
Kirlian Reflections of Qi

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Abstract

The study investigated whether it is possible to directly image Qi using the GDV technique¹. Two special acupuncture channels (more accurately known as "vessels") were investigated, namely the Du Mai (Governor Vessel) and Ren Mai (Conception Vessel). The hypothesis was that the Qi of these vessels might be imaged using the GDV technique by mapping them onto the corona of the index fingertip. It was proposed that a holographic image of the whole body might be mapped onto the index fingertip. Thus, the two major vessels that are considered by Traditional Chinese Medicine to run along the mid-line of the front and back of the body (Ren and Du Mai respectively) might then be mapped onto the medial and lateral sides respectively of the fingertip. Fractality Quotients were calculated for the lateral and medial sides of the fingertip corona. Results showed that 70% of subjects (n=10) displayed a *reduction* in fractality (increased uniformity, wholeness) in the 'Target' vessel when it was opened. 60% of subjects displayed an *increase* (reduction in uniformity, wholeness) in the fractality quotient in the Target meridian when the 'Control' meridian was opened. The study therefore demonstrated it is possible to identify the presence² of two meridians at the fingertip, that these are the Du Mai and Ren Mai and that they function in an energetically mutually supportive manner.

Introduction

Over the years, two primary areas of difficulty have consistently plagued researchers into Kirlian Photography. It has always been notoriously difficult, firstly, to obtain reliable and standardised results with Kirlian Photography primarily because of the wide variety of equipment being used and, secondly, to define exactly what it is that is imaged. The first of these difficulties has largely been overcome in recent years through the development of computer software to analyse the Kirlian-type fingertip coronas as produced by the GDV technique. Having investigated the second issue, this study proposes that, through the use of acupuncture, it is in fact Qi (or more accurately, Jing) which is imaged in Kirlian photographs.

For the purposes of this study it is useful to briefly examine how ancient Chinese philosophy viewed Qi and to have an understanding of the more relevant qualities of a special group of channels used in this study known as the 'Eight Extraordinary Vessels'.

Understanding Qi

¹ Gas Discharge Visualisation, developed by Dr Korotkov of St Petersburg University, Russia.

² This 'presence' is more a *reflection* of the Qi of the Du and Ren Mai. These meridians do not actually flow around the fingertip but their *functionality* is *reflected* in the Qi of the fingertip. A reflection has the component parts of an Object (person or thing separate from the image), a Medium to carry the image (mirror) and an Image (a duplicated representation of the object). Here the Object are the 'real' Du and Ren Mai, Medium is the Qi and the Image is the Kirlian corona. This analogy makes it quite feasible therefore for the functionality of the Du and Ren Mai to be imaged (reflected) and accessed at the fingertip.

Qi (pronounced *chee*) is understood in Traditional Chinese Medicine to be the basis of life and movement (O'Connor, 1981) and has variously been translated as 'energy', 'material force', 'vital force', 'life force', 'moving power', etc. (Maciocia, 1989). Everything in the universe, organic and inorganic, is composed of and defined by its Qi. Qi has been described as "*matter on the verge of becoming energy, or energy at the point of materialising*" (Kaptchuk, 1983). Qi functions to animate the body.

Chinese philosophers considered the body itself to be the product of the interaction of the Qi of Heaven and the Qi of Earth. The *Simple Questions* in Chapter 25 says: "*A human being results from the Qi of Heaven and Earth. The union of the Qi of Heaven and Earth is called the human being*". The concept is very similar in nature to modern understanding of the formation of holographic interference patterns as discussed later. Within the body Qi flows through an invisible network of 'meridians' or 'channels'. Disease is reflected in the nature of the Qi flowing in the channels, for example, Chapter 1 of the *Simple Questions* indicates that where there is no circulation of Qi there is pain. A primary aim of acupuncture, therefore, is to regulate the flow of Qi in the channels and organs (ZangFu) so as to restore balance to the body as a whole.

