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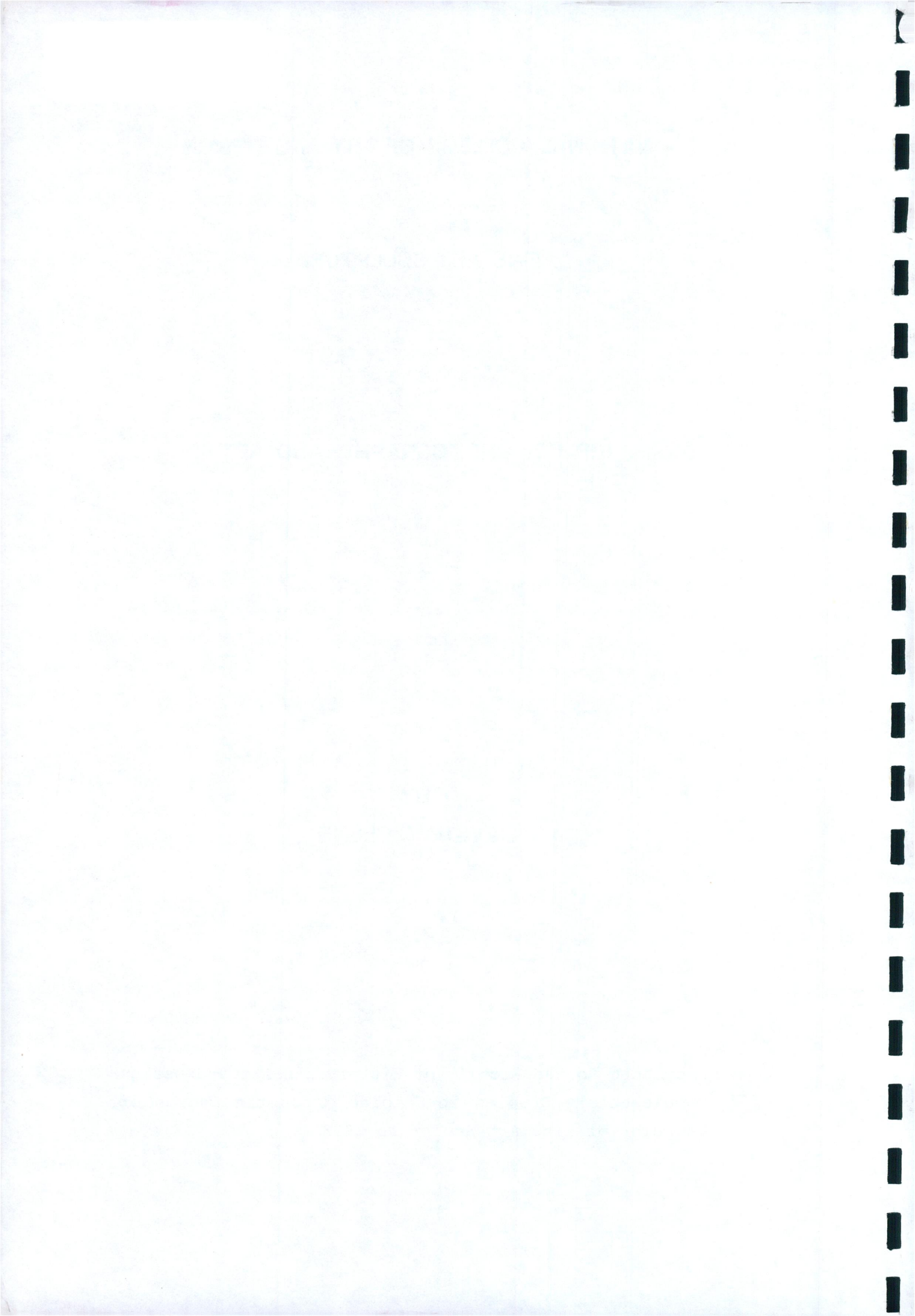
**FINE ART SCULPTURE**

**KIRLIAN PHOTOGRAPHY AND ART**

**BY**

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## INTRODUCTION

The discovery of Kirlian photography and the extensive research into it, enables one to relate it to ideas in art which put forward the existence of an energy that is hidden within both living and inanimate matter. The focus of this thesis is on artists who express in their work an awareness of this energy.

We will be looking at the work of two young American artists who have used Kirlian photography as a new medium for expression. We will be examining the photography of Man Ray, the "Dream Aura" and his solarization technique. Kandinsky expressed the idea that artists should open people's eyes and sharpen their senses so that they too could perceive "the living element in dead matter" (Kandinsky, 1982, p.481). Perhaps we can explain what this "living element" is through our exploration of Kirlian photography.

The two Japanese contemporary sculptors, Chuichi Fujii and Shigeo Toya, both have a remarkable understanding of matter. They see matter as energy and express this concept in their sculpture. All of these artists express, in some form, the idea of matter as energy. This thesis will compare their art to the products of Kirlian photography, the purpose being, to show that their understanding is compatible with the findings of Kirlian photography. We will also be exploring the potential of Kirlian photography as an art form itself.

**CHAPTER 1**

**KIRLIAN PHOTOGRAPHY**

**\* HISTORY**

**\* THE PROCESS**

"A spectacular panorama of colours, whole galaxies of lights, blue, gold, green, violet, all shining and twinkling !". An unseen world opened before my eyes whole luminescent labyrinths, flashing, twinkling, flaring. Some of the sparks were motionless, some wondered against a dark background. Over these fantastic galaxies of mystical lights there were bright multicoloured flares and dim clouds"..... "It's indescribable ! Electric flames light up, then flares or crowns of blue and orange. Great channels of blazing violet, fiery flashes..... some lights glitter constantly, others come and go like wandering stars. It's fantastic, alluring, a mysterious game - a fire world !".

These extraordinary accounts of an amazing new world of multicoloured lights, came from the Russian scientist, Semyon Davidovitch Kirlian, who in 1939 discovered a type of photography which captured on film, the corona or bio-radiation emanating from the human body and inanimate matter. Kirlian and his wife Valentina Kirlian, lived in a small wooden house in Krasnodor, the capital city of the Kuban region in the South of Russia near the Black Sea. Kirlian was called to repair some equipment at the research institute and while he was there, he witnessed a demonstration of a high-frequency instrument for electrotherapy. As the patient received treatment through the electrodes of the machine Kirlian suddenly noticed there was a tiny flash of light between the electrodes and the patients skin. He wondered what would happen if he put a photographic plate between the patients skin and the electrode.

Kirlian attached the metal electrode to his own hand and turned on the machine. He felt a stabbing pain in his hand under the metal electrode. He got a severe

burn. He quickly rushed the photo plate into the emulsion. As the picture developed in the darkroom he could make out a strange imprint on it, a kind of luminescence in the shape of the contours of his fingers. He was still suffering from the pain caused by the electric shock but he was excited at what he saw.

With his wife Valentina, a teacher and journalist, Kirlian invented an entirely new method of photography that comprises some fourteen patents.

Kirlian photography involves a specially constructed high frequency spark generator a oscillator that generates 75,000 to 200,000 electrical oscillations per second. This generator can be connected to various clamps, plates, optical instruments, microscopes or electron microscopes. Kirlian photographs are made in a dark room without using a camera or lens. It involves placing some unexposed film on top of the metal plate which is connected to the high frequency generator. When the power is turned on a high frequency electric field is created around the metal plate. When an object, for example a leaf is placed onto the film there is a discharge of electricity from the leaf to the metal plate. This discharge makes a small flash as sparks leap from the leaf to the plate. It is these sparks which expose the silver halide crystals in the film emulsion. After this the film is then developed in the normal way.

The first photographs taken by the Kirlian's were a "window on the unknown". A leaf torn from a tree, when placed in the field of high frequency current, revealed a world of myriad dots of energy. Emanating from around the edges of the leaf were turquoise and



reddish-yellow patterns of flares coming out from specific channels of the leaf. A human finger when photographed by using the Kirlian apparatus showed up according to Kirlian, "like a complex topographical map. There were lines, points, craters of light and flares" (Ostrander, 1970, p.203). All their photographs showed only static images so the Kirlians developed a special optical instrument so they could directly observe the phenomenon in motion. Under this new process Kirlian's hand looked like the Milky-Way in a starry sky. "Against a background of blue and gold, something was taking place in the hand that looked like a fireworks display" (p.203). "Some lights glowed steadily like Roman candles, others flashed out then dimmed".

The Kirlians examined every conceivable substance under their high frequency microscope - leather, metal, wood, leaves, paper, coins, rubber. The pattern in the corona or luminescence was different for every item. Living things had totally different structural details than non-living things. For example, a coin showed a steady, consistent glow all around the edges but a living leaf showed "millions of sparkling lights that glowed and glittered like jewels".

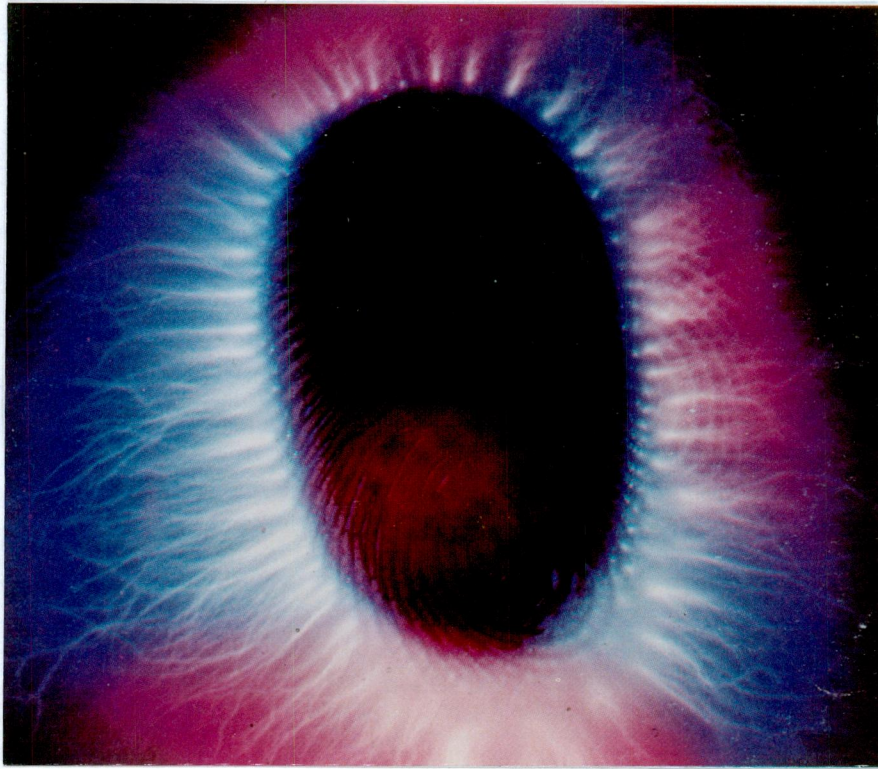
By 1949 the Kirlians had developed a whole array of instruments through which they could examine the effect of high-frequency currents on humans, plants and animals as well as an inanimate matter. They had perfected their technique and began showing their discovery to many scientific specialists, including biologists, physiologists, botanists and criminologists.

During that same year the Kirlians discovered to their complete amazement that the high frequency photograph

of a leaf had detected a serious plant disease in the energy field of the leaf before it had manifested in physical form. According to Kirlian they had "diagnosed illness in the plant ahead of time". From this they also discovered that "illness, emotion, states of mind, thoughts and fatigue make their distinctive imprint on the pattern of energy which seemed to circulate continuously through the human body" (Ostrander, 1970, pp.203/4).

The funding the Kirlians were receiving from the Soviet Government was stopped along with funds for other scientific research institutes. For the next thirteen years the fate of Kirlian's photographs was held in the balance. During these years the Kirlians continued the research themselves as best they could, perfecting new techniques for their discovery. Two volumes of information was written by both Semyon Kirlian and Valentina on all their experiments and findings. Scientists throughout Russia began to encourage the Government to continue funding to allow for more research in this area. Medical professors such as Dr. S.M. Pavlenko, Chairman of the Pathology-Physiology Department of the first Moscow Medical Institute, reported "Kirlian photography can be used for early diagnosis of disease". The Kirlians were praised by the Soviet Academician A.V. Topchiyeva of the Presidium of the Academy of Science of the USSR who reported publicly "further study is a must. High-frequency photography presents undoubted scientific interest" (Ostrander, 1970, p.204).

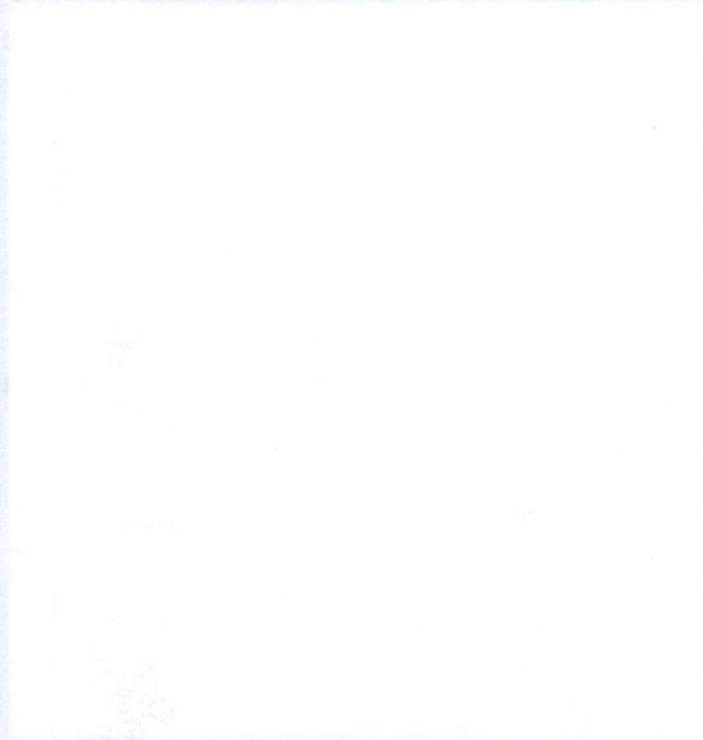
Almost every scientist, doctor and researcher who had seen Kirlian photography and the "bioluminescence", came away convinced that it would be useful in very area of science and technology from medicine,



Kirlian Photograph of a Finger Tip. The Invisible World 1981 Pansasanof.

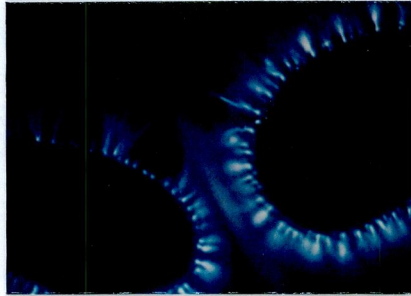


Kirlian Photograph of a Leaf. R. Gennaro, 1989.



dentistry, criminology, geology, agriculture, archaeology and forensic medicine. In the early 1960's Soviet journalists published a number of hard hitting exposes on the lack of funds for this incredible discovery. These articles received much attention and finally in the 1960's the Kirlians were given a pension, a new apartment and a specially equipped lab. In institutes, labs and universities all over Russia new research began into Kirlian photography. News of this discovery did not reach America until 1970 where it caught the interest of psychologists. In an experiment carried out by Thelma Moss, a clinical psychologist and author of "The Body Electric", two people were asked to think thoughts of dislike and to engage in an argument with the other person. Once they were well into an argument they each placed one finger onto the unexposed film situated within the high-frequency field. The result showed that a visible barrier of light appeared between their two fingers. A mental barrier became visible in the Kirlian photograph.

