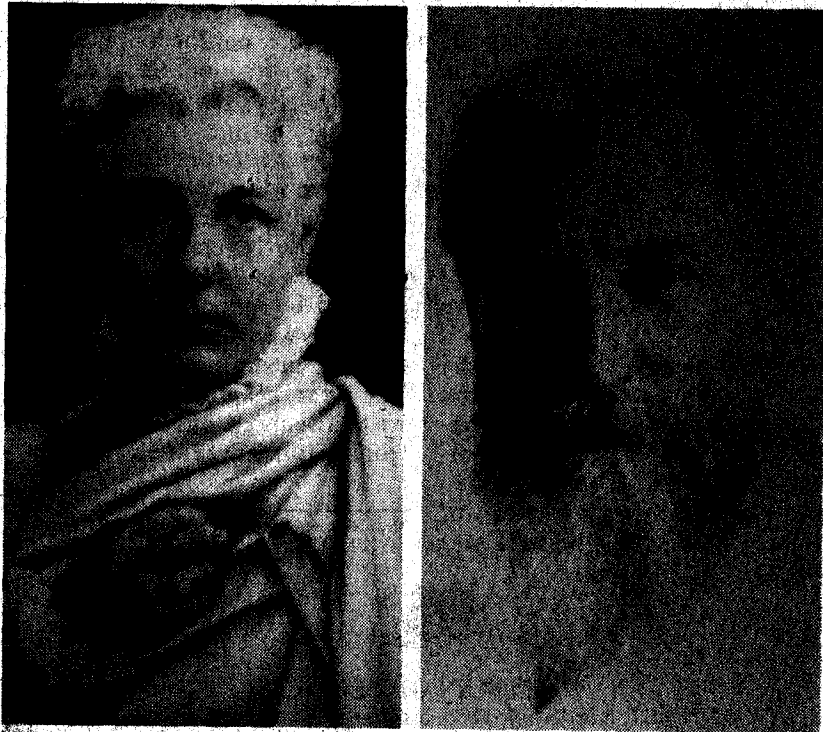


# EXTRASENSORY PERCEPTION OF SUBATOMIC PARTICLES

How could two Theosophists, now long dead, identify chemical elements unknown to scientists in their day?

## Part I



Annie Besant (1847-1933) and C.M. Leadbeater (1847-1934), two early leaders of the Theosophical Society, after a period of intensive training under the tutelage of their Indian gurus, began in 1895 to collaborate on a series of researches to investigate systematically the structure of matter by "remote viewing" the microscopic world.

AP-87

By Stephen M. Phillips

MANY PEOPLE would find it difficult to believe a psychic's claim that he can "see" things so small that they are invisible. And if the psychic's observations prove accurate, the skeptics can then criticize the experimental protocols designed to prevent cheating. If

these cannot be faulted, they can resort to accusing the experimenter of lying about his results. Indeed, disbelievers can ask: How can demonstrations of ESP ever be judged objectively if one always has to assume, without proof, that the researcher did not fabricate his own evidence? For this reason the skeptic can conclude that even highly