The Eight Extraordinary Vessels

The meridian system is made up of a number of discrete 'groups' of channels -the more well known are the 'twelve regular channels'³, however the two 'meridians' used in this study (the Du Mai and Ren Mai) are two of a special group known as the 'Eight Extraordinary Vessels'. Other than the Du and Ren Mai these vessels do not have their own points but 'borrow' acupuncture points from the 12 regular channels. The Eight Extraordinary Vessels have their own special characteristics such as correcting structural problems and imbalances, the regulation of growth cycles and, of most relevance to this study, a unique ability to function as energetic reservoirs and to transport a special kind of Qi known as Jing around the body.

Reservoirs

Rather than acting as conduits or channels 'transporting' Qi around the body the Extraordinary vessels act more as *reservoirs* (hence the name of 'vessels' rather than 'channels'). While the twelve regular channels act as 'rivers' of energy to irrigate the organs and tissues with Qi and Blood, the Eight Extraordinary Vessels function as reservoirs, storing and feeding energy into the twelve organ channels as required, or taking up the overflow when they get overloaded,

"When there are heavy rains, canals and ditches are full to the brim... similarly the Eight Extraordinary vessels are left out of the channel-system so that they can take the overflow from the main channels ".

(Classic of Difficulties, Chapter 27)

Circulation of Jing

The Extraordinary vessels also circulate a kind of energy, or Essence, known as Jing around the body. Jing is a deeper level essence that is related to our constitutional en-

³ The 12 regular channels correspond to, and are named after the 12 Yin and Yang organs of the body thus: Yin Organs = Lung, Heart, Pericardium, Liver, Kidney and Spleen. Yang Organs = Large Intestine, Small Intestine, San Jiao, Gall Bladder, Bladder, Stomach. For more details see Maciocia (Maciocia, 1989).

ergy. Jing is associated more with slow developmental change and growth in the body from the beginnings of life in the womb and, ultimately, to death. The source of pre-natal Jing is the primal creative force of the universe and at birth this essence is stored in the kidneys.

Clinical experience

During my clinical work as an acupuncturist I often use Kirlian Photography to take photographs of patients' fingertips both before and after treatment. These photographs almost always invariably show an increase in both brightness and coronal integrity following acupuncture treatment (see Figure 1). Gaps in coronas more often than not reduce significantly in size or disappear altogether.

Over time, there appeared to be a consistent correlation between the location of the gaps and the presenting pathology of the patient. Patients who came with disorders that related to organs sited in the front of the body (thoracic and abdominal regions) tended to show gaps in the medial side of their corona. Similarly, patients with primarily musculoskeletal problems, specifically in the back, displayed gaps in the lateral side of their index finger tip coronas.

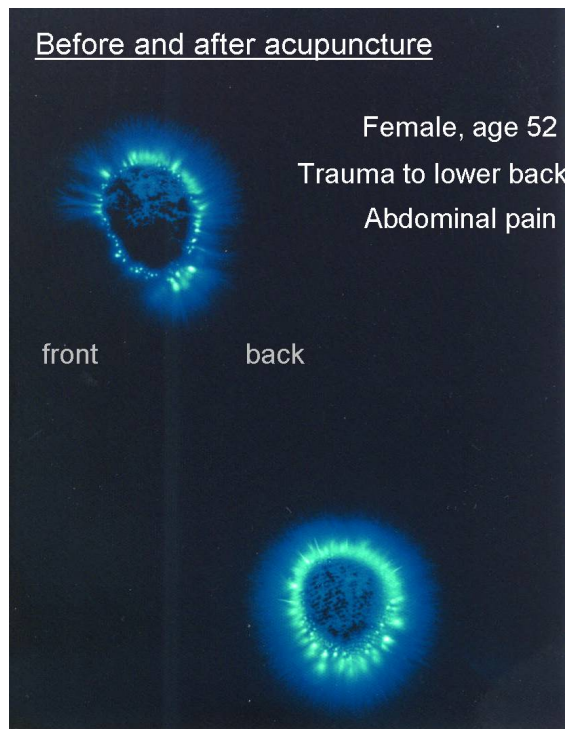


Figure 1: Right index finger taken with Kirlian Instant Camera form Mankind Research.