Today research goes on in America and North America, Europe and Russia. It is still relatively unknown. As a form of photography is provides a fascinating area to explore.



A Kirlian photograph of two people thinking thoughts of Dislike towards each other. A barrier appears between their two fingertips. T. Moss "The Body Electric" 1981.



**CHAPTER 2**

**KIRLIAN PHOTOGRAPHY**

**\* KIRLIAN PHOTOGRAPHY AND THE SPIRITUAL**

**\* KIRLIAN ARTISTS**

**STEPHANIE KRASNOW**

**LAUREL BURCH**



Kirlian photography is a scientific discovery which has enormous implications for our understanding of the spiritual nature of ourselves and the world around us. It is important that we understand what the word "spiritual" means in this context. The one thing common to all Kirlian photographs is a remarkable energy which appears to emanate from the object. This curious energy, surrounding living and inanimate matter, suggests a possible spiritual nature to all things. The only thing that cannot be photographed successfully with the Kirlian apparatus is dead tissue, such as a leaf which has turned brown and died. This implies that life energy or bio-energy that was present when the leaf was still alive, has now departed. This energy therefore, could be regarded as the "soul" of the leaf, the essence of matter. Amongst the many writings on the subject of the spiritual in matter, Linda Dalrymple Henderson has written about different mystical beliefs one of which is known as philosophical monism. This was a philosophical belief which suggested "the unity of all things both spiritual and material" (Henderson, 1986 p.222). The one binding factor is energy. The term, spiritual, according to Maurice Tuchman, is linked to the mystical aspect of ourselves and the universe. He says that "the universe is a single living substance, mind and matter are one; all things evolve in dialectical opposition" (Tuchman, 1986, p. Thus the universe comprises of paired opposites (male - female, light - dark, vertical - horizontal, positive and negative). This statement implies that "mind" which could also be interpreted as spirit, is equivalent or the same as matter.

In early 20th century writings on the spiritual, theorists such as Edward Carpenter, Rudolf Steiner, Ouspensky and Bragdon used the concept of a higher fourth dimension as an ideal too to explain the

blending of spirit and matter. For the theosophists, Blavatsky and Steiner, the experiments in 19th Century science especially atom theory, supported the "dematerialization of matter" (Henderson, 1986, p.223). They also interpreted spirit as "finer matter" and matter as "condensed spirit". In mathematics the fourth dimension has at least four different meanings. In 19th Century geometry the fourth dimension was simply a higher dimension of space. Albert Einstein's theory of relativity (1916) established the view of time as being the fourth dimension. The third interpretation is regarded by Linda Dalrymple Henderson as "Hyper Space Philosophy" which presents the fourth dimension as the true reality that can be achieved by means of higher consciousness. Could this true reality she mentions, be one in which it would be possible to perceive the energy counterpart of matter as seen in Kirlian photography? Would that include the ability to see clairvoyantly? "Parallel Action" is what is known in theosophical belief as the "ethereal counterpart of material objects" (Henderson, 1986, p.223) which constitute the hidden side of things. This hidden side includes the energy which we can see in Kirlian photography.

Energy is at the centre of many spiritual beliefs both ancient and modern. Henderson has explored how this concept related to different mystical philosophies. The idea of an energy or spirit which underlies all things is expressed in the philosophy of plato as "the soul of the world".

For pythagoreans it is the deity in the shape of "Aether" which pervades all things and has been described as a form of vaporous gas. Henderson's findings are very encouraging for Kirlian photography

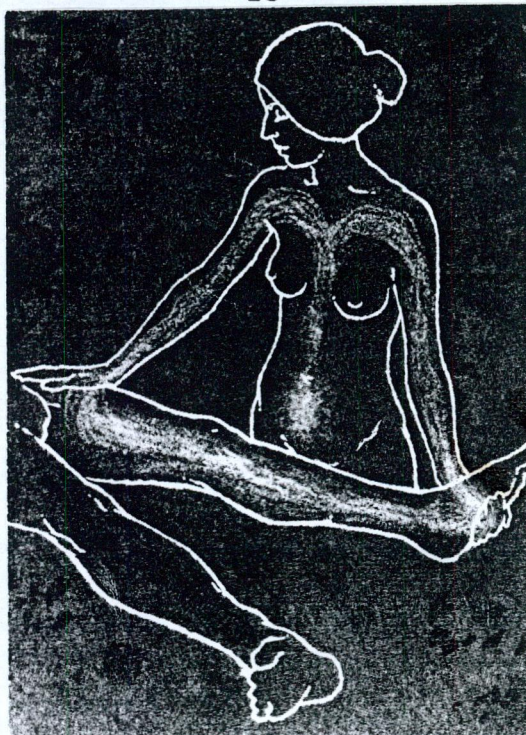
researches like Thelma Moss (author of *The Body Electric*) because almost every philosophic belief and religion has a name for this energy. Isaac Newton for instance, called it the "Devine Sensorium" or the "Great Universal, Magnetic Agent".

Experiments in Kirlian photography indicate that the emanations coming from objects have certain magnetic qualities. In the same way the earth's gravity involves specific lines of force, the human body is revealed to have lines of force on which this energy flows. The Japanese language has a word for this energy, they call it "Ki", pronounced "Key" which means life force or spiritual energy and the Chinese call it "Chi" which means life energy. Many people in China and in the west too practice a martial art called "Tai-Chi" which is said to increase the body's natural energy level, physically, mentally and spiritually, creating a feeling of calm and harmony within the person.

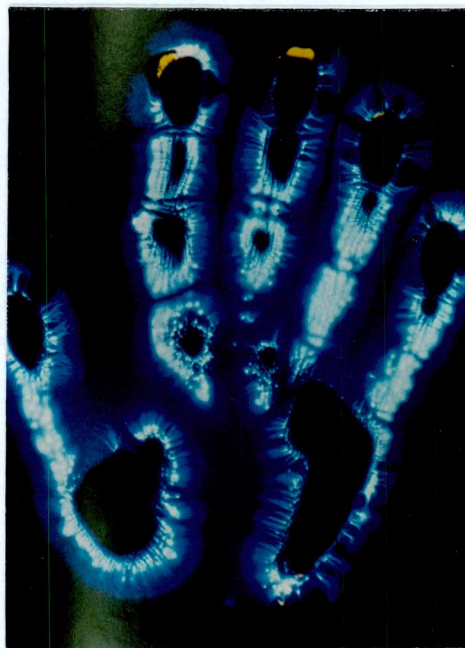
Mikol Davis, a researcher into Kirlian photography, explores in his book *"Rainbows of Life"* how Kirlian photography reveals emotional states through the shape and colour of the Kirlian corona or "aura". He discovered that other scientists prior to the 19th Century also talked about an energy specific to living matter. In the 18th Century, Luigi Galvani an Italian physician, used the term "Life Force" to refer to animal electricity because it showed properties different from those of ordinary electricity such as properties of contraction and expansion. He suggested that this life force circulated within the system of an organism and maintained "a complex relationship to atmospheric electricity" (Davis, 1980, p.27). Karl Von Reichenbach a German industrialist chemist, and the

inventor of creosote, spent over thirty years investigating a "universal energy" which he also called "Od" or "odic force". Reichenbach's research began after he discovered that a "strong magnet, able to lift ten pounds, when passed along a person's body often produced unusual sensations, including a feeling of cold air or of pulling or drawing" (Davis, 1980, p.27). Also in the 18th Century a Flemish physician, Tan Baptista Von Helmont, envisioned a "universal fluid" or force, that provided all nature and that could not be separately measured or weighed. It is interesting to note how the Mystical philosophies relate to these scientific interpretations of this energy. The spiritual and the scientific are joined together in the study of Kirlian photography.

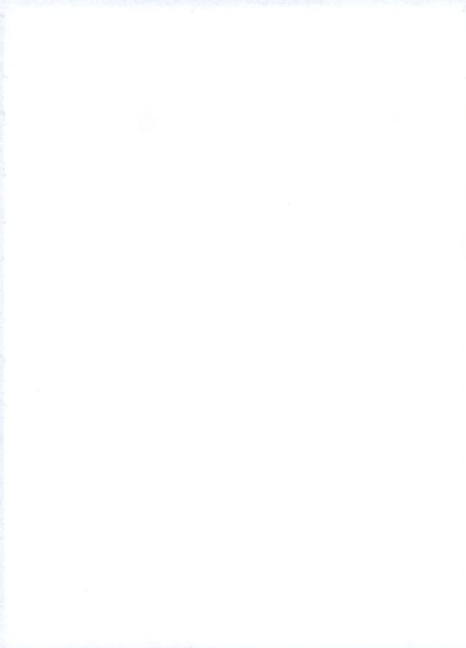
We have briefly discussed energy in relation to certain spiritual belief systems and philosophies. This energy flows within the body as well as being part of the outer radiations of a living organism. According to Kirlian photography, some people, during periods of relaxation or mental concentration have increased the size of the energy radiations around their hands. The result of this relaxation or concentration is an increase in energy flow which can be channelled into healing. Increasing the energy flow in the body through relaxation is also the basis of eastern yoga. The idea of healing is based on the ability of a person to pass on or "flow" this energy into another person, who is consequently healed of the complaint. Conversely, the absence of this energy around certain parts of the hands as shown by Kirlian photography, indicates that a person is unwell or is suffering from some form of disease. The presence of a strong bright corona around the hands is an indication, according to Pierluigi Marsigli, a researcher of



Just as a martial arts master may use his own ki flow to guide that of his opponent, so the conscious direction of ki can be used to heal by stimulating or calming the energy in another's body. Here a practitioner is encouraging a flow of healing energy through the man's leg.



Kirlian Photograph of a hand showing good health. R. Gennaro "Kirlian Photography" 1989.



Kirlian photography, of a person's state of good health. Furthermore, a person who is in a state of good health is able to "encourage" that particular state in another person. This would according to Marsigli, also be considered "healing". Stanley Krippner, author of "Psychoenergetic Systems", examined the experiments carried out by Semyon and Valentina Kirlian, on the subject of "bio-radiant energy". Bio-radiant energy is the name given to that energy which brought about healing, but which was only seen in Kirlian photographs. John Curtis Gowan's assertion, in an essay called "Equivalences in Creativity and Healing" that it is "increasingly certain that creativity and healing are parts of the same picture" (Krippner, 1979, p.123). It would seem that this energy, as a spiritual phenomenon, is a source for healing and a source of inspiration. Theosophists in the 19th Century such as Blavatsky, interpreted the "Spiritual" as an "Ether" or immaterial substance which underlies all life, all matter. It is suggested that energy is a form of intelligence or a source of inspiration for the creative artist, it would follow that an awareness of such energy by an individual would indicate a consciousness of the spiritual. Interpretations of the spiritual are very wide ranging but there are connections between many of these philosophies and the major one is the idea of an energy which is also termed "Spirit". This understanding will perhaps help us in the exploration of art and Kirlian photography.

## KIRLIAN ARTISTS

Stephanie Krasnow and Laural Burch are two young American artists who have used Kirlian photography as a source of inspiration for their work. It is important to point out here that they are both new to the art world and as a result information about their work is not yet available. However, through extensive research some data and illustrations have been found. The sole purpose of presenting these two artists is to establish a definite, concrete link with Kirlian photography and art.

Stephanie Krasnow, through contact with a Kirlian apparatus owned Mikol Davis, has used Kirlian images as a source of inspiration for her drawings and paintings. The specific work which provides this connection with Kirlian photography is called "Rainbows of Life". It is also the title for a book on Kirlian photography by Mikol Davis and the image itself was used for the cover of the book, published in 1980. Krasnow explores in this painting, the hidden aspect, or spiritual nature of human beings. She uses colours which are specific to Kirlian images, deep violets, blues and yellows. The image itself is of the profiles of a man and a woman, each facing in opposite directions but both part of the same head. They are one united, single being. Around the outline of their faces emanates a bright corona or electrical field which is identical to those found in Kirlian photography. In the centre of this image is a butterfly, symbolic of the transformation of the human psyche. A symbol of the "Self" which Carl Jung has termed the "Archetypal Self"; the self hidden within each of us. Jung refers to the "Self" as being "identical in men and woman" and that it "constitutes a common psychic substrate of a suprapersonal nature which is present in every one of us" (Jung, 1959 p. ).



It is interesting how Krasnow uses the circle to shape the painting and as a symbol of this human psyche. Jung says the circle expresses the totality of the psyche in all its aspects which includes the relationship between the individual and the whole of nature (Jung, 1979, p.240). The symbol of the self, the butterfly, and the double image of the man and woman's face, can be interpreted as references to the human psyche, which is a combination, a balance of male / masculine, and female / feminine aspects or characteristics. This painting expresses the unity of the world as a whole. It sees the inter-connectedness of man, nature and the cosmos. Hidden in the interlacing of forms lie other images of leaves, organic references to life, indeed there is a small leaf situated directly in the centre of each of their foreheads. Krasnow, would be aware, perhaps through Kirlian photography, of the different points on the human body where there is a concentration of electrical type energy. The forehead is one such centre which has been identified by Kirlian photography. In medical terms, it corresponds with a particular gland called the pituitary gland. Energy, runs or flows along specific lines in the body, a bit like the electrical wiring in a house. Krasnow illustrates this energy by drawing emanations of light both on faces and leaves. The use of this image on the cover of a book on Kirlian photography, is an overt indication of the closeness of Krasnow's work to the Kirlian process.

Laural Burch is another young American artist who has used Kirlian photography as a new medium for expression. Unlike Krasnow, Burch has actually used the Kirlian apparatus herself to make images. Any object or material can be photographed by the Kirlian apparatus, Burch chose to use jewellery which she

designed and made herself. The first photograph she made is an untitled Kirlian photograph of a silver butterfly pendant. The Kirlian image shows up more than just its intricate detail, it also provides us with an image created by the emanations of light; a light image. Again, the butterfly symbol is used which refers to the "Self". Both artists have used it to express a spiritual idea, the awakening of the soul and the blossoming of spiritual consciousness. Another interesting aspect of this image is not the pendant itself but, the hidden aspect of the pendant which the Kirlian photograph reveals. The hidden energy emanating from the pendant encourages us to see the pendant differently from how we would see it in its normal state. It shows an image of a butterfly created by energy emanations from the physical object. Like Krasnow, Burch's work appears in Mikol Davis's book "Rainbows of Life".

The image of the pendant can be read on two levels. Firstly there is the aesthetic qualities of the work and secondly, we are drawn into questioning the emanations of light. Mikol Davis expresses that the emanations are both a scientific and a spiritual phenomenon. The fact that both Burch and Krasnow appear in his book indicates to us that they may be of the same opinion as Davis (Davis, 1980, p.7).

