container.

Carefully avoid breathing excessive amounts of clay dust. When mixing large amounts of clay for use, it is wise to do so outside; use a particulate rated mask if necessary.



Hermetic Glass Jars – Perfect for Hydrated Clay Storage

Trace Minerals and Therapeutic Clay

The Importance of the Presence of Trace Minerals in Clay

Dr. Walter Bennett, Ph.D., was one of the first U.S. scientists to begin to study clays from a trace mineral perspective. His research, concluded in 1975, eventually convinced him that the trace metals in clays were extremely valuable for human health. These minerals exist in the form of charged ions and metal oxide nanocrystals, and Dr. Bennett felt that they may be responsible for many of the therapeutic effects that the clay he studied exhibited. Specifically, he noted that the metal ions served as key components of essential enzyme systems in living organisms.¹

However, it is equally true that many of the metals that are naturally found in clay remain sorpted in the clay and are removed with clay through the feces. If this were not the case, then the trace amounts of substances such as lead and arsenic would build up in the body and cause readily measurable damage to living systems. Any such occurrence would have become readily apparent in the blood work of numerous individuals who have done lab tests for metal toxicity while taking a clay supplement. It would have also shown up in the numerous animal studies that have been conducted, including the work done for NASA by Dr. Benjamin Ershoff, Ph.D.²

And yet, if all of the trace minerals that clay is known to contain were simply eliminated through the feces, then how does clay accomplish the scientifically proven effect of the remineralization of both animals and humans? Raymond Dextreit and Dr. Ershoff, among others, stated in no uncertain terms that clay's primary method of action is simply as a catalyst in the body. In other words, the mere presence of clay causes changes in the body that result in the body's remineralization (as well as other proven health benefits). Dr. Ershoff further noted that even when a given mineral was **not found in clay**, animals that were deficient in the mineral mysteriously reversed the deficiency while taking the clay supplement. Dr. Ershoff readily admitted that he was not able to find a method of action for this occurrence.

Based upon the above highly accurate information, the astute observer might erroneously conclude that the minerals in the clay, therefore, are not needed at all. A brave observer might even boldly assert that the true method of action is simply that the clay is repairing and restoring complete health to the digestive system, and that the body is simply now capable of efficiently

¹ Upon a Clay Tablet, Volume I, Print Version, pp. 265-266

² Upon a Clay Tablet, Volume I, Print Edition, pp. 301-331

digesting, adsorbing, and utilizing nutrients. And to a certain extent, that would be a great observation.

However, even that hypothesis is not consistent with all of the available data. For example, Dr. Ershoff also demonstrated that clay successfully helped to protect the body from malnutrition when animals were placed on a starvation diet. If the minerals were not being adsorbed, how then were the animals able to derive nutritional benefits from consuming the clay? Furthermore, when clays are over processed and “cleaned”, they quickly begin to lose their curative powers.

Last, when the same minerals are fed to animals apart from clay, they do not exhibit the same curative or preventative effects as they do with naturally occurring therapeutic clay supplements, as Dr. Ershoff demonstrated when he pitted calcium supplements against a calcium containing smectite clay in his animal studies.

Given that the above information is all drawn from scientifically established facts, are there logical explanations that may explain the apparent discrepancies?

There are some explanations that help, to a certain extent, explain clay’s extraordinarily unique relationship with trace minerals and how that relationship may cause different effects in living organisms.

For example, if a mineral is in the form of a negatively charged crystal with a zeta potential (surface charge), then the clay, in hydrated colloidal form, might easily exchange the nanocrystals for positively charged toxins present in the current environment (stomach, small intestine, or large intestine). In other words, the clay could release beneficial minerals while adsorbing toxic material. The ion exchange capacities of clays are well known and well documented. This is one of the primary characteristics that make therapeutic clays great for detoxification purposes.

This is a classic example of a true homeostatic action. For every single toxic molecule that clay attracts and holds to its surface, it must exchange ions for it, releasing the ions into the body. As such, clay will always work to restore living systems to a balanced state that is conducive to well being.