More work was necessary, therefore, to determine what mechanism was at work that enables such a correlation to be made. How is it that an image of the whole body can be mapped onto the corona at the fingertip? The study proposed that it is the holographic⁴ nature of Qi that allows such a mapping. Qi (specifically in the Ren and Du Mai) is the connecting medium that allows the fingertip coronas to be used as diagnostic images reflecting the presence of imbalance and disease. No other direct connecting medium (acupuncture channels, nerves, blood vessels, sinews, fascia etc) between 'source' and 'target' areas can be identified. There is nothing physical, neurological or biochemical that appears to connect, for example, the back and the lateral side of the index finger tip corona.

Qi, the hologram

Pathology in a particular area of the body, for example, the back, can only be reflected in distortions or gaps in the finger tip corona because Qi at that location contains the sum total of all the information contained in the Qi of the body as a whole. It is natural to assume, therefore, that information about all imbalance and disease throughout the body may be accessed in the corona produced by the Qi of the fingertip. In fact,

⁴ Holography is the study of three-dimensional images created using coherent (laser) light waves that create an 'interference' pattern. The image created is called a 'hologram'. Each portion of a hologram (down to a lower limit) contains within it an image of the whole hologram

because Qi is everywhere in the body, according to the principle of holography (the Qi at any point in the body contains the information of the whole body), any part of the body may therefore be used to determine the health (or lack) of any other part of the body.

Our ability to use this principle in diagnosis and treatment of disease is limited only by the structure, size and accessibility of such ‘target zones’. The relatively recent development of *Micro Systems Acupuncture* which uses specific areas of the body to both diagnose and treat pathology elsewhere in the body is based on the principle of holography, one of the most well known is auricular acupuncture.

Other systems include nose, face, scapula, hand and head acupuncture even the underside of the tongue. One seemingly popular system is Dr. Zhang’s ECIWO Biology (Embryo Containing the Information of the Whole Organism) which mainly uses the first metacarpal bone (but can also use other long bones in the body) for both diagnosis and treatment of disease. While it would be difficult (and very painful!) to use the fingertip region for acupuncture treatment, nevertheless, the fingertip has proved a very effective and convenient region for in energy based diagnosis (see the work of Prof. Korotkov and colleagues).

Acupuncture systems based on the principle of holography that use specific, clearly defined sites on the body to diagnose and treat diseases elsewhere in the body have increased in popularity over the years. While evidence supports the fact that such treatments *do* work (for example, the ‘5 point protocol’ in auricular acupuncture for drug and alcohol withdrawal has proven very effective) there is little to explain *how* they actually work.

The purpose of the study, therefore, was to investigate the feasibility of mapping a holographic image of the whole body onto the corona. The hypothesis proposed that it is Qi which is being photographed at the fingertip by determining which acupuncture meridians (if any) may actually be holographically present at that location

Method

Subjects (n=10), five male and five female, were used in the study. A ‘crossover’ type procedure was used whereby each subject was used as their own ‘control’. For each subject the finger tip of the right index finger was divided into two halves (Sectors) with a vertical line by the Crown TV software. Both sides of the corona (lateral and medial Sectors) were then quantified individually and then compared in terms of their degree of fractality, i.e. how broken up and non-uniform they were. The lower the fractality figure (the lower the better) the more uniform and ‘whole’ would be the corona. The medial and lateral Sectors were considered to correspond to the Ren Mai and Du Mai respectively.

Procedure

1. GDV photograph taken of right index finger.
2. Corona mapped with two sectors corresponding to Ren (medial side) and Du Mai (lateral side).
3. Base line fractality scores were obtained and compared for both meridians.
 - The meridian with the *higher* fractality score was labelled ‘*Target*’, the one with *lower* fractality score was labelled ‘*Control*’.

4. Control meridian opened⁵
 - GDV photograph taken.
 - Target and Control meridian fractality scores obtained.
5. Target meridian opened.
 - GDV photograph taken.
 - Target and Control meridian fractality scores obtained.