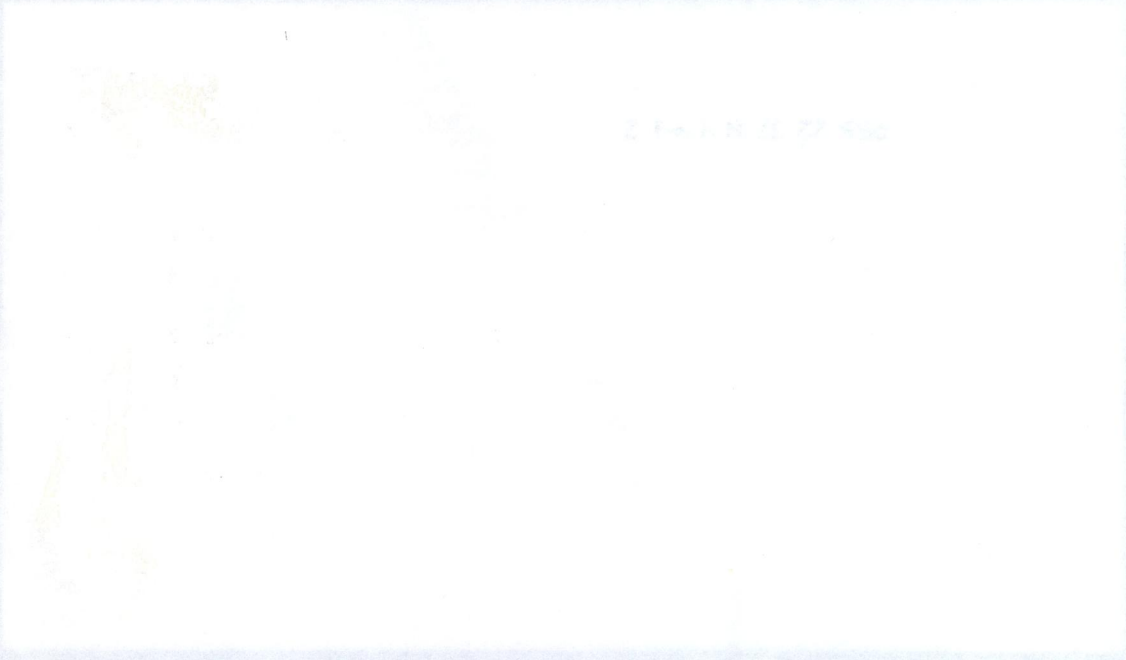
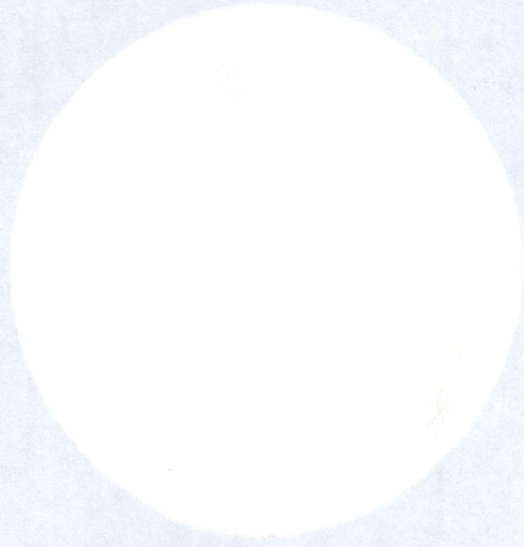
In a further untitled Kirlian photograph of a silver earring there is a circle with a night scene on it. There is a crescent moon with a face and surrounding this moon, there are numerous bright stars. Again, it is a simple design which has been transformed through the process of Kirlian photography. The colours of the earring in its normal state are metallic silver with various coloured gemstones as the stars. The Kirlian process has transformed these colours into blues and



Stephanie Krasnow - "Rainbows of Life" 1990 from the book Rainbows of Life by Mikol Davis.



Kirlian Photograph  
Laural Burch - "Silver Butterfly Pendant" from the book Rainbows of Life by Mikol Davis.

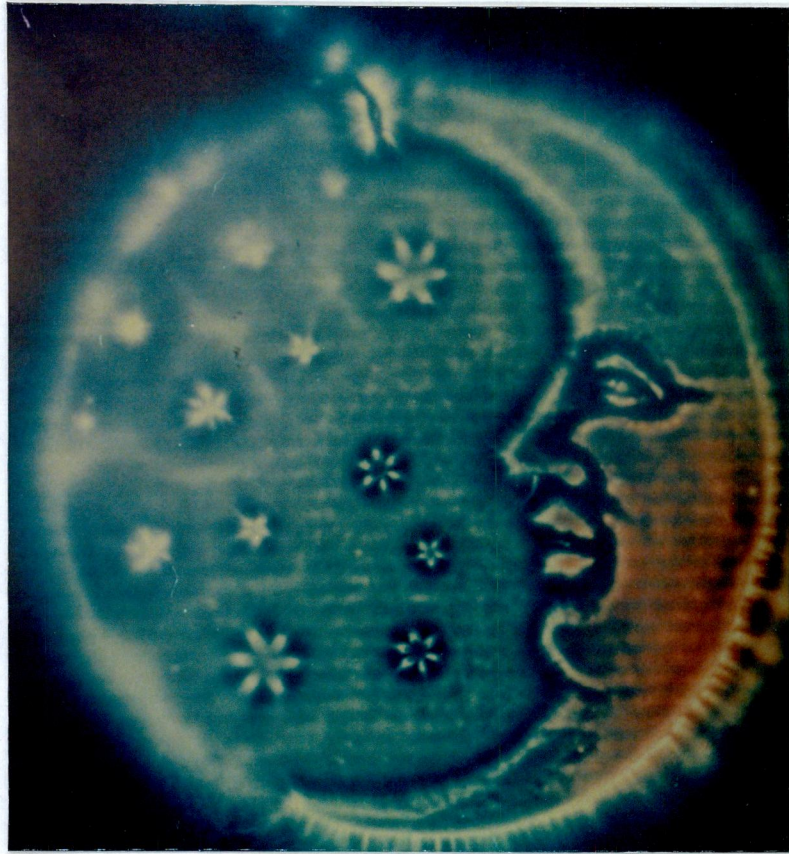


violets. It also appears to change the object from inanimate to animate : the image is now pulsating with life and energy which would be impossible to see under normal circumstances.

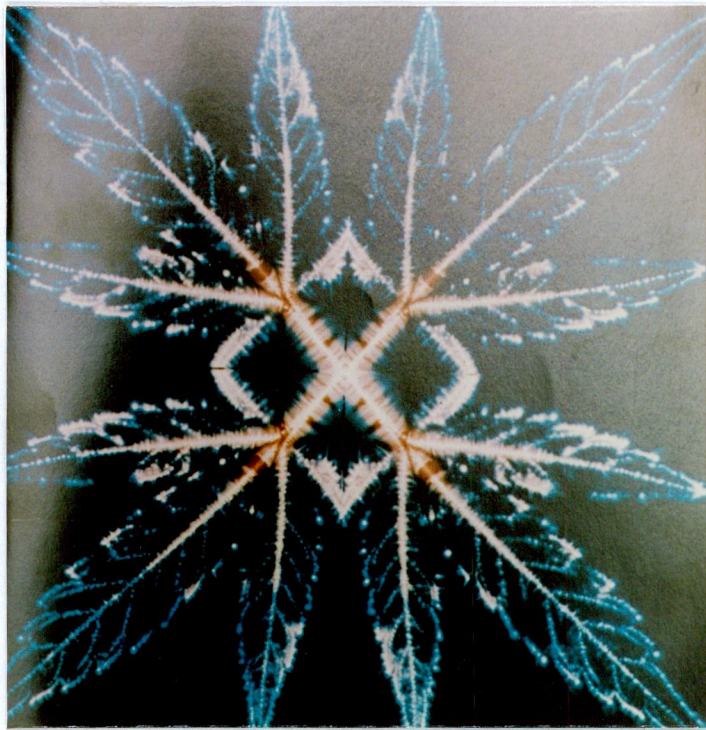
The third and final photograph by Burch is called "Leaf Mandala". She has placed four leaves together with the stems at right angles to each other. The sanskrit word "Mandala" means "circle". In psychology it denotes circular images which are drawn, painted, modelled or danced. According to Jung they are a psychological phenomenon and appear spontaneously in dreams and certain states of mind (Jung, 1979, Back Cover). He explains how they frequently contain a "quaternity or multiple of four". He believed they had a considerable significance as symbols. From mandalas, Jung acquired the concept of the "self", as mentioned earlier, and he also says that they correspond to the microcosmic nature of the psyche (Jung, 1979, Prefact).

While Burch and Krasnow are first and foremost artists who have used Kirlian photography, many scientists and researchers regard Kirlian photography as an art form in itself. It does not have to be used by an artist for it to become an art. According to U-Fan Lee, the founder of mono-ha philosophy of art in Japan, "the highest level of expression is not to create something from nothing, but rather to nudge forward something which already exists so that the world shows up more vividly" (Kaplos, 1991, p.42). A Kirlian photograph of a living leaf suggests artistic possibilities without creative intervention. What exactly does this mean ? It means that Kirlian photographs on their own, are expressions of an inner beauty, an unseen world of colour and life. It is capable of changing the way we

see the world around us and in this respect, has as much artistic validity as any major art of the twentieth century.



Kirlian Photograph of a Silver Earring made by Laural Burch 1989.



Kirlian Photograph "Leaf Mandala" Laural Burch 1989.





**CHAPTER 3**

**MAN RAY'S "DREAM AURA"**

- \* THE PHOTOGRAM**
- \* SOLARIZATION**
- \* PHOTOTUBE EXPERIMENT**
- \* PSYCHOLOGICAL PORTRAIT**
- \* WALTER J. KILNER**

Man Ray, (1920 - 76) American photographer, painter, designer, sculptor and film maker, provides us with an interesting link between art and Kirlian photography. Man Ray was inspired by "artistic free thinking" of Dada and the sublime of surrealism. More dedicated to the creative idea than to a particular style or medium. Man Ray was associated with dada and surrealist groups, but never became an active member of either. It was Man Ray's experimental nature which brought about new and exciting photographic techniques. From these techniques came unusual images of a poetic-aesthetic nature. It is in his photographs that Man Ray first used a reference to the human energy field. He is one of the first artists to explore its potential as a visual phenomenon in art. Man Ray has produced images which are very similar to those produced by Kirlian photography. Arturo Schwarz, author of the book "Man Ray" (1977) said that he (Man Ray) poetically discovered the "dream aura" almost a decade before the discovery of Kirlian photography by Semyon Davidovitch Kirlian (Schwarcz 1972, p.282). It is through Kirlian photography that we can now explore this "dream aura", this human energy field.

Man Ray experimented with photographic techniques such as the photogram and solarization. Solarization was a technique which did not involve the use of a camera either, but did require a picture which had been previously taken and then the solarization effect was applied to the partly exposed print.

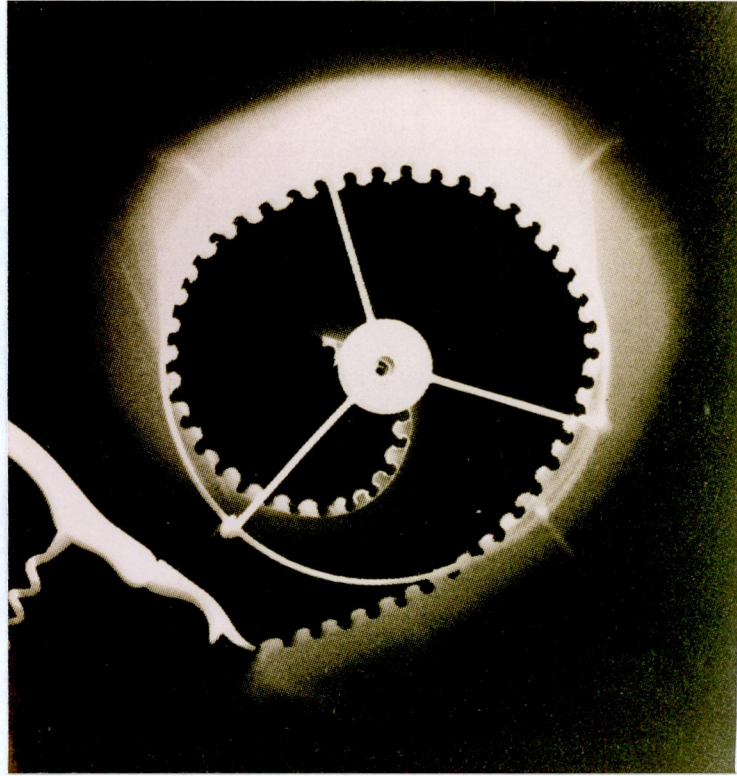
Photograms were made in a darkroom by placing ordinary, everyday objects, such as kitchen utensils, onto the unexposed film as in Kirlian photography. Then, once the objects were placed, the light was turned on. Now, Man Ray instead of using just one light source coming from one angle, experimented and used numerous light

sources coming from different angles. He also moved the objects during the process. These photograms were first undertaken by Man Ray. They are similar to Kirlian photographs in the process that is used to make them and in the way some of the objects seem to radiate or glow. This sensational technique later became known as the "Rayograph". Of course Man Ray did not discover this technique himself, but he was the first to creatively explore its possibilities as a medium for expression. Normally, photograms were static silhouettes, but Man Ray employed or created movement within the images by moving the light source during exposure. Maholy Nagy spoke of Man Ray's photograms as revealing a "new hidden world arising out of night scenes. Settings in contrast, glowing with sublime magnificence, a play of radiating light sources enveloping the objects with an aura" (Baldwin, 1988, p.232). Maholy Nagy was greatly influenced by Man Ray's photography and it is clear from what he has said here that photograms were some of the first photographs to show a radiating energy or "aura" around objects.

The 1920's was a time when the race to be first with new discoveries both artistic and scientific, reached manic proportions. Man Ray was certainly ahead of many in that respect. The most important discovery which suggests a parallel between Kirlian photography and Man Ray was the solarization effect. Man Ray happened to come across this as a result of an accident in the darkroom. His assistant Lee Miller was working in the darkroom when something crawled across her foot. She screamed with fright and quickly turned on the light, accidentally exposing the prints developing in the solution. This caused the prints to become overdeveloped (darkened) in certain areas. This accident left the image with a darkened outline usually

located around the person or subject in the photograph. Man Ray experimented and perfected this solarization technique using it mostly in his portraits for which he was well known. In many of his photographic works between 1920 and 1930, solarization was used. To take one example which closely resembles Kirlian photographs, simply called "fingers", it shows a negative photograph of the fingers of a woman as being black instead of white. The most interesting aspect of this photograph is the unusual light which envelopes and emanates from the fingers. Is this the Kirlian "aura" ? It seems that Man Ray's interest in the sublime focused his attention on the unusual and the unseen in art.

What exactly do we mean here by Man Ray's interest in the sublime ? One of Man Ray's close life long friends was the artist, Marcel Duchamp. According to Nadia Coucha, Duchamp was a modern alchemist. This meant that he was well read in the area of esoteric thought which involved the magical process of transforming matter and a belief in the concept of the fourth dimension. While on a visit to Munich in 1912, Duchamp bought a copy of Kandinsky's book "Concerning the Spiritual in Art". From this he may have been inspired by the concept that art can have a purpose and the ability to convey an "unseen dimension". The portrait of Doctor Dumouchel is a demonstration of Duchamp's preoccupation with mysticism, alchemy and the human energy field at this time. Dr. Dumouchel was an assistant to the pioneer of radiology in France; Dr. Ferdinand Tribout. The portrait itself is characterized by large, thickly painted masses of iridescent colours on the figure and by swirling purple clouds in the background. Dumouchel is encircled by a bizarre greenish-purplish irradiation. His extended left hand seems to blaze with fiery vibrations. It is



Photogram - Man Ray 1927 from "Peperetual Motif".



quite possible that Man Ray was influenced by Duchamp's painting with its unusual "irradiation". Duchamp himself referred to Dumouchel's "aura" in an inscription on the back of the canvas : "a propos de la / "figure" / Mon Cher Dumouchel / Bier Cordialement / Duchamp". According to John F. Moffit author of "Duchamp alchemist and the avante garde", the word "figure" was carefully set off in quotation marks suggesting "qualities inherent in the personality of the sitter" (Ringbom, 1986, p.258). This is very similar to what Man Ray was expressing in his solarization photography. Therefore, Man Ray's interest in the "unseen dimension" of the "sublime", could have been as a result of contact with Duchamp who had experience and knowledge of these ideas.