Normally, the ions that clay would release would be substances such as magnesium, calcium, potassium, or sodium. These are known as the main primary anions in most clays. However, there is nothing in clay colloidal chemistry that limits this reaction to the primary anions in clay. The clay will first sorpt—attract and hold-- the most reactive substances it comes in contact with. As it does so, it will release a less reactive, or oppositely charged, ion.

It is therefore possible that the heavier, more toxic heavy metals considered dangerous to living organisms simply remain sorpted in clay while other minerals are released into the body

where they are adsorbed by the body. This is the general consensus of those who have studied clay therapeutics, but it has not been completely scientifically proven.

There are alternate mechanisms at play that also may help to explain how trace minerals are successfully utilized through clay supplementation. While no single hypothesis adequately explains the observations of researchers, all of them, taken together, help to paint a very interesting picture and certainly help to explain what makes clay supplementation so superior to other forms of supplementation.

It is well known that some minerals—perhaps all—exhibit what is known as an oligodynamic effect on living organisms. An oligodynamic effect is an effect caused by a substance *only* when it is present in very minute amounts. Since the effect occurs only when the substance is present in parts per billion to parts per million, the substances in question are usually traces of colloidal or ionic minerals, meaning, that the particles have a very, very small surface area, and are not present in large enough amounts to agglomerate when held in suspension.

By 1973 there were three known attributes associated with an oligodynamic effect: Particle charge, particle size, and particle concentration.³ While different opinions abound as to what the ideal charge state, particle size, and concentration might be, any reasonable definition would certainly apply to many substances that are found in clays, if not the clay itself.

Finally, a noteworthy researcher by the name of Professor William A. Tiller of Stanford University scientifically demonstrated that **the effect of a mineral in the body did not necessarily require the direct contact of the mineral itself**. By taking the mineral and placing it in a gas discharge tube, and “beaming” the resulting electromagnetic signature of the mineral into a nearby beaker dish containing bacteria, the identical effect of the mineral was realized... exactly as if the mineral were in direct contact with the bacteria.⁴

Is it possible that the transducing effect of the clay crystals is able to accomplish the same thing, in effect transmitting the electromagnetic signature of the mineral into the body? While the author does not believe that this is the only effect that the clay and mineral combination produces, there is some evidence that suggests that this is possible, and in part due to the presence of trace amounts of uranium and thorium in clays (which act as an extremely low-level radiation power supply that affects the clay crystals). However, the science of the transducing properties of clay crystals and the energies which power the reactions are outside of the topic of trace minerals (and will be dealt with in a different section).

³ Yudkin, J, *Enzymologia*, 1937-8; 2:161-170. In: Russell, AD, Hugo, WB, “Antimicrobial Activity and Action of Silver,” *Progress in Medicinal Chemistry*, 1994; 31:357.

⁴ Upon a Clay Tablet, Volume I, Print Edition, p. 98

In conclusion, there is an abundance of good science that demonstrates that the trace minerals in clay, as long as they are taken in the natural form with clay, are abundantly beneficial for the health and well being of mammals. While the exact methods of action remain in debate, the minerals in clay certainly play a role in the therapeutic effects of clay.

While the author thinks that the information presented on the minerals in this section are important, it is also important to note that there is limited evidence that suggests that the minerals listed below actually have the listed effect. In some cases, there is plenty of information indicating that clay use has a positive effect on a given illness. In other cases, there is no information one way or the other. In either case, it is not prudent to just assume that a mineral effect listed in this section absolutely will be manifested through clay use. Rather, I've compiled this data to help provide information for further research.

Cerium

Cerium Oxide has been tested and used in medicine to treat diseases associated with free radical damage and inflammation, including neurology disease conditions such as Alzheimer's. Cerium Oxide (CeO) has a higher absorption of ultraviolet radiation than zinc oxide and titanium oxide. Its high radiation adsorption capability and low level of toxicity has made it an ideal candidate for UV protectants in skin care products.