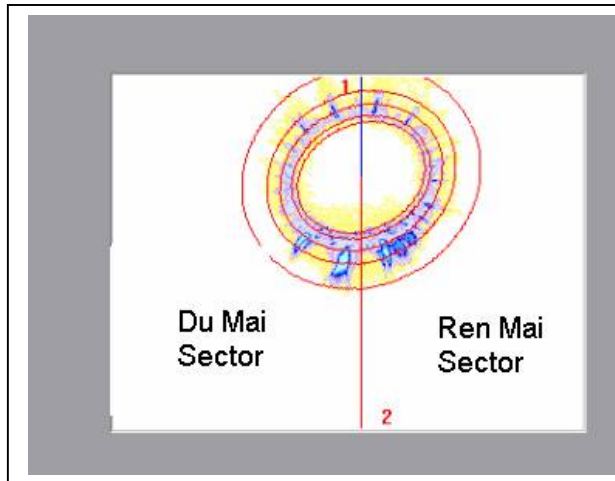


Figure 2: *Sector mapping using GDV software*

The side of the corona that was the most ‘complete’ (least fragmented) was labelled as the Control⁶. The side of the corona that showed the higher degree of fractality (most fragmented) was labelled as the ‘Target’ sector.

In terms of acupuncture, a highly fragmented corona, with inconsistencies in colour and intensity, reduced in size and possibly with gaps is likely to indicate a meridian that is out of balance or deficient in some way. Similarly, a meridian that is full and balanced will produce a corona with no gaps and will be comparatively uniform appearance, colour and intensity.

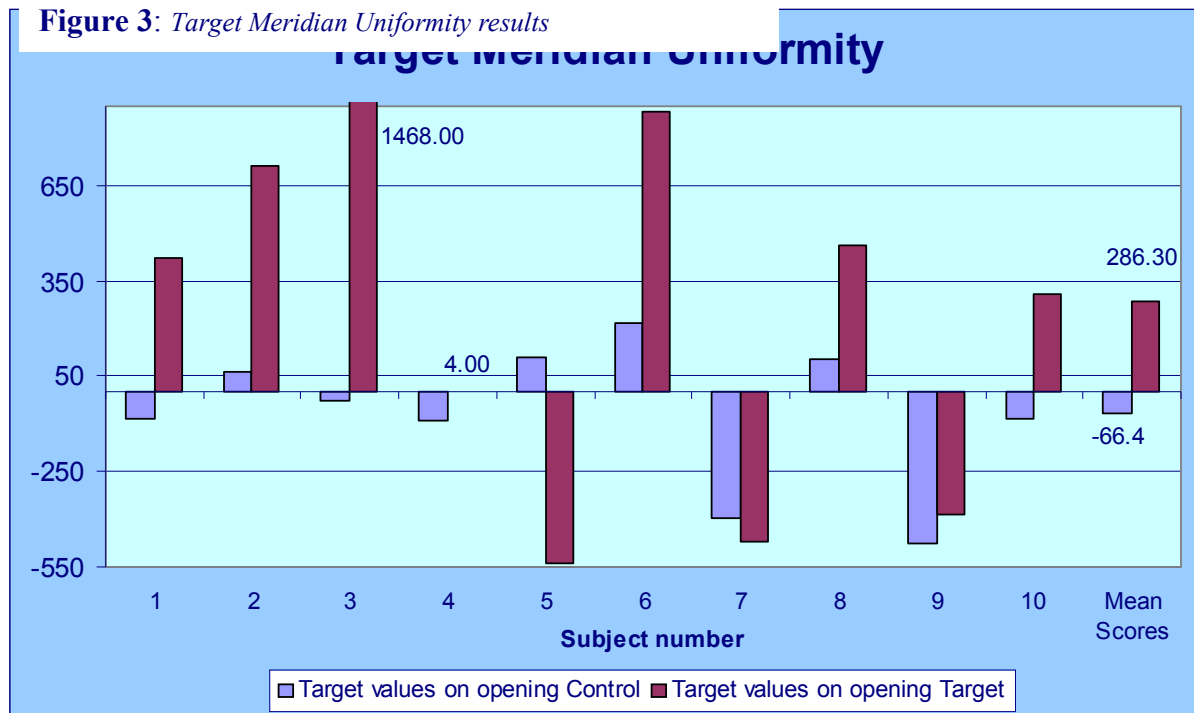
Results

⁵ An Extraordinary meridian is opened by inserting acupuncture needles into meridian specific Master (and, optionally) Couple points. The Du Mai opening points are SI-3 + BL-62 and the Ren Mai points are Lu-7 + Kid-6. These can be needled bilaterally but the more usual practice of needling the points unilaterally and according to the sex of the subject was followed in this study.