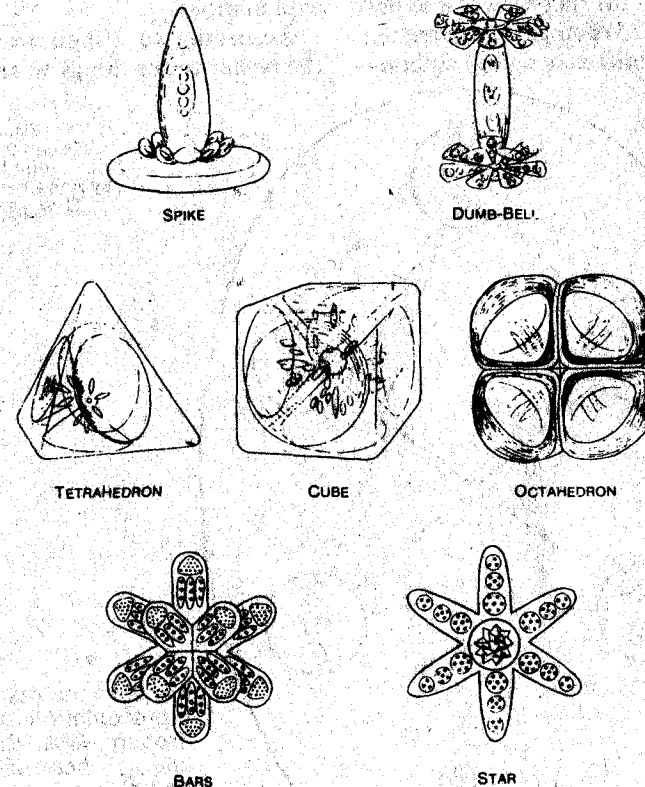


Fig 1. The Theosophists classified "micro-psi atoms" according to these seven shapes. Elements with similarly shaped MPAs have similar chemical properties.

evidential accounts of paranormal phenomena remain inconclusive.

What if the psychic claimed, however, to see objects so microscopic that science at the time neither knew about them nor possessed the technological capability to study them? Suppose science later verified too many of the psychic's observations to make it plausible to conclude that his success was due only to chance? Whether the experimental conditions were rigorously con-

trolled or whether the researcher himself was honest would no longer matter because cheating would have been impossible. To acquire knowledge paranormally that is confirmed by science only many years later is possibly the most convincing type of extrasensory perception; such circumstances permit the skeptic no room for doubt or alternative explanations.

According to Hindu tradition, the power to see things so small as

Figures from  
*Occult Chemistry*  
(third edition)  
by Annie Besant and  
C. W. Leadbeater

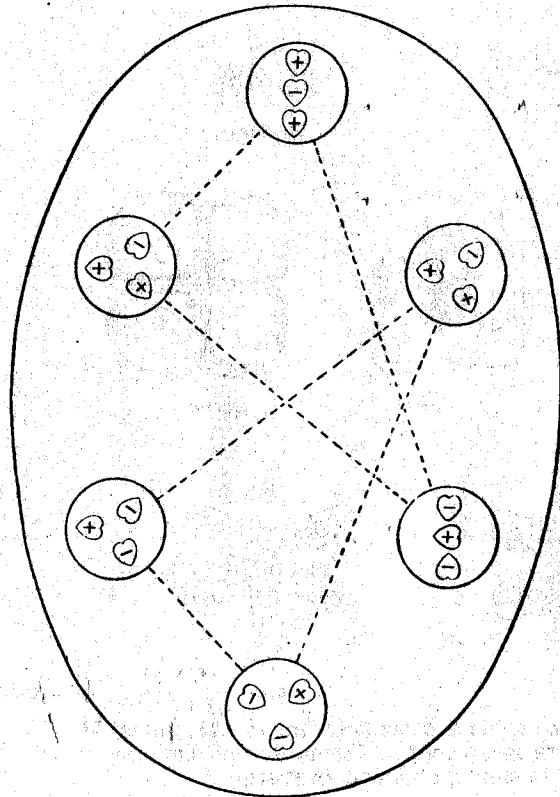


Fig. 2. In the psychics' representation of hydrogen MPA, the (+) and (-) heart-shaped particles are, respectively, positive and negative "ultimate physical atoms" (UPAs).

vowed that whoever died first would do everything possible to advise the other of continuing consciousness. I duly arranged for a proxy sitting with the British medium Ronald Hearn, who produced much evidence that Dingwall agreed to be correct, although the reading fell short of the 100-percent perfection he (unreasonably, in my opinion) demanded.

The episode that probably made the strongest impression on him in his last years, however, was a fairly typical poltergeist case described to him by a relative who had been involved in it himself. Dingwall would readily question testimony of such topics from persons like me but was unable to do so when it came from a member of his own family.