Numerous medically-oriented patents have been filed claiming that cerium oxide nanoparticles are beneficial in treating the following conditions:

brain diseases	spinal cord diseases	neurological trauma
neurodegenerative disorder	Alzheimer's disease	Parkinson's disease
Huntington's disease	amyotrophic lateral sclerosis (ALS)	multiple sclerosis
toxin-mediated damage	stroke	atherosclerosis
arthritis or joint disease	cardiovascular disease	diabetes
diseases of the retina	allergic or autoimmune disorders	allergies
asthma	chronic obstructive pulmonary disease	respiratory dysfunction
autoimmune disease	micro and macro inflammation	inflammation in wounds
UV and radioactive induced inflammation and cell trauma		

For example, a study conducted by David Schubert et al⁵ determined that cerium and yttrium nanoparticles act as **direct antioxidants** which limit the amount of reactive oxygen species

⁵ David Schubert, Richard Dargusch, Joan Raitano, and Siu-Wai Chan of The Salk Institute and Columbia University, Departments of Applied Physics and Applied Mathematics, January 3, 2006, published in Biochemical and Biophysical Research Communications 342 (2006) 86–91

required to kill the cells. The researchers concluded that this group of nanoparticles could be successfully used to **modulate oxidative stress** in biological systems.

A further study demonstrated that cerium was **cardioprotective**. An in-vivo experiment involving mice via intravenous injection of CeO₂ conclusively demonstrated the beneficial effects of cerium. The research, conducted by Jianli Niu et al⁶, concluded that the cerium protected against the progression of cardiac dysfunction and remodeling by attenuation of myocardial oxidative stress, ER stress, and inflammatory processes. They concluded that the method of action was most likely through the autoregenerative antioxidant properties of cerium.

A further study concluded that rare earth cerium, due to its free radical scavenging properties, protects normal tissue from **damage caused by radiation**. The study also concluded that the cerium is well tolerated by living animals. Specifically, the cerium prevented the onset of radiation-induced pneumonitis in animals exposed to high doses of radiation.⁷

Furthermore, a group of researchers concluded that ultrafine cerium oxide nanoparticles contributed to **cell survivability**. Cultured cells subjected to cerium nanoparticles lived longer. The researchers hypothesized that the cerium oxide would be beneficial in **wound care management**, and the treatment of arthritis and inflammatory joint conditions.⁸

Therapeutic clays that the author has had analyzed have between 45 and 90 parts per million of cerium oxides.

Cobalt

Cobalt is often found in soil in varying concentrations. Inorganic cobalt is not well adsorbed through oral ingestion; hence most, if not all of the cobalt is eliminated through the feces.

There are no harmful side effects associated with consuming trace amounts of cobalt found in drinking water, plants, or soils, although abnormally high levels of cobalt in soil may cause an

⁶ Jianli Niu, Asim Azfer, Linda M. Rogers, Xihai Wang, and Pappachan E. Kolattukudy, Biomolecular Science Center, Burnett College of Biomedical Science, University of Central Florida, Orlando, FL 32816, USA

⁷ Protection from radiation-induced pneumonitis using cerium oxide nanoparticles, immie Colon, MS, Luis Herrera, MD, Joshua Smith, BS, Swanand Patil, PhD, Chris Komanski, BS, Patrick Kupelian, MDc, Sudipta Seal, PhD, D. Wayne Jenkins, MDc, Cheryl H. Baker, PhD, Nanomedicine, Volume 5, Issue 2, Pages 225-231 (June 2009)

⁸ United States Patent 7534453

unusually high concentration, which may be of some concern. Generally speaking, cobalt itself considered a vital trace mineral.

Even though oral consumption of cobalt oxide from water or soil poses little risk, standard testing and screening procedures should be used to be certain that only lower concentrations of cobalt are present in edible clays.

The therapeutic edible clays that the author has tested show levels between two and thirty parts per million depending on the clay. However, some clays used as organic soil additives have been tested to contain as much as 25 parts per million.