⁶ The Control meridian was not used in the strict scientific sense of the word. Normally no experimental procedure would be applied to the Control but in this case it was used in a comparative and secondary fashion to the Target meridian.

Activation of all Extraordinary Vessels is performed by the insertion of an acupuncture needle into the meridian's 'Master' and (optionally) 'Coupled' points. This then 'opens' the meridian.

Figure 3: Target Meridian Uniformity results



It was found that:

1. when the Target vessel was opened (ie. the weaker of the two meridians), its GDV image showed a clear *increase* in uniformity (decreased fractality) in 7 out of 10 subjects (70%). This was a mean *increase* in uniformity of 528.6% over all subjects.
2. when the Control meridian was opened⁷, 60% of Subjects showed a *negative* change in uniformity (increased fractality) in the Target meridian. This represented a mean *decrease* in uniformity of 6.36%.
3. following additional quantitative computer analysis, important additional coefficients such as 'brightness' and 'size' of the corona increased in both the Control and Target meridians on opening the Target meridian.

From analysis of the results of 1 and 2 above it was found that the energy (Qi) at the finger tip exhibited the following three types of response when the specific opening points of the Du and Ren Mai were used:

- differential response
- point-meridian specific response

⁷ The Control meridian was opened and Target scores were obtained in order to examine the effect on one meridian (the Target) of opening another (the Control). If there are two meridians present at the fingertip the Target (and Control) should respond differently depending on whether the Target or Control is opened.

- reservoir response

Differential Response

To identify the existence of two relatively separate meridians (one on either side of the fingertip) each has to respond in a unique way when opened.

If, as predicted by the experiment's hypothesis, it is possible to image the energy of an Extraordinary meridian at the finger tip then it should be possible to get a different response according to which side of the fingertip was actually activated based on its fractality scores. A generalised response (undifferentiated changes in uniformity) across both sides would therefore indicate an absence of more than one identifiable meridian.

In other words, if one meridian relating to one side is opened, the other side's fractality score should remain relatively unaffected. The experiment did in fact show opposite sides of the same corona, in the same subject, responded differently depending on whether the Control or Target meridian was opened.

The presence of two discrete and separately functioning energetic entities were indicated by this differential response,

Point-Meridian Specific Response

Activating opening points that are specific to a particular meridian should open that meridian only. Opening one meridian should have no (or a minimal) effect on any another. In the study it was found that both meridians did in fact respond differently to activation of their own specific opening points. For example, when the Target was opened, and this could have been *either* the Ren or Du Mai, most Subjects (70%) showed an increase in uniformity in that particular meridian. This 'return to balance' is how an Extraordinary meridian would be expected to respond to opening (a weaker, more imbalanced meridian should show a greater degree of change than one which is more balanced on opening). Both meridians responded directly to opening their own related points, but to differing degrees.

The meridian that showed the greatest degree of fragmentation, (most out of balance and least uniform) was selected as the Target meridian. And it was this meridian which showed the greatest improvement (from a baseline to a final figure). The following table shows the *amount of change* in each meridian when both its sister and itself were opened.

Table 1: *Degree of change in each meridian*

	Control opened	Target opened
Control Response	-18.38%	21.58%
Target Response	-6.36%	528.6%

From the results it is clear there was comparatively little change in any of the meridians when they were opened except the Target (which was the meridian which was most out of balance). Traditional Chinese medicine tells us that we can open the Du and Ren Mai individually with their own specific Master and Couple points. If these meridians are represented holographically in the energy at the fingertip then a different degree of change between the pair should be seen when one is opened dependent

on the meridian's original condition. The results given in the table above indicates this may be the case.