In a scientific experiment Richard Dobrin, a member of the energy research group of the Institute of Bio-Energetics Analysis of California in 1989, tried to detect this energy field. The aim of the experiment was to see if he could measure the light emitted by people. To do this he used a phototube, a light sensitive machine. The phototube measured the smallest amount of light in the atmosphere surrounding an object or person. This light was converted into electrical current which was then measured. The person was placed in a darkened room standing on front of the phototube. All other explanations for the light emitted by the person were ruled out (such as thermal heat, static electricity, or the luminescent dyes in clothes). The experiment was documented and the results published in Stanley Krippner's book "Psychoenergetic systems" (1979, p.229). Initially, only a small number of people emitted light to a level that could be measured by the phototube. Those who did emit light had been previously been asked to voluntarily increase their field of energy by mental concentration and deep



Solarization - Man Ray "Fingers" 1935







Man Ray and Marcel Duchamp - Home of David Savage,  
Princeton, New York 1963



breathing. This means that first, humans do emit light or radiation to a level that can be scientifically verified and secondly, that certain subjects could actually increase the amount of light they emitted by focusing or mental concentration.

If we examine the portrait of Max Ernst by Man Ray we can see that it produces a similar effect. Ernst appears to radiate an energy in the form of light from his body, and in particular from his hands. It could be said that many artists display prophetic qualities providing us with a vision of the world which is often a vision of what is to come. It could be argued that Man Ray's photography, especially where he used photograms and solarization, provide us with a glimpse of what is now called Kirlian photography. Solarization provided interesting photographic images linked to the psychology of the person. The personality, which is often unexpressed in normal portrait photography has now began to appear in Man Ray's portraits by the introduction of the "aura". Although he does not incorporate colour into his photography which is the key to decoding this aura revealing the sitter's personality. However, he does imply the existence of this new dimension of his subject. The solarization technique used on a portrait creates a shadow area or a luminous cloud surrounding the sitter. Even the shadow surrounding the faces in the portraits indicate aspects of the persona. For Carl Jung, the shadow represents the "inferior part of the personality" (Baldwin, 1988, p.235). James Frazer, the psychologist, in studying primitive peoples said that they believed the shadow of a person to be a "reflection of the soul" (Baldwin, 1988, p.235). These ideas lie behind Man Ray's photography and especially his solarization portraits.

Dr. Walter J. Kilner had responsibility for the Electrotherapy Department at St. Tomas's Hospital in London in 1908. He discovered a technique to see the energy field surrounding living things. Under normal circumstances this energy field is not visible to the naked eye but Kilner discovered that if he used special screens to look through, at the patient, the field became visible. The glass screens were treated with a dicyanin dye a by product of coal tar. According to Kilner, a person's psychological and physical state could be read in this energy field (Birren, 1978, p.75) in his book "the Human Atmosphere", Kilner describes in great detail, the human energy field, explaining how it is composed of three different layers and that different parts of the body emitted different colours. Although, Kilner was not particularly interested in the chromatic aspects, he believed a person's state of health could be read by looking at the shape of the field. Kilner's work was published around the same time as Man Ray was making solarizations. It is possible that Man Ray like Kilner used the shape of his "dream aura" as a source of information about the sitter. The shape of the corona or aura is also used as a source of information in Kirlian photography. For example, if we look at the Kirlian photograph of the foot of a man we can see a strong bright corona which is an indication of a good state of health but, we can also see that there is a gap in the corona at the bit toe. This, according to Thelma Moss the psychologist is an indication that the man has a headache. In Man Ray's portrait of Max Ernst there is a concentration of luminous energy around the hands which indicates to us that they are important in relation to Ernst himself. They are emphasised by the light around them which is at its strongest in relation to the rest of his upper body. Our attention is drawn to this part of the photograph. In this way Man Ray is using his

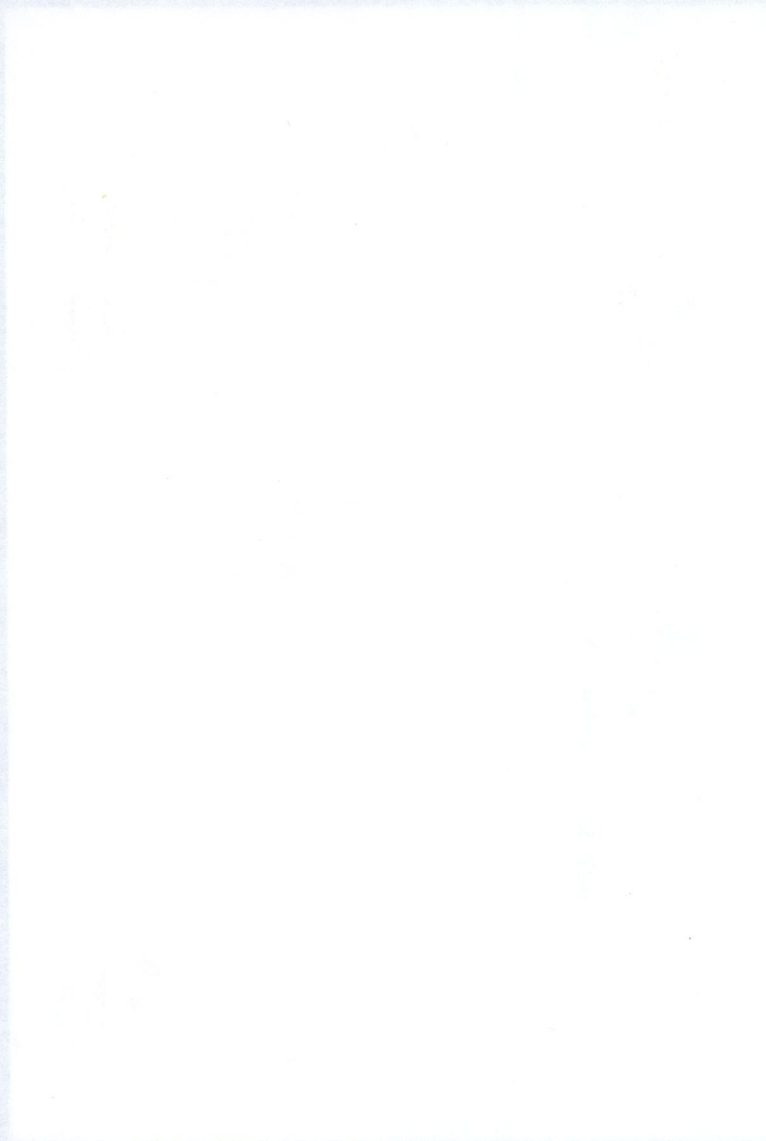
solarization to tell us something about the person which lies behind their external appearance.

In a solarization called "Callas" (Lillies) taken in 1930 by Man Ray, we can see a dark shadow surrounding the entire flower. The lily itself, is commonly known to symbolize death. Here, Man Ray has increased its association with death by using the black shadow characteristic of solarization. This black "aura" according to Charles W. Leadbeater, author of the 19th Century theosophical book "Man Visible and Invisible", indicates malice and a feeling of hopelessness and despair. If a flower was photographed by the Kirlian method and showed no light emanations or corona, then it would signify that it is dead. However, normally flowers show a brilliant white corona. Man Ray has done the opposite with his Lillies. The effect, although aesthetic in form, is distasteful to the viewer. Sandras Phillips said of Man Ray's lillies that "the callas (lillies) especially with their connotations of death, have an odour of poisonous perfume, true fleurs du mal" (Forresta, 1989, p.212). The "poisonous odour" refers to the black cloud-like vapour seen emanating from the flowers.

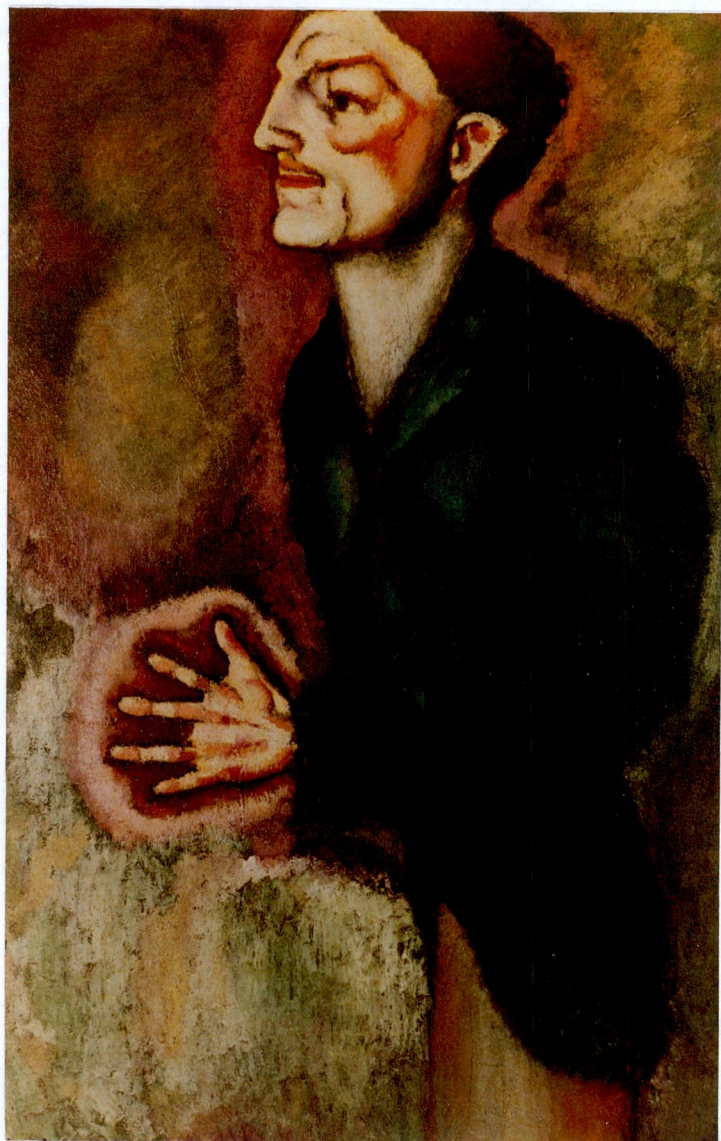
There are many other solarized photographs by Man Ray which provide us with parallels to Kirlian photography. One such photograph is called "Sleeping Woman" (1927) and it shows a woman who is resting her head on her folded, upheld arms. We can see a thin band of light following the contours of her upper body. Most of Man Ray's photographs of women were fashion orientated. Phillips wrote that this "strange new aura that the solarization effect gave to fashion and celebrity portraits, was very appealing to people at the time" (Forresta, 1989, p.210).



Max Ernst Solarization by Man Ray 1935.





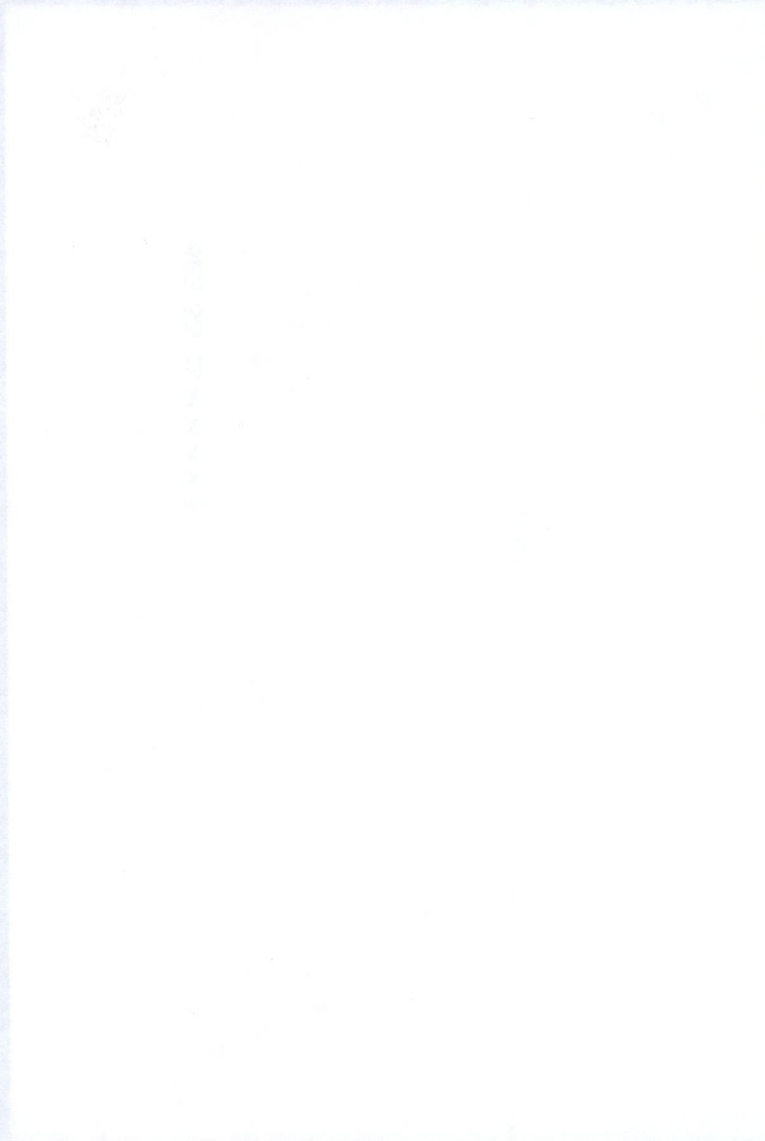


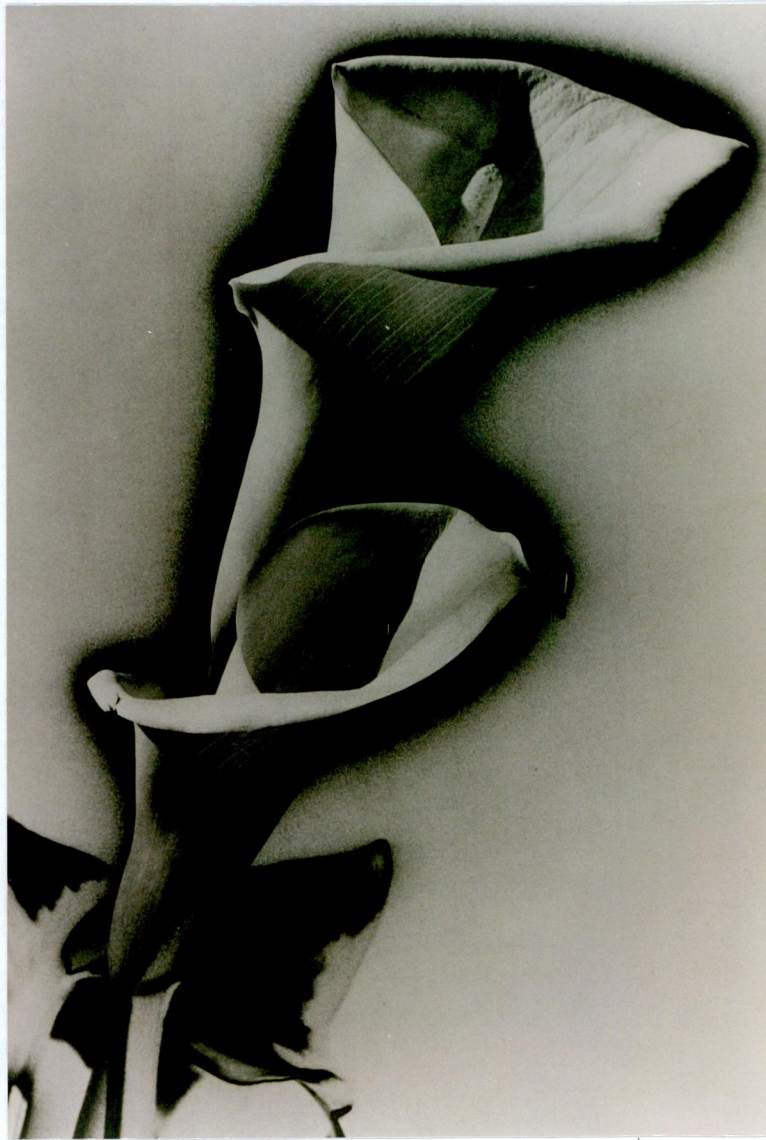
Portrait of Dr. Doumouchel by Marcel Duchamp 1910.



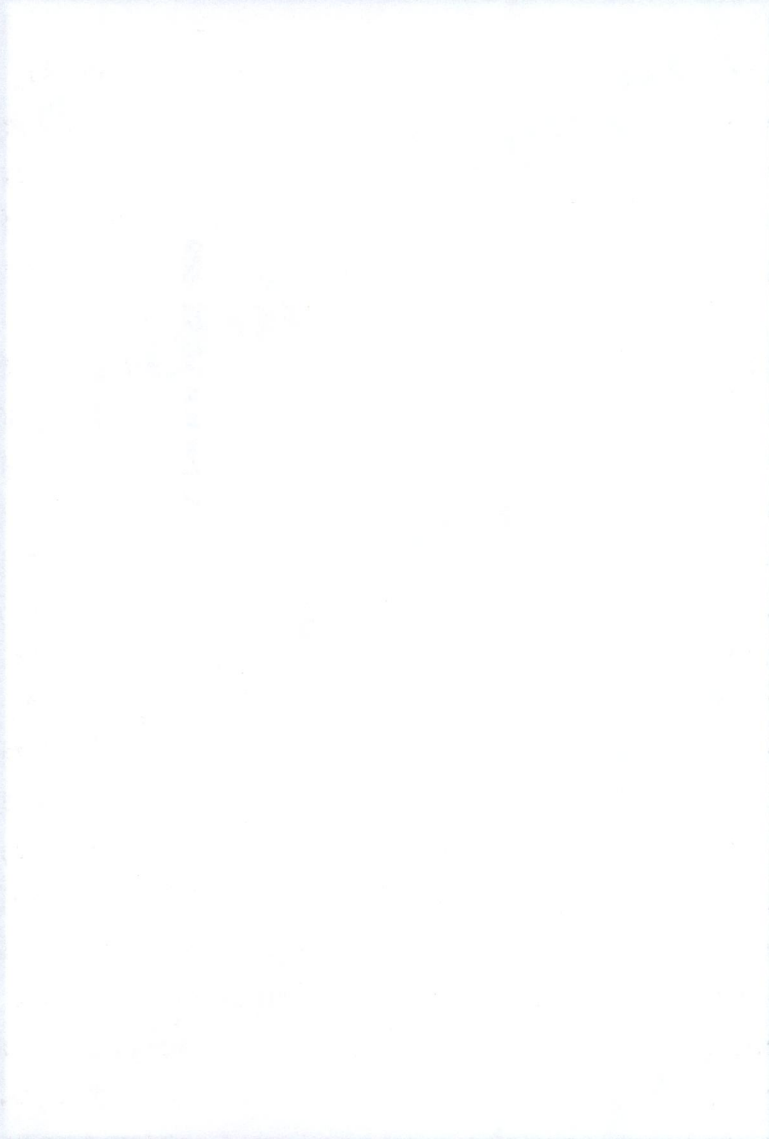


Kirlian Photograph of Man's Foot by Harry Oldfield  
1985.





"Callas" (Lillies) by Man Ray 1930.



With these solarizations he has clearly represented the human "aura" or energy field with a light or luminescence surrounding the object or person. In this way he relates to the scientific studies of these energy fields from an artistic viewpoint, which ultimately connects him to Kirlian photography.

Kirlian photography is a discovery which not only reveals an energy or life force, but it also links man to the deepest levels of the human psyche. The connection between human consciousness and energy provides us with a possible explanation as to how artists such as Man Ray, Kandinsky and many contemporary Japanese sculptors, have come to express such ideas in their work. Ultimately it is this energy they express which connects them to Kirlian photography. The interesting point here, is how each of these artists have come to know of the existence of this life force. Their works of art as well as being symbolic, have their source according to C.G. Jung, not in their personal unconscious but in a sphere of unconscious mythology, "whose primordial images are the common heritage of mankind" (Jung, 1966, p.80). Jung has called this sphere the collective unconscious to distinguish it from the personal unconscious. The latter is regarded as the sum total of all those psychic processes and contents which are capable of becoming conscious and often do, but he explains that they are then suppressed because of their incompatibility and kept subliminal. If we regard the image of energy, whether it be "life force" or "aura" as being a "primordial image" then it is easy to understand how this idea re-appears throughout the ages and across diverse cultures. Robert H. Horcke has asserted that Jung in his theory of the collective unconscious (archetypes) accounts for similarities in psychic functions and imagery throughout every era

(Horcke, 1989, p.14). The collective unconscious according to Jung "contained those patterns of psychic perception common to all humanity and archetypes" (Jung, 1989, p.14). The era in which Kandinsky, Man Ray and Alexj Von Jawlensky worked, is significant in relation to the surfacing of this "primordial image" of the energy field or aura. Every period has its own characteristics, tendencies and attitudes. Jung explains how the artist does not follow an individual impulse but rather a current collective life which arises not directly from consciousness, but from the collective unconscious of the modern psyche. (Jung, 1966, p.17) Man Ray's "Dream Aura", Kandinsky's Primordial Energy and Jawlensky's Spiritual Luminescence are all attributed to the collective unconscious of their time. The linkage between these artists and Kirlian photography, it could be argued, is hidden within the collective unconscious. The secret of great art according to Jung, consists in the activation of an archetypal image. By giving it shape the artist translates it into the language of the present and so makes it possible for us to find our way back to the deepest springs of life. (Jung, 1966, p.82). Perhaps these artists were simply fulfilling an unconscious need of their era. This according to Jung is the reason for the appearance of such imaging which includes the discovery of Kirlian photography itself in 1939.



**CHAPTER 4**

**KANDINSKY AND ENERGY**

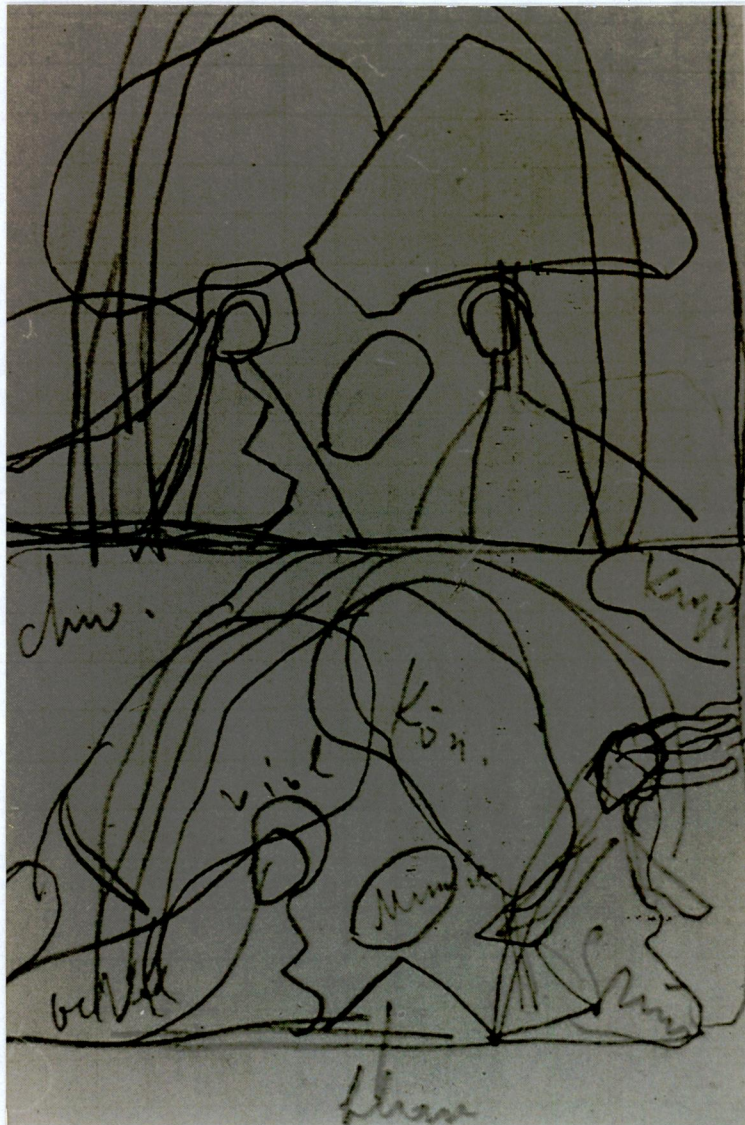
- \* COLOUR THEORY
- \* KANDINSKY "EVERYTHING TREMBLES"
- \* KANDINSKY'S PAINTING
- \* ALEXEJ VON JEWLENSKY

Kandinsky proclaimed that art is ultimately a spiritual endeavour. He has written extensively on the spiritual in art and is regarded as being the foundation from which many other theories and art movements have evolved. His creation of images of an abstract, nature, has strengthened his own belief in the spiritual nature of mankind. One of the most interesting aspects of Kandinsky's art is his use of colour. According to Kandinsky, colour has a life of its own. From an early age he seemed to be ultra sensitive to each individual colour to the point that he was able to feel the distinct effects of each one. Kandinsky believed that colour effects people on two levels. First, the effect of colour is physical and secondly, the effect is a psychic one. He stated in *Concerning the spiritual in Art* that colours cause a "corresponding vibration in the soul" (Lindsay, 1982, p.502) meaning that individual colours has specific characteristics or effects, some referring to emotions or "feelings". These feelings were felt by the person only if they were practised in, or sensitive to colour. "Only in the highest development do they (colours) acquire an internal meaning and an inner resonance" (Lipsey, 1988, p.36). How did Kandinsky come to know about colour to such a degree? He was aware of 19th Century colour theory, but this did not account for his in depth knowledge of the psychic effects of colours.

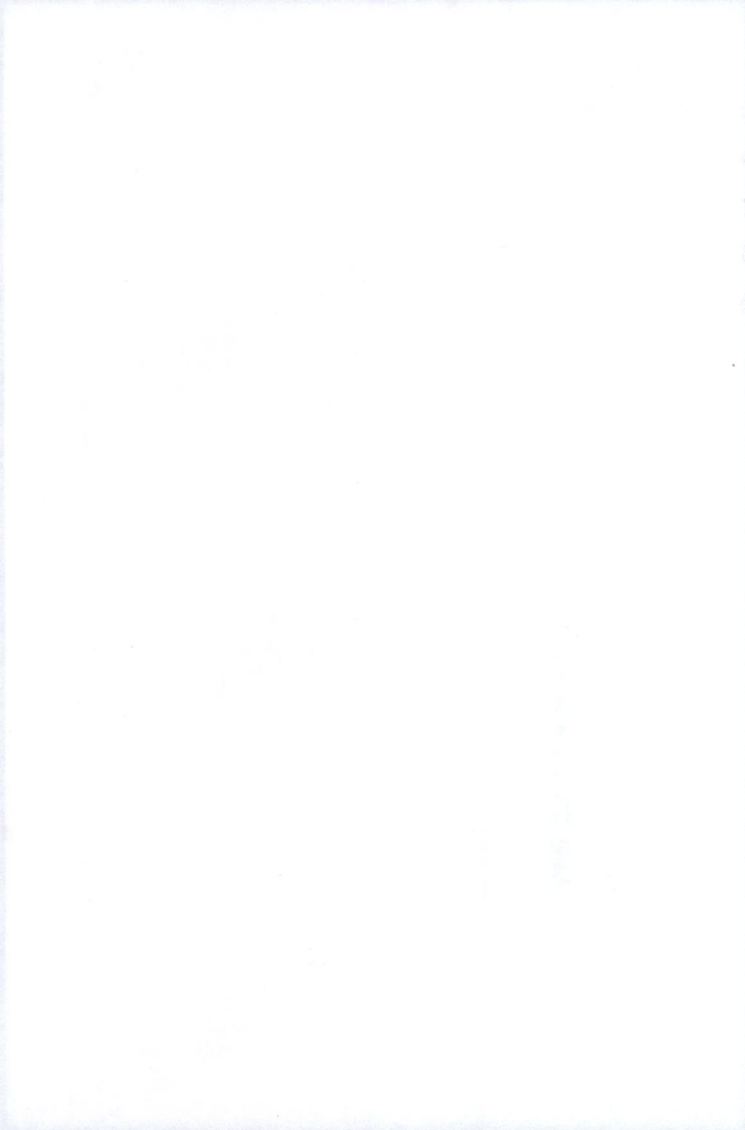
He was interested in experiments of the time from medical chromotherapy to the theosophists clairvoyant studies. However, his extreme sensitivity to colour suggests that he had certain clairvoyant qualities himself. Indeed, he put forward the idea that the artist is a clairvoyant. By clairvoyant he meant someone who can perceive with the naked eye, the bio-electrical field surrounding living things and inanimate matter. He even remarked the contemporary

abstractionists (including himself), would be regarded in time, as pioneers of absolute art, "who had the good fortune, through clairvoyance", of living perhaps centuries ahead of their time (Kandinsky, 1922, p.14). Among the ideas drawn from theosophy was the idea of "parallel action", by which is meant that the thoughts and actions of a normal physical level are paralleled on some higher spiritual plane. The pictorial rendering of this is called "parallel representation". Kandinsky adopted the theosophical notion of the "spiritual atmosphere" which, "like air can either be pure or filled with foreign bodies" (Ringbom, 1986, p.139). Furthermore "not only actions that can be observed, thoughts and feelings that can find expression, but also perfectly secret actions that no one knows about, un-uttered thoughts and un-expressed feelings.. are the elements that constitute the spiritual atmosphere" (Ringbom, 1986, p.139). Kandinsky believed that this spiritual atmosphere could be expressed by artistic means. Sixten Ringbom draws an interesting parallel between Kandinsky's "spiritual atmosphere" and Richard Wagner's famous Leitmotiv. For Kandinsky, the use of Leitmotiv represented an attempt to characterize the hero not by theatrical props but by certain motif and by purely musical means. "This motif is a kind of musically expressed spiritual atmosphere, preceding the hero, which thus emanates from him at a distance" (Ringbom, 1986, p.139).

Kandinsky experimented, using different colours to create this "atmosphere" which precedes a person. He tried to express the musical Leitmotiv in painterly terms and in two sketches for study and Klang (1909) he experimented with different clouds of colour surrounding the figures in the sketch. This can be seen in the bottom sketch where the humans are accompanied by colour clods of "black", "violet",



Sketch "Study for Klang" Kandinsky 1910.

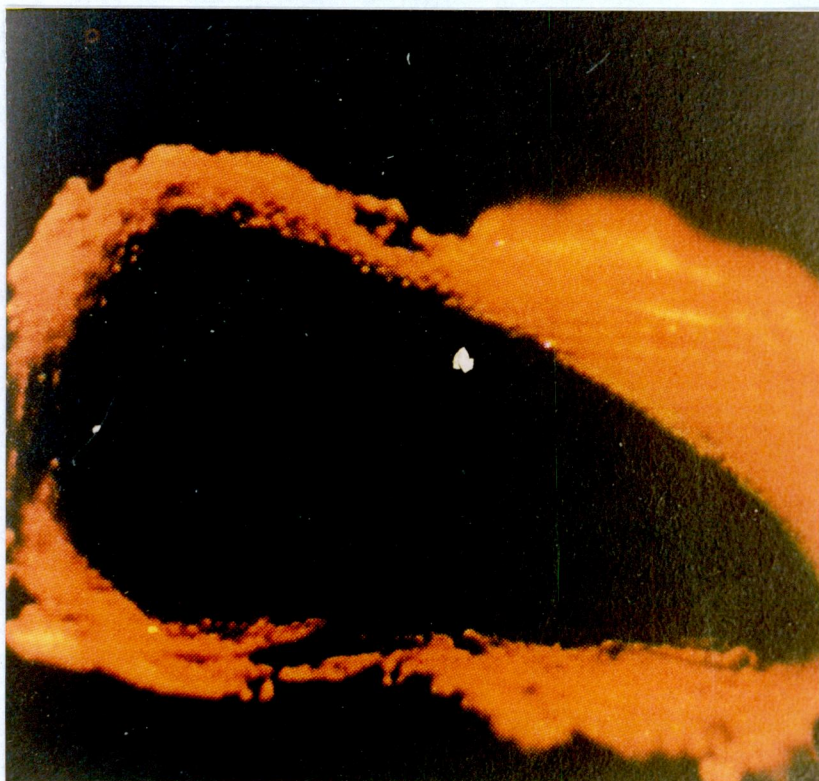


Kirlian Photograph  
of a Fingertip  
Emotion "Sex" "The  
Invisible World" A  
Pomasanoff (1981)



"Lady of Moscow" Kandinsky, 1912





Kirlian photograph of The Elbow after an Accidental Shock. R. Gennaro (1989).





"kings blue" and "carmine". The idea of parallel actions occurs in Kirlian photography where thoughts and feelings which are verbally unexpressed, are seen in terms of colour emanations, love and sex, for example, are represented by crimson and reds.

Kandinsky's colour theory concerning the meaning of colours, is based largely upon his own direct experience of them. He describes white as being a spiritual colour which represents a world from which all material aspects have disappeared. He describes it as a colour which acts upon our psyche like a great absolute silence, like the temporary pause in a piece of music. Red for Kandinsky suggests courage, vitality and energy, and creates a feeling of arousal and excitement. Blue suggests purity and sincerity. Its physical and psychological effects reveal it to be a spiritual colour linking mankind to the heavens. For Kandinsky blue had a calming effect and was associated with conservatism, devotion, serenity and contemplation. Green symbolized youth and fertility. It is a passive colour encouraging a scene of tranquillity in the observer. Orange represented strength and endurance, black, grief and penitence. As black becomes lighter turning into grey it evokes a feeling of desolation, fear is also associated with greyness and the more darker it becomes the more desolate the feeling. These interpretations offer some unusual connections with Kirlian photography, because the Kirlian aura is filled with a rainbow of colour and it has now been established that these colours have a relationship with specific states of mind and health. Thelma Moss has studied the interactions of colour and emotion in Kirlian photography. Her findings suggest that normal healthy human subjects emanate bluish-white

coronal colours. However, in people who reported feeling tense, aroused, anxious or emotionally excited, a red colour is distinct, with a "luminous red blotch displayed just above the fingertips" (Mikol Davis, 1991, P.84). In two Kirlian photographs of an elbow, the first taken of the elbow in its normal state, the second after an accidental shock, the increase in red in the second photograph is noticeable. Red in this case seems to signify excitement, shock and more obviously, pain.

On particular painting which demonstrates Kandinsky's association of colour with a state of mind, is called "Lady in Moscow". This is a painting quite unlike Kandinsky's other paintings. The woman in the centre of the painting is surrounded by a colour energy field, similar, if not the same, to that found in the Kirlian aura. Do these colours correspond to emotions? Sixter Ringbom states that the mystical aura which surrounds the woman is an etheric double derived from Annie Besonts and C.W. Leadbeater's "Thought Forms", and he linked the looming black shape with negative forces and disturbing childhood experiences (Ringbom, 1986, p.140). Fred Gettings noted that the painting was a "philosophical reflection on the relationships which humanity holds to the visible and invisible worlds" (Gettings, 1970, p.94). He goes on to explain that the swirling, red spiral symbolizes love and affection and the mass of black as malice. Thelma Moss investigated human relations using Kirlian photography. She found that strong emotions like anger, love and sex, produced brilliant crimsons and reds. In Kandinsky's attempt to express his awareness of the spiritual significance of colour, he put forward the idea of making images through spiritual irradiation, without using a brush or paint. What did he mean by this? Could he be referring to Kirlian photography

which was discovered in his home country of Russia. Although Kirlian photography had been discovered many years earlier, it was not recorded until 1939. It is nonetheless, possible that the theosophists had some knowledge of Kirlian photography and Kandinsky, even though he was not a theosophist, sympathised with this spiritual movement. He was well aware of the human aura himself, possibly through some clairvoyant ability or perhaps through the theosophical works of writers such as Annie Besonts and C.W. Leadbeater.

These two books ("Man Visible and Invisible" and "Thought Forms") were of an unusual artistic nature in that they contained paintings by the authors, of human colour emanations. They are a powerful link between Kandinsky's work and Kirlian photography in that they both reveal an energy which is undoubtedly of a spiritual nature.

References to this energy are numerous in Kandinsky's writings on the spiritual in art and in his paintings. He sought to express the "hidden element" which lay under the surface of things (Volboudt, 1986, p.37). This hidden element he talks about is life force or bio-energy and I feel that his art revolves around this idea. For Kandinsky everything

"dead, trembled..... not only the stars, moon, woods, flowers of which the poets sing, but also a cigarette butt lying in an ashtray, a patient, white trouser button looking up from a puddle in the street, a submissive bit of bark that an ant drags".

He goes on to say that "everything show me its inner face, its innermost being, its secret soul, which is more often silent than heard" (Overy, 1969, p.46). If you look at a Kirlian photo of a leaf for example, you will see that it emanates a life of its own. It sparkles and crackles with energy. As shown by this extract, even inanimate objects seemed to breath with life.

Wordsworth also was able to perceive this energy

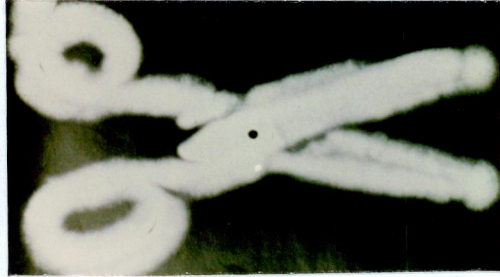
To every natural form rock fruit  
or flower, even loose stones that  
cover the highway, I gave a moral  
life. I saw them feel or linked  
them to some feeling. The great  
mass lay bedded in the quickening  
soil, and all that I beheld  
respired with inward meaning.

For him too, every object had its own life force and to be aware of this life in objects was to be able to perceive its "inward meaning" or as Kandinsky said its "secret face" or "inner resonance" (Overy, 1969, p.46). The Kirlian photograph of a coin shows a remarkable corona effect. Explorations using objects indicate that the object's corona is increased by contact with the hands of a person, while the corona around inanimate objects is normally consistent and unchanging. The second image is of a pair of scissors which shows that it too has a corona or aura emanating from it. Both pictures were taken by R. Gennaro and are illustrated in his book "Kirlian Photography". What Kandinsky refers to as "dead matter" are inanimate objects which are conventionally thought of as lifeless. Kandinsky's contempt for materialism and his belief in a world beyond the senses made him receptive to experiment in hypnosis, mesmerism, spiritism and healing through colours. He also believed in correct

diet and often explored the health giving qualities of different foods. It is interesting to note that Kirlian photography has revealed that foods which show a strong corona or "life force", were healthier to eat than others, suggesting that unhealthy foods had no energy field emanating from them. There are some interesting Kirlian photographs which demonstrate this. The first is the Kirlian aura of cereals. The muesli on the left shows a bright, sparkling field of energy, while the cornflakes on the right show hardly any energy at all. The second photograph is of oranges. The fantastic energy display is an indication of its healthy state of the unique life giving qualities it possesses. In the third photograph, olive oil is seen on the left and refined lard on the right. Again, the photograph shows a bright Kirlian aura. In the last photograph, this amazing display of energy comes from a piece of whole-wheat bread. Russian experts on nutrition have used Kirlian photography to improve the quality of grain and other foodstuffs.

Albert Skira, has said that Kandinsky's paintings are "powerful visions of a world dreamed of or imagined, in which impinging lines of force and surging patches of colour reinvest the creative gesture with all its primal violence and energy" (Skira 1964, p.12). This description could equally apply to a Kirlian photograph and especially Kirlian films, where the entire energy process is recorded, showing constant changes of colour and revealing lines of force.

In Kandinsky's painting "calm" (1926), we can see light or energy just visible around the leaf in the top right hand corner. Similar to the emanations of energy surrounding the plants in Kirlian photography. Kandinsky's leaf is an artistic expression of bio-radiation. In Kandinsky's other, more abstract works,



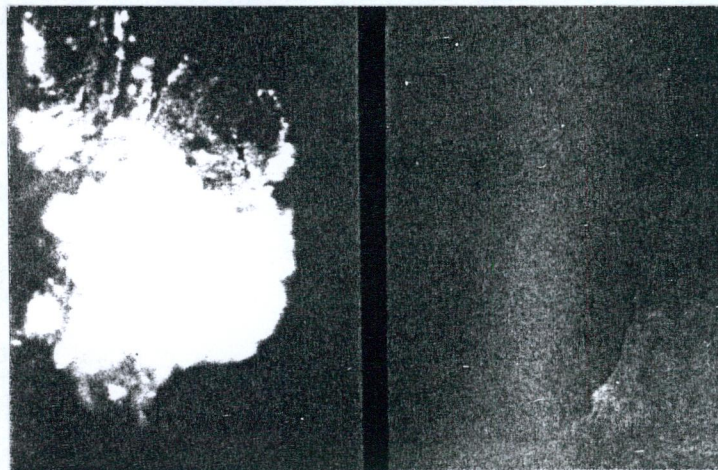
Kirlian Photograph of a Pair of Scissors showing the Corona Effect. R. Gennaro (1989)



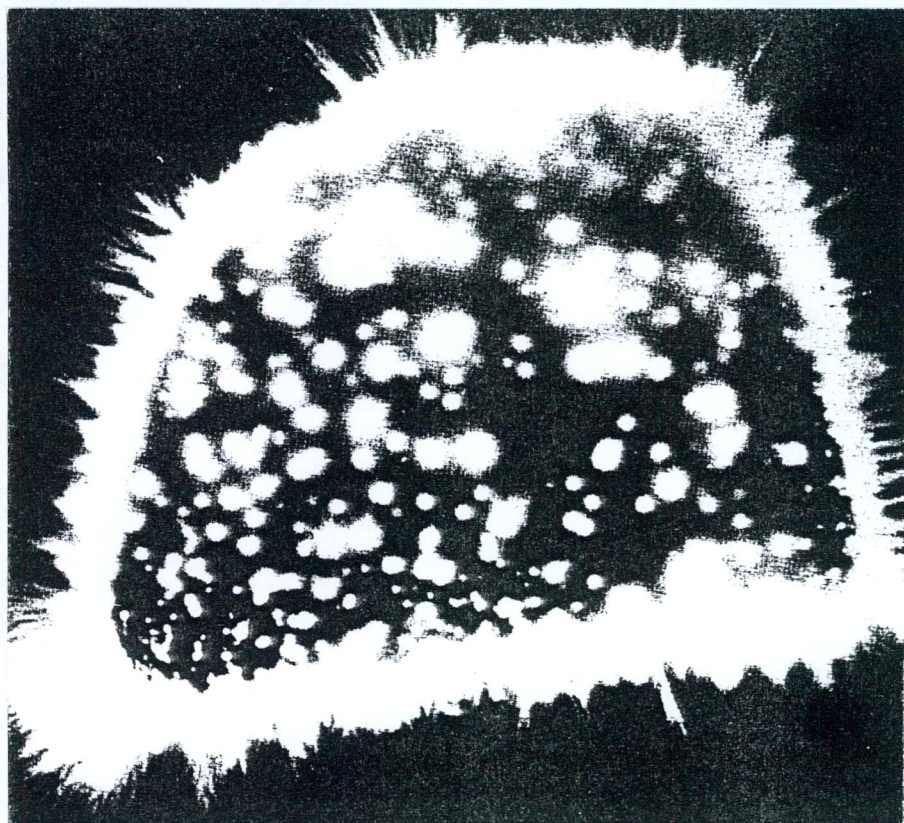
Kirlian Photograph of a Coin R. Gennaro (1989)





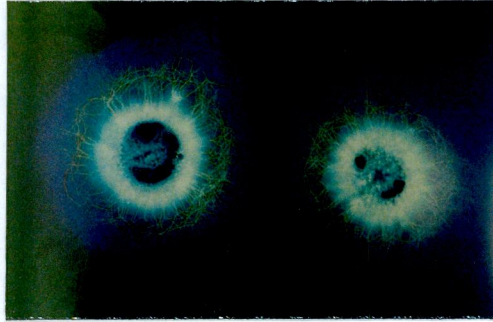


Kirlian Photograph of the Field of Cereals. Museli on the Left and Cornflakes on the Right.



Kirlian Photograph of Whole Wheal Bread. Russia, 1945.

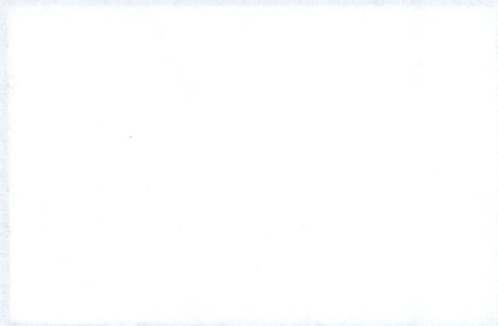




Kirlian Photograph of Oranges. R. Gennaro (1989).



Kirlian Field of Oils, Olive Oil on the Left and Refined Lard on the Right. R. Gennaro, (1989).



this energy is also seen. In "Blue Painting", (1924) for example, there are numerous, mainly geometrical shapes, around which light shimmers in different colours, vibrating and alive. this is a unique abstract language but, it is also an abstract spiritual language which reveals the spiritual aspect of matter, which is energy. "Three Elements" (1935) Kandinsky again plays with a composition of geometric shapes - the circle, the square and the triangle - which are positioned in the centre of the painting. A non-geometric shape or form, connects them but there is still another element which binds them which is not a solid form. There are a series of emanating bands of light, each band displaying a different colour. In a Kirlian photograph of a human fingertip, there are various bands of different colours surrounding the finger, each pulsating with energy.

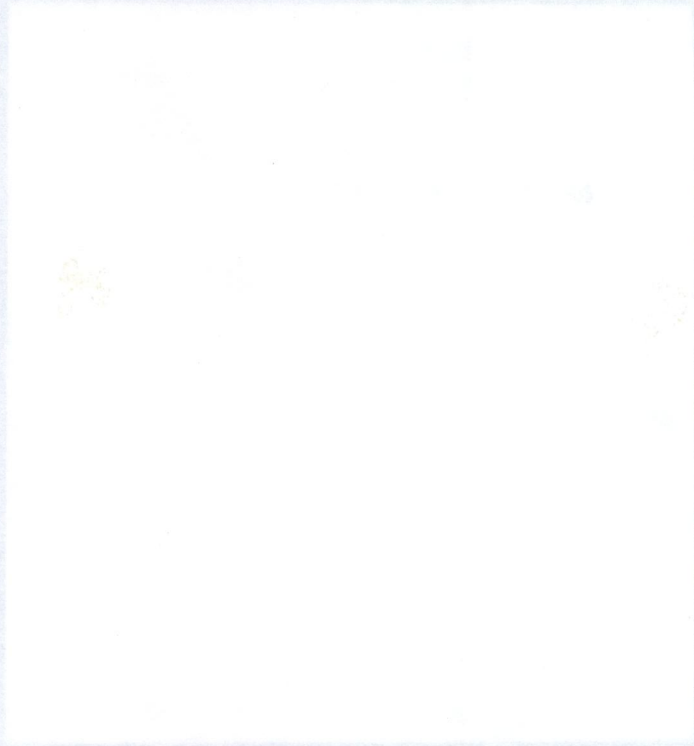
Every object or thing placed upon the Kirlian apparatus shows up as having a corona (energy field), except, living matter which has died. To demonstrate this three photographs were taken of a single geranium leaf. The first was a normal photograph. The second was a Kirlian photograph showing a bright healthy corona and the third was taken after the leaf has died and there is virtually no energy or light left, suggesting that life energy disappears after death. Kandinsky's abstract painting, where there are no visible references to objects or aspects of the material world, show a world of energy, light and colour. He wanted to free his paintings of thought itself which we could describe as solid, recognisable forms. In a world without solid forms only energy exists, this same energy we are able to see for ourselves in Kirlian photography.

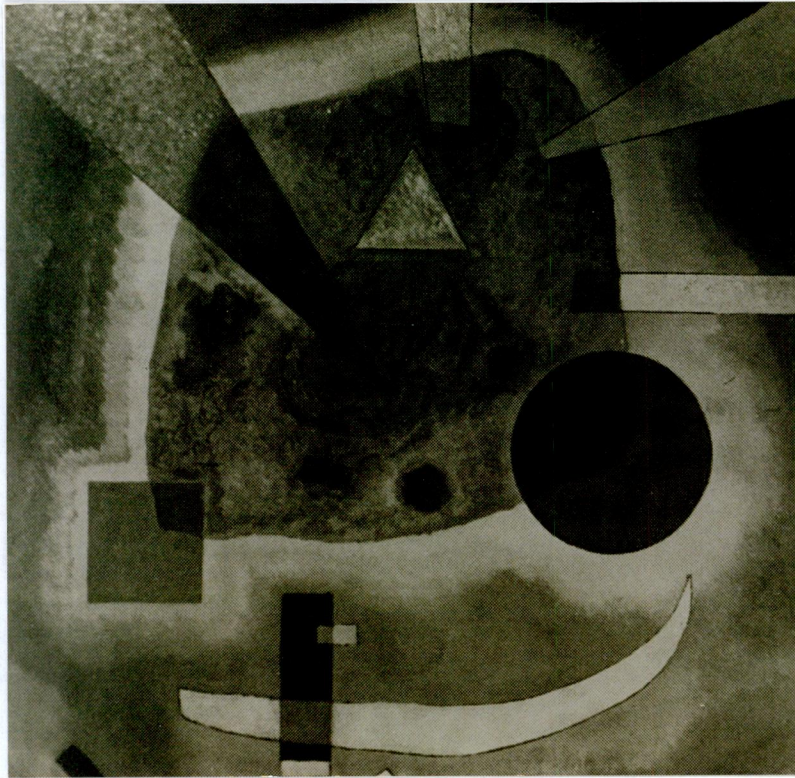


"Calm" Kandinsky 1920



"Blue Painting" Kandinsky 1924.





"Three Elements" Kandinsky (1925)



Kirlian Photograph of a Flower (flower on the left).







"Kreole" Alexej Von Jawlensky, 1913.



In the work of Alexj Von Jawlensky, the 20th Century Russian painter, it is interesting to see an explicit reference to radiating energy particularly in his portraits. Around the heads of his subjects jawlensky painted an emanating band of light. He was friendly with and influenced by Kandinsky's ideas on the spiritual in art. It is possible that Jawlensky was aware of Kirlian photography and the explorations being carried out by Russian scientists on psychic phenomena like the "aura". Perhaps through Kirlian photography we can explain the aura around the subjects head. If we look at the painting called "Kreole" (1913), we can see clearly this band of radiating light both around the head and part of the hand at the bottom of the painting. He is holding a flower and there is a light, just barley visible surrounding the flower too. Now look at the Kirlian photograph of a flower. It is as if the artist is expressing his awareness of this bio-energy through his painting. It is possible that he, like Kandinsky was able to perceive the energy around living things.

Kandinsky often spoke of the "Age of the Great Spiritual". He refers to it coming in the 21st Century. According to Kandinsky, artists of his time should "open wide men's eyes, to sharpen their hearing, to liberate and develop all the senses so that they too can see the living element in dead matter" (Lindsay, 1982, p.481). Kandinsky's intellectual vitality and his powerful emotional sensitivity, helped him put across some of the most interesting philosophical ideas concerning the spiritual nature of art. The meaning of the word "spirit" used by Kandinsky lies in the Far Eastern philosophy in which he was well versed. For painters of ancient China, "Ki-Tun" (Ki means life force) was the first of six principles of art. If we accept that this is how Kandinsky interpreted "spirit"

then we can regard it as being an expression of the life giving energy of nature. The exact same energy revealed by Kirlian photography. Regarding science and art, he wrote, "they will attain a long lost unity that conceals beneath an external veneer, inner forces as well" (Lindsay, 1982, p.481). Perhaps with Kirlian photography this idea will become reality. It is certainly throwing light on many artist's work, uncovering new associations, new meanings. It can open new doors of understanding as to the nature of art and the world we inhabit. In this chapter we have looked at Kandinsky's interpretation of colour and its psychic effects. We have seen how the colours in Kirlian photography can express specific emotions. We have perhaps explained Kandinsky's "life" within matter and the way he could perceive it with his own eyes. We have looked at his paintings and found unique references to this life, this energy. We have compared his work with Kirlian photography and found interesting similarities.

**CHAPTER 5**

**TWO CONTEMPORARY JAPANESE SCULPTORS**

\* **CHUICHI FUJII**

\* **SHIGEO TOYA**

\* **MATTER AS ENERGY**

\* **ENERGY AS CONSCIOUSNESS**

Japanese Contemporary sculptors express an awareness of energy which they regard as an essential part of their work. Through their interest in materials, and indeed nature, they have become sensitive to the essence of matter itself. It is also through this direct experience and manipulation of materials that they have become sensitive to the energy which, has been called "life force". Indeed one of the most profound aspects of their art is their high regard for materials. Many use the sense of wellbeing that comes from direct manipulation of materials to counteract the anxiety caused by problems of contemporary life, using a material, such as the natural form of a stone, as the subject of the piece itself. Can Kirlian photography contribute to our understanding of some of the age old beliefs of the Japanese? I feel that it can provide us with some interesting insights and possibly explain what the Japanese call "Ki", meaning life energy. Many Japanese sculptors believe that man is equivalent to the life force that exists within nature and all things. Chuichi Fujii is a Japanese sculptor who expresses a love for this inner nature of materials. It is quite possible that this understanding of the inner nature of matter has come from the beliefs of Shinto, the national religion of Japan. Shinto has sometimes been described as nature worship, but in fact it does not advocate the worship of natural things as such, but more the spirit present within things. It is more a devotional religion which celebrates the forces that created nature and animate its great rhythms and cycles.

Chuichi Fujii identifies with this inner nature within natural materials to the point that the material becomes or is revealed to have, "feelings" and consciousness of its own. These are intuitively felt rather than physically visible phenomena. The result

of the sculptors relationship with the material, which in this case is wood, is the expression of feelings of the wood itself. In other words, Chuichi Fujii's sculpture reflects the idea that trees have an inner nature, a consciousness of their own. They are akin to man and inextricably connected to each other. He uses huge cypress tree logs which he purchases from the major timber merchants in Japan. He was born in Nora prefecture in Japan in 1941 and in an interview with Judith Conner Greer for the exhibition "A Primal Spirit" (1991), he explained how he had been "seeking a means of expressing the life force of the wood" (Fox, 1991, p.29) and as a result of this seeking he used high tension techniques to bend the huge cedar logs into curves. Usually he placed the logs in pairs, somehow relating to each other as if they were living entities. In 1987 he made one such sculpture which now stands in the Otsuka Pharmaceutical Company. Two giant cedar logs were curved and placed together. From the illustration it is possible to see how one balances on the other. It is as if they are engaged in some slow ritual dance. The logs themselves show no signs of the process of bending. It is interesting to hear what Chuichi Fujii says about the wood. He explained to Judith Conner Greer that "Wood is, essentially, no different from humans, it breathes air, it cries. If I am responsive to the wood then it is responsive to me" (Fox, 1991, p.29).

Essentially he is saying that the wood feels. Even after the living tree has been cut down. The remaining cut log is no longer engaged in the living processes of its existence, it does not engage in the process of photosynthesis, it does not draw up moisture from the earth with its roots, it no longer is in the process of growing. How then does it "feel" ? The fact that Fujii's felled trees are no longer alive does not





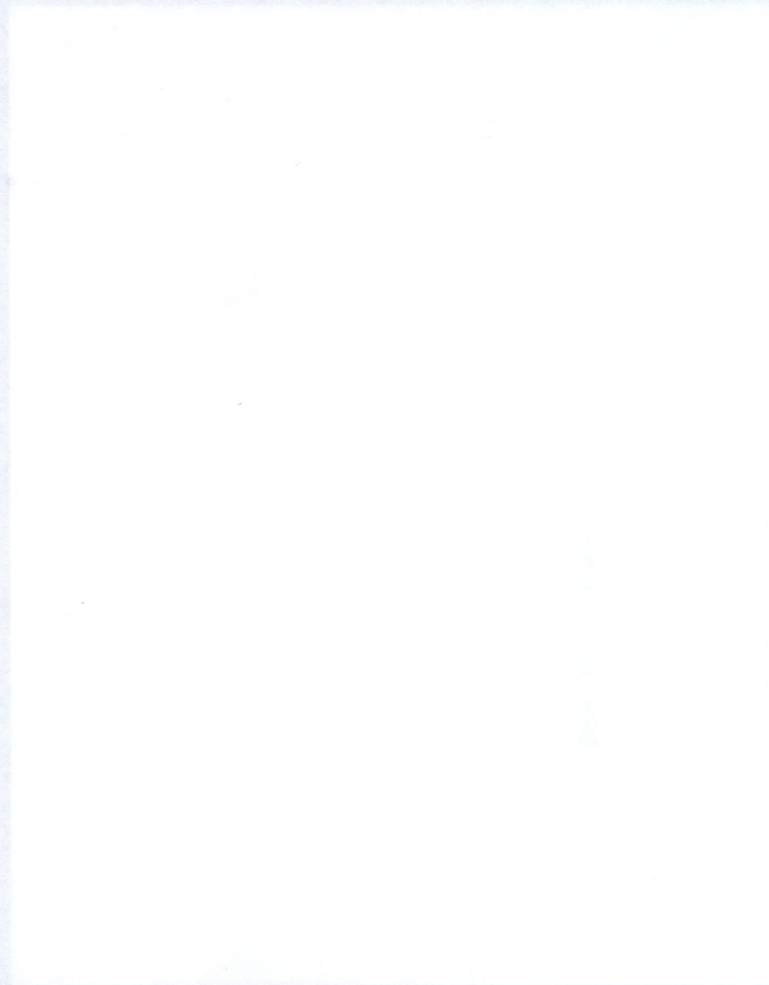
Untitled Chuichi Fujii  
Pharmaceutical Company.

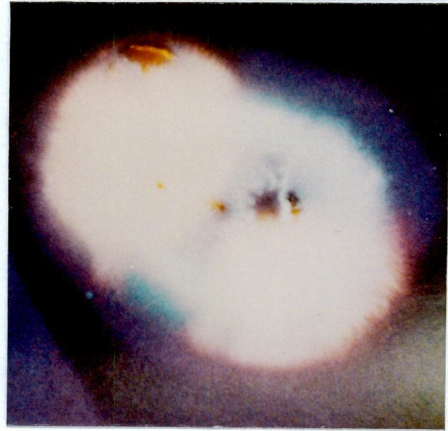
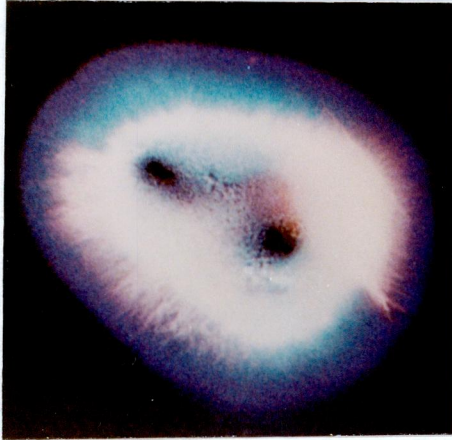
Cedar Logs 1987. Otsuka





Untitled Chuichi Fujii Cedar, 1987.





Kirlian Potographs of a Stone in its normal state (left). The same stone after being held by a sculptor for five minutes there is more energy emanating from the stone (right). R. Gennaro, 1989.



diminish his high regard for their intuitively known inner being. For Chuichi Fujii, the wood, in its log state is still very much alive.

Kirlian experiments show cut wood as still surrounded by radiation or energy, which is not essentially electrical. In the Kirlian photograph of a pencil, it is seen to be pulsating with life. Light emanates from it. Could this be the "inner nature" Chuichi Fujii speaks of? Earlier experiments with plants show that they do have reactions to certain stimuli, but even more intriguing is the fact that in a study where plants were attached to a machine which measured the electrical field, they showed significant changes or responses to human thoughts which were projected at them. Thelma Moss describes how she recorded the effects of people on plant life. A person who loved gardening and plants was told to concentrate on the leaf. Her love of plants seemed to effect the Kirlian image of the leaf which grew brighter while other people seemed to have a negative effect on the leaf. One was encouraged to concentrate and think about the leaf which lay upon the Kirlian apparatus, remarkably the leaf's corona changed growing dimmer. The results of this study suggest that it is possible that human beings effect plant life on a mental level based on the individual's attitude to the plant.

These Japanese sculptors believe that matter (living and non living) has a type of consciousness, composed of energy, similar to radiation which passes through matter and radiates from it. The type of consciousness in which the sculptor feels that the material he/she is using, is part of himself is described by Edward Carpenter in "The Spiritual in Abstract Painting" (1986); he proposes that there is a consciousness in which the subject and object are felt, or know to be,

united and one, in "which the self is felt to be the object perceived or at least in the subject and object are felt to be parts of the same being" (Henderson, 1986, p.223). The demystification of some of these intuitions occurs through Kirlian photography in that it shows these intuitions as physically real manifestations. Modern physics demonstrates that matter has the ability to change its properties depending on what properties we wish to see thus connecting the responsiveness of matter to human interaction. In his book "The Turning Point" Fritjof Capra asserted that his "conscious decision about how to observe an electron will determine the properties of the electron" (Mookerjee, 1985, p.21). This area of science, called atomic physics, deals with particles not visible to the human eye, things like protons, neutrons and electrons which are all present within atoms. The electrons to which Capra refers are the moving energy particles inside atoms. Capra goes on to say that if he asked the electron a particular question it would give a particular answer, if he asked it a wave question it would give a wave answer. He describes how the electron does not have any objective properties which are independent of his mind. This is no longer a sharp division put forward by atomic physics, between mind and matter. Therefore, if we speak about nature are we not speaking about ourselves ? The two are inextricably linked. The point made here is that matter has consciousness to some degree and this is consistent with Chuichi Fujii's statement that wood "breathes, it cries, it feels".

Many of the sculptors in the "primal spirit" exhibition which took place in 1990 and 1991 in Japan and the United States, rather than manipulating materials, sought to bring out the inner nature or soul of them.

It is remarkable how consistently each of the artists



in this exhibition express this concept. Kimio Tsuchiya for example states that his intention is "to bring out and present the life of nature emanating from this energy of trees". He continues by saying

"in using wood it is not that I am simply cutting and using trees that have lasted for hundreds of years, it is as though the wood is part of myself, as though the wood has the same level of life force..... The wood is not just matter " (Fox, 1991, p.30).

In a particularly graphic description of this inner energy and its relationship to human consciousness, related by another wood sculptor Shigeo Toya, describes how one stormy night he was standing on a road by a ravine facing the woods. The woods had formed a huge black mass which groaned and raved. This raving was not a superficial phenomena, but rather originated from within. He described how this huge living being had already swallowed the storm. He quietly got into his car and drove away so as not to be noticed by the raging being. Toya has also described how the extremely variegated surfaces of his sculptures, with their textures created by the swirling cuts of a chain-saw, helped the "inner energy" of the wood to interpenetrate and to be interpenetrated by that of the rest of the world (Toya, 1987, p.10).

Toya as Kandinsky did before him, talks about the animation or the life within matter. Toya describes how the intention of all great art is to be integral and within it is also the desire to regain lost ties with the world. To do this the artist must become "sensitive" again. Sensitive to what ? Toya mentions the world "trembling" in much the same way as Kandinsky used it.

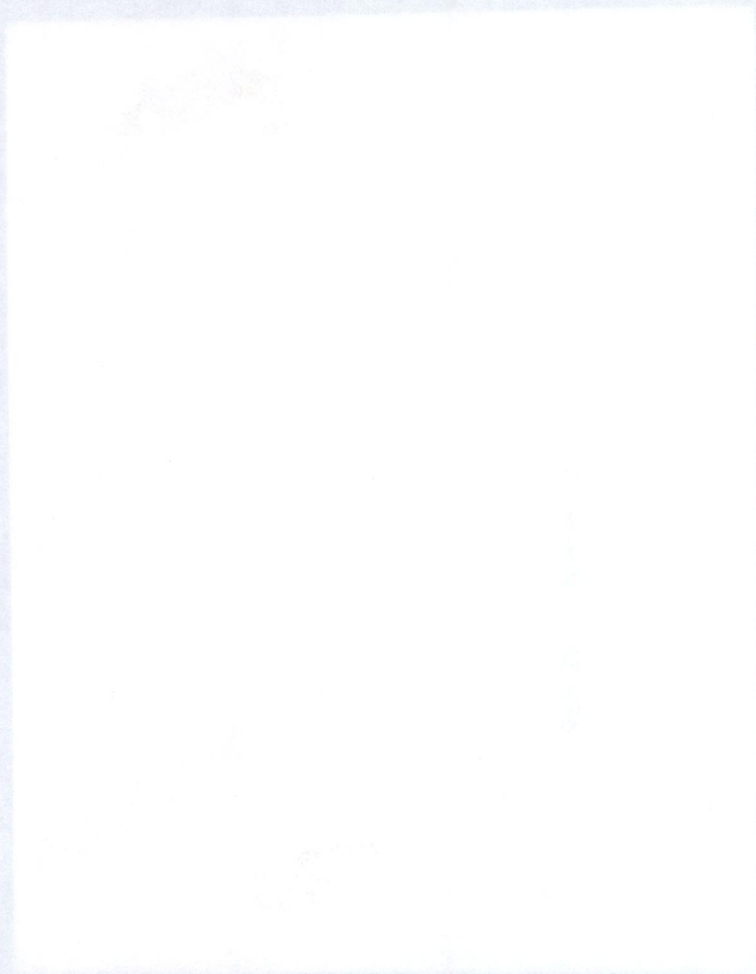
Kandinsky, if you remember, said how "everything trembles" meaning everything he sees is trembling with life, with energy. Toya associates "trembling" with "the rhythm of all cosmic matter" (Toya, 1987, p.10) and the capacity to resonate with it, to be receptive to the energy within matter and to join with it. He says that while this type of sensitivity is the basis for Shamans, brahmans northeners and mystics, it is impossible to ignore it in post 19th Century art (Toya, 1987, p.10). It seems to be able to make the artist aware of the fourth state of matter as seen under Kirlian photography. His sculpture called "woods", tries to reveal this intuitively sensed energy that emanates from each tree, as well as revealing the wood as a whole, as a complete entity. Each of these carved trees show swirling lines of force, flowing swiftly around the spiky notches. The carvings are not trying to specifically represent the trees themselves. They are each trying to express the inner essence, or energy of trees.

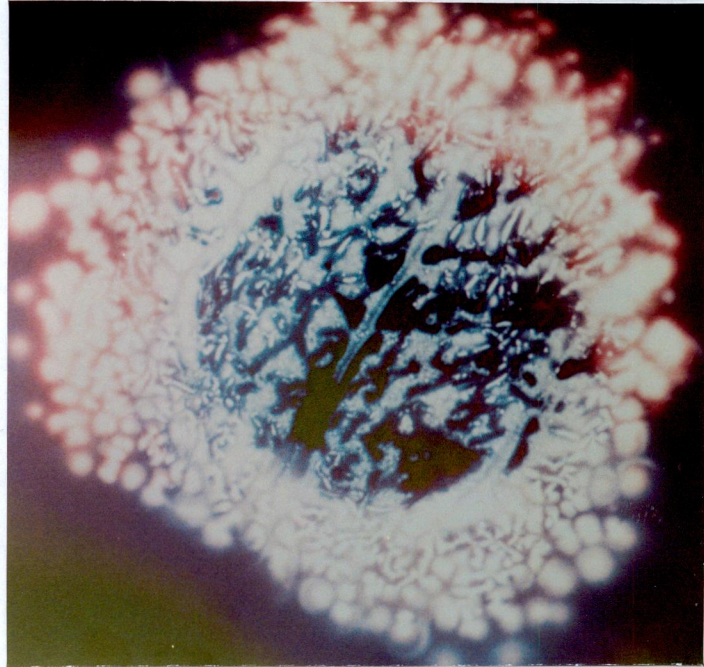
In his drawings which accompanied the "woods" series, there exists a crackling energy, a swirling flowing mass similar to the qualities of electricity. Entitled "Something There" (1985), these drawings represent the element of wood that is alive, wood that is hard and rough on the outside, glistening with light and energy on the inside. Both matter and spirit are shown in relation to one another.

Semyon Kirlian was the first to actually film the changes in the corona of living matter. The description of what he saw shows amazing similarities; "flares of coloured light meandering and emanating from the living leaf" (Ostrander, 1970, p.200). In Toya's drawings there are flowing, white streamers of energy. It was as if they are expressing aspects of the same



"Woods" Shigeo Toya 1987, Wood.





Kirlian Photograph of a Leaf while held by its owner.  
The Leaf's energy increased dramatically while being  
held. Thelma Moss "The Body Electric", 1981.



"Something There"  
Shigeo Toya, 1987  
A Primal Spirit  
Exhibition, U.S.A.



"Emerald Spirit" Shigeo Toya, 1987, A Primal Spirit,  
U.S.A.

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thing. Maybe the sculptor Chuichi Fujii is speaking more truth than we might first think, when he says how wood "feels, it cries, it breaths". In this chapter we saw how humans can effect living plants with thoughts as described in Thelma Moss's experiment, "Green Finger". We looked at how human beings related to matter on an atomical level, revealing that matter has a form of consciousness that is not independent of our consciousness. The Japanese sculptors attitude towards materials indicate that it is more than just matter for them, but perhaps we can now see the relationship between matter and energy when we look at Kirlian photographs. We looked at how Shiego Toya's sculpture is an expression of this energy or life force. This intuitive sense of life force is made more credible by comparing their ideas and work to Kirlian photography.



## CONCLUSION

Kirlian photography changes the way we see the world around us. No longer can we think of matter as being something dead. We have seen how everything shimmers with energy and life. Through this new understanding we have probed into the art of Man Rya, Kandinsky and two Japanese sculptors. We have compared Kirlian photography to the work of these artists to find interesting similarities, both visually and theoretically. Although, it was not just about finding similarities in their work. Through the demystification of the concept "life force" by the scientific study of Kirlian photography, we can now understand these artists more and how they see the world around them. With Kandinsky everything in his world "trembled" with life and energy. How could we understand what he meant by this if we had not seen experiments in Kirlian photography? It had been understood as being connected to the spiritual aspects of things as explained by Kandinsky but as always this spiritual aspect is often shrouded with mystery and difficult to comprehend. Kirlian photography has helped us to understand Kandinsky's world and his work to an even greater degree than before. By comparing Kirlian images to the work of Man Ray, again we have perhaps made his work more accessible. The "Dream Aura" Man Ray used in his photography is made more real, more credible to us as a result of Kirlian photography. The sculpture of Chuichi Fujii expresses the "inner nature" of the wood. This "inner nature" or spirit is made up of energy and it seems that through the use and experience of these materials he has become very sensitive to this energy. The word sensitive is interesting here because it also applied to Kandinsky

and Shigeo Toya. The awareness of this "life force" caused the work of these artists to be connected to the spiritual in life. With Kirlian photography we have possibly discovered the existence of the spiritual aspect to all things. The potential of Kirlian photography is very impressive but the one that I feel is the most promising is its application in art. Not just as a tool to explain art but as a potential art form itself. The way it reveals the colours of different emotional states and even more fascinating is this wondrous energy. The implications of this energy are enormous and it is very possible that it will become an art form in the near future as an expression of the "life" element hidden within all things. For the moment we can explore its relationship to art bringing us closer to newer and deeper understandings of artists and their work.

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### Chapter Man Ray

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Kirlian Photograph of Whole Wheat Bread Russia 1945

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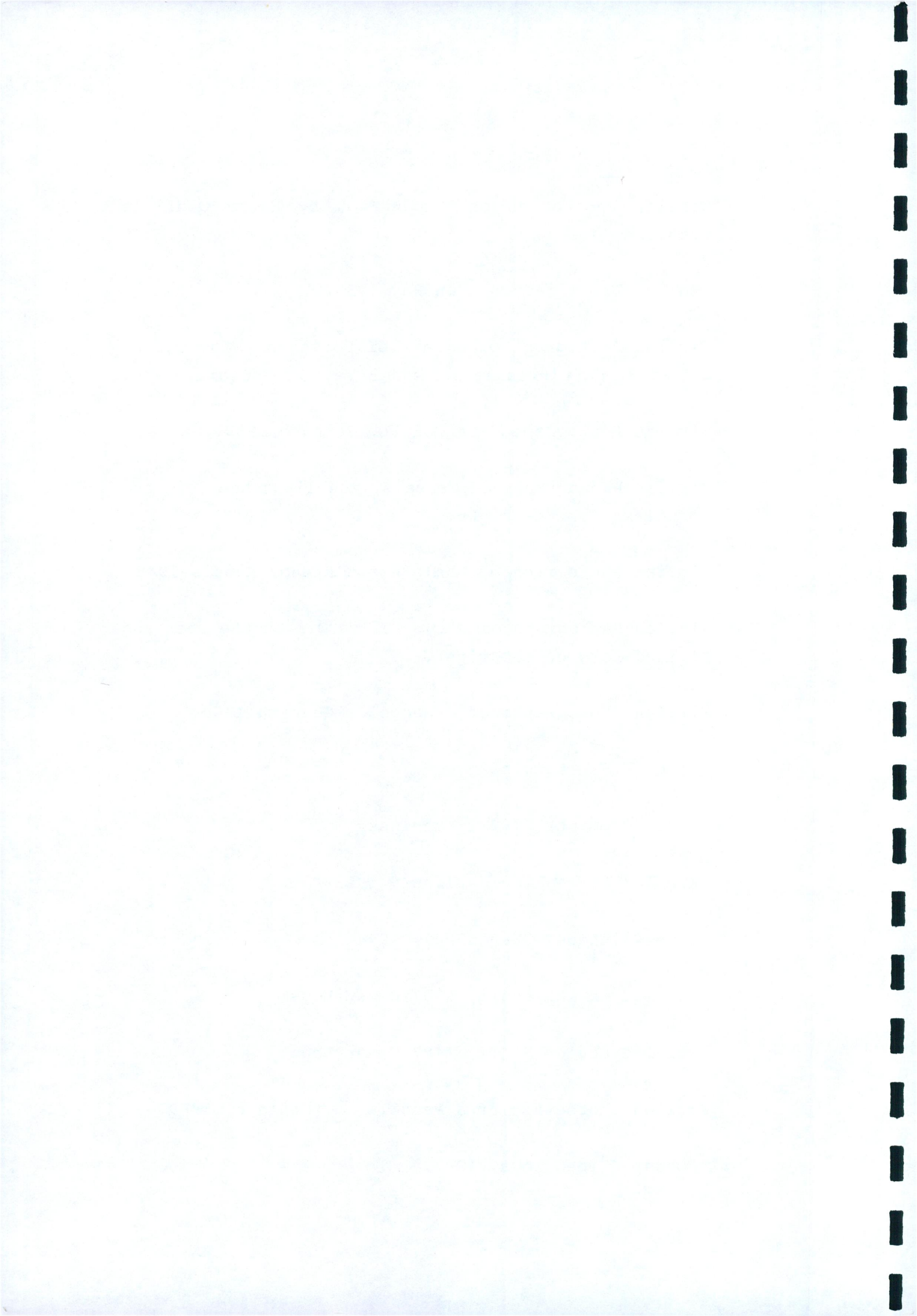
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