It is not hard to understand why he severed all connections with the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), of which he had been a founding member. It too was "impossible" and Dingwall was

offended that it had covered up its replication of Michel Gauquelin's "Mars effect."<sup>8</sup>

In a letter Dingwall wrote me in 1976, he came close to expressing his personal philosophy:

"We know practically nothing about the 'real' nature of the material world in which we live. We knew less 500 years ago. Five hundred years hence we may know a little more, but the more we peer into our surroundings the more indefinite becomes the boundary. The investigation of the relationship between matter and what you call spirit is only just beginning. Hardly any progress at all has been made since Myers laid down the guide rules in 1903. Indeed, things seem to be more mysterious now than they were then. So I think that the best position is not to hurry. The scrap heap of science is high with discarded theories derived from insufficient experimentation."

<sup>8</sup>See Dennis Rawlins' "STARBABY," October 1981 FATE.



### WILD MAN OF BELFAST

IN BELFAST, Northern Ireland, his allergy to potatoes turned a pleasant, likable young man into a wild man. Just two packages of potato chips made 21-year-old Tony Doherty try to strangle his father with a tie. Judge Peter Gibson of Belfast Crown Court found in September 1986. Doherty admitted to the assault but the judge called the case "highly exceptional" and dismissed the charges filed by police.

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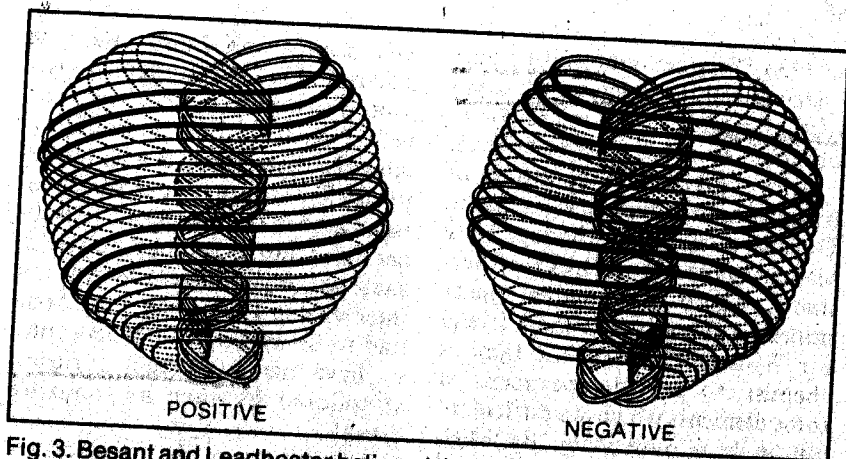


Fig. 3. Besant and Leadbeater believed that "positive" and "negative" UPAs were the ultimate constituents of matter. They appeared to be 10 convoluted, closed, spiral curves or whorls, winding clockwise in the positive and counterclockwise in the negative.

to be invisible is one of the "sidhis," or psychic powers, that can be gained through yoga meditation. The great Indian scholar Patanjali (circa 150 B.C.) says in his book *Yogasutras* that a yogi can acquire "knowledge of the small, the hidden or the distant by directing the light of a superphysical faculty."<sup>1</sup> In parapsychological terms this psi faculty is "remote viewing" of the microscopic world. I have given it the self-explanatory name "micropsi."<sup>2</sup> It has received little study in the West, although interesting exploratory investigations<sup>3</sup> were conducted between 1957 and 1959 with Geoffrey Hodson, the Theosophical writer and clairvoyant. Also, Puthoff, Targ and Tart reported a successful remote-viewing study,<sup>4</sup> involving a psychic who was asked

to describe millimeter-sized microdot images from a distance of about an eighth of a mile. Although this experiment did not eliminate the possibility of precognition, it showed at least that making the target small did not prevent remote viewing.

Two early leaders of the Theosophical Society, Annie Besant (1847-1933) and C. W. Leadbeater (1847-1934), claimed to have micropsi. Both were prolific writers on the occult and Leadbeater claimed such psychic abilities as clairvoyance, astral projection and seeing past lives. After a short period of intensive yoga training under the tutelage of their Indian gurus, the two Theosophists