The difference in the degree of change when comparing the Target meridian's response when the Target was opened (528.6%) and the Control response when the Control was opened (-18.38%) may be explained simply by the fact that the meridian which requires most Qi gets it and the idea that an Extraordinary vessel "... *will only respond when there is a related imbalance...*" (Matsumoto & Birch, 1986). The Control meridian was relatively balanced and therefore required, comparatively speaking, less additional Qi, in fact it appeared to have some to spare, hence the resulting *reduction* in its own Qi.

Reservoir Response

As described earlier, an important function of the Eight Extraordinary Vessels is to act as 'reservoirs', taking excess energy away and feeding energy into the 12 regular channels when necessary. The results indicate that the meridians imaged at the fingertip were not only able to function in this way but were also acting as reservoirs of Qi in a mutually supportive fashion between *themselves*.

An unexpected but highly significant result was the apparent 'loss' of Qi in the Target when its sister meridian (the Control) was opened. The experiment was primarily interested in seeing whether it was possible to isolate the effect of opening a specific Target meridian. However when the results were analysed it was clear that not only did the Target values increase when it was opened (as was predicted) but that when its sister channel was opened the Target values actually *decreased*. This would therefore indicate that there is some kind of mutual energetic support occurring between these two meridians. When the stronger meridian (the Control) was opened its sister meridian (the Target) lost some of its Qi; when the Target itself was opened it gained a tremendous amount of Qi.

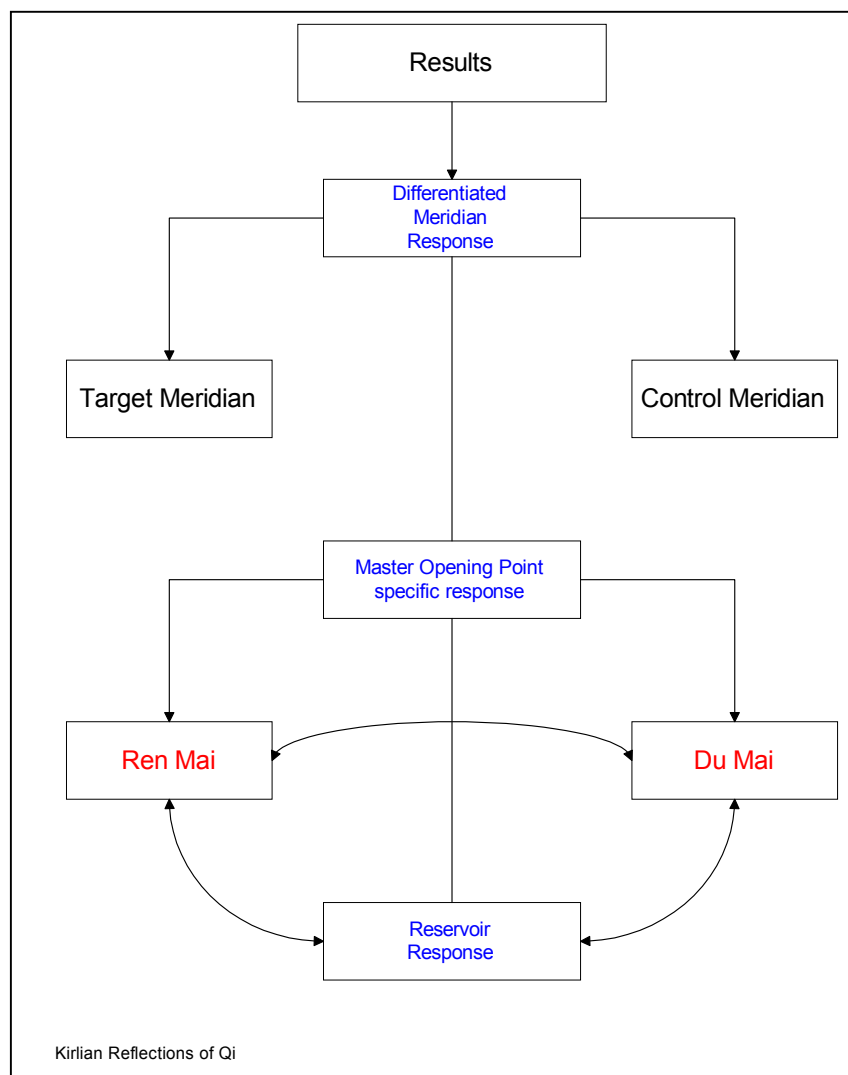
This result appears to indicate that not only will a meridian respond when there is energetic imbalance but that a meridian will also *match the level* of its response to the *degree* of that imbalance. The amount of support between meridians is clearly matched to need. The results showed that when the Target meridian was opened its degree of uniformity changed, on average, in a *positive* direction whereas when the Control meridian was opened the Target changed in a *negative* direction. In other words, when the Control was opened the Target meridian uniformity, decreased by some 6% suggesting the Target actually 'gave up' some of its Qi to the Control. The Control being relatively more in balance and complete required less Qi and therefore drew less on the Target. The Target being most out of balance and therefore requiring most Qi drew the most and accordingly increased its level by a factor in excess of 500%