Organic cobalt is a vital component of vitamin B-12, but no actual nutritional benefit has been identified for inorganic cobalt.

Human exposure to trace amounts of naturally occurring cobalt is through the consuming of organic cobalt from plants, sea vegetation, and some meat organs. Regular exposure to trace amounts of inorganic cobalt occur via drinking water, soil contact, and exposure through the air. All data suggests that the human organism is well adapted to cobalt exposure as a naturally occurring trace mineral.

Although not much interest exists in the health / medical community concerning cobalt, it has been studied for its oligodynamic antibacterial effect against streptomycin resistant bacteria. Furthermore, cobalt has been used (some might say abused) as an animal feed supplement to assist in the formulation of vitamin B-12 in cattle.⁹

Chromium

Chromium is extremely important trace mineral commonly found in therapeutic clays. One of its most vital functions is assisting the body break down sugar by boosting the action of insulin. While it is not specifically known exactly how much chromium an individual should consume on a daily basis, the Food and Nutrition Board of the US Institute of Medicine states that between 0.4 micrograms (for infants) and 45 micrograms (women breastfeeding) be consumed on a daily basis.¹⁰ However, the National Academy of Sciences in the United States recommends up to 200 micrograms per day.

⁹ John D. Arthington, Essential Trace Minerals for Grazing Cattle in Florida, University of Florida IFAS Extension

¹⁰ DRI, dietary reference intakes for vitamin A, 2001 Edition, by the Panel on Micronutrients, Institute of Medicine (U.S.). Food and Nutrition Board

Chromium deficiency has been linked to impaired glucose tolerance, which increases the probability of cardiovascular disease.¹¹ Utilizing clay internally is often reported to have a positive impact on Type II Diabetes. In twelve out of fifteen controlled studies involving individuals with impaired glucose tolerance, chromium supplementation improved glucose utilization or had measurable benefits on blood lipid profiles.¹²

Furthermore, individuals diagnosed with Type II Diabetes have been shown to have higher rates of chromium loss than average individuals.¹³ Chromium is a very important mineral for individuals who are at risk or who have been diagnosed with Type II Diabetes.

According to some research, there may be a link between chromium deficiency and atherosclerosis. According to Alexander G. Schauss, Ph.D, IBR Life Sciences Division in Tacoma, Washington, autopsied individuals who died of heart disease had far in-tissue chromium than normal individuals.¹⁴

There are anecdotal claims that suggest chromium supplementation can improve muscle mass and assist in weight loss. However, there are conflicting scientific studies that refute those claims.

The therapeutic edible clays that the author has tested have shown that safe levels of chromium oxides exist naturally in clay in the range of 10 to 60 PPM.

Cesium (Caesium)

Cesium is one of the more interesting trace minerals found in clays. It is an alkali mineral, and one of only five metals that are liquid near room temperature. While the “famous” radioactive cesium isotopes pose a significant health risk, the element itself has only a mild toxicity and is completely safe in trace amounts. Cesium is pyrophoric and reacts instantly with water with an exothermic reaction. It is also the most electropositive metal in the alkali group. It has many industrial and some modern medical uses.¹⁵

¹¹ Lukaski HC. Chromium as a supplement. *Annu Rev Nutr.* 1999;19:279-302.

¹² Mertz W. Chromium in human nutrition: a review. *J Nutr.* 1993;123(4):626-633

¹³ Morris BW, MacNeil S, Hardisty CA, Heller S, Burgin C, Gray TA. Chromium homeostasis in patients with type II (NIDDM) diabetes. *J Trace Elem Med Biol.* 1999;13(1-2):57-61

¹⁴ Schauss, A.G. *Minerals, Trace Elements and Human Health.* Life Sciences Press: Tacoma, (WA), 1996

¹⁵ Buttermann, William C.; Brooks, William E.; Reese, Jr., Robert G. (2004). "Mineral Commodity Profile: Cesium" (PDF). United States Geological Survey. <http://pubs.usgs.gov/of/2004/1432/2004-1432.pdf>. Retrieved 2010-3-06.

In the alternative medical community, there is a growing interest in cerium for its potential ability to target and destroy cancer cells. As many are no doubt already aware, Otto Warburg was awarded two Nobel prizes for his theory that cancer is caused by impaired cell respiration due to the lack of oxygen at a cellular level. The cell membrane loses its ability to exchange oxygen and hence reverts back to a more primitive survival mechanism: fermentation. In a sense, a cancer cell is a most primitive stem cell caught in a pre-differential state; the primitive cell then replicates creating more cancer cells¹⁶.

Many important co-theories have been developed based on the work done by Warburg et al. Of interest here, however, is the work of Keith Brewer, PhD and D H. Nieper, M.D. In 1984, Brewer developed a successful cancer treatment protocol utilizing high PH therapy and aloe vera. He reportedly treated 30 individuals, all of whom survived. He noted that increasing the alkalinity of tissues by only 0.6 PH resulted in an increase of oxygen in the blood by nearly 70%¹⁷.

His research revealed that carcinogenesis occurred in 4 steps. 1) A carcinogenic type molecule attaches to the cell membrane surface; this occurrence is dependent upon an energized state of the cell membrane possibly due to previous irritation. Once the molecule is attached to the cell, the cell loses its ability to adsorb oxygen. However, the cell can still adsorb glucose. If the cell is to survive it must become anaerobic. 2) Without oxygen, the glucose ferments into lactic acid. The cell pH drops to 7 and then down to 6.5. 3) Surrounded by an acid medium, the DNA of the cell loses its polar (positive / negative) radical sequence. Amino acids in the cell are changed by the new "landscape" of the bioterrain. The RNA is then affected and the cell loses its control mechanism. 4) The acid medium causes cell enzymes to change into toxic compounds. These toxic compounds kill the inward cells (those toward the center of the growth). New cancer cells replicating hence kill their predecessors while also leaking acidic poison into the surrounding "healthy" tissue. The acidic compounds leaked may also be carcinogenic.

Dr. Brewer developed a successful high pH treatment system (pH range between 8 – 9 PH) for cancer. Following up on his original successful work with tumors in mice, H. Nieper in Hanover Germany developed a treatment involving the use of Cesium Chloride to treat cancer in people. Two gram doses were administered three times daily, along with 5-10 grams of vitamin c, 100,000 units of Vitamin and 50-100 mg of zinc.

¹⁶ Becker, Robert O., MD, "The Body Electric", Becker demonstrates cancer cell dedifferentiated with silver ions and minute electrical current

¹⁷ Pharmacology Biochemistry & Behavior, v. 21, Suppl., 1, by A. Keith Brewer, Ph.D., "The High pH Therapy for Cancer, Tests on Mice and Humans," pp. 1-5

At a cellular level, the cesium limits the uptake of the nutrient glucose, which helps to both starve the cancer cell and diminish its fermentation. Second, upon the cell uptake of Cesium, the PH of the cell is raised to about 8.0, which is a lethal pH level for cancer cells. Furthermore, the raise of pH in the bio-terrain neutralizes the weak lactic acid and can stop cancer-related pain within an amazing 12 to 24 hours.

Dr. Brewer summarized his treatment goal: "The goal of the high pH therapy is the transport of large quantities of Cs^+ Rb^+ and glucose-free K^+ across the membranes of cancer cells. During high pH therapy, Dr. H. Nieper, M.D., observed a loss of potassium which should be replaced."

Some researchers have hypothesized that soils rich in trace minerals such as cesium help to explain the low cancer rates of peoples such as the Hopi tribe in Arizona and many natives to Central America (with clay filled soils rich in rubidium and cesium). The amounts of cesium in clay are far below the necessary dosage levels used in high PH cancer therapy. However, the very homeostatic nature of therapeutic clays make edible clay a welcome addition to any cancer-prevention lifestyle protocol. The edible clays that the author has tested contain between 0.5 and 10.0 PPM cesium oxide.