Additionally, and as a comparison, the Control meridian showed only a 21.58% degree of positive change after opening the Target. Reasoning along the lines above, the Control had a lower Qi requirement (because it was more in balance than the Target) and the Target had comparatively less Qi available and so the Control experienced only a 21% increase compared to the weaker Target's improvement of over 500%. Furthermore, a much lower degree of response (if any at all) would be expected from the Control on activating the *Target* meridian's opening points.

Finally, *Result 3* above indicated that the ‘brightness’ and ‘size’ of the corona increased in both the Control and Target meridians after the Target meridian was opened. This was a largely expected result as from experience just about any healing ‘procedure’ (acupuncture, Reiki, massage, etc.) nearly always produces brighter and larger coronas.

To summarise the three types of response, therefore(see flow diagram below):

1. Results showed that we were able to identify the presence of two distinct energetic entities because of the difference in the fractality scores obtained for both sides of the fingertip...(differential response)
2. And that these energetic entities responded individually to the use of ‘opening points’ specific to the Ren Mai and the Du Mai ...(point-meridian specific response)
3. And results indicated that they functioned in an energetically mutually supportive way (ie. as reservoirs of Qi) which was a further indication that these energetic entities exhibited behaviour seen only in normal functioning of the Extraordinary vessels (*reservoir response*).



This study has demonstrated it is possible to image Qi and to observe how it changes, moves and adapts under the influence of acupuncture. The energy around the fingertip appears to function in same manner as does the Qi (Jing) of the Extraordinary vessels. Much more work needs to be done, however, in order to develop energetic coronal maps, particularly of the Zangfu, which are accurate enough for consistent and reliable diagnosis and, therefore, effective acupuncture treatment.

Research Implications

It is interesting that there are many regions of the body, perhaps an infinite number, that lend themselves to 'holographic whole body mapping'. How many are there? What are the minimum physical parameters and qualities of such regions? Which regions facilitate the most accurate diagnoses and which regions are most effective for treatment. Is it necessary diagnosis and treatment regions to be the same to be successful, if at all? Can regions be energetically defined and therefore accurately mapped out? Are some regions better at diagnosing (and treating) specific diseases than others or are all? Do some regions have an energetic bias towards some diseases and how much does the practitioner influence such energetic bias?

We see what we want to see and perceive only that which we are able.

This study has successfully mapped the two major Extraordinary Vessels the Du and Ren Mai onto the fingertip.... or has it? The work seems to have raised more questions than it has answered. Do these holographic structures pre-exist in their own right? Are they created by our own intent? Are they simply artefacts of the experimental procedure? Clearly, much more work is necessary even before we can *begin* to answer such questions.

In the world of energy it seems the closer we look the more we see.

Everything is available to us, it seems, as long as we know where and how to look.

*To see the World in a Grain of Sand
And a Heaven in a Wild Flower
Hold Infinity in the palm of your hand
And Eternity in an hour.*

(From: "Auguries of Innocence", William Blake.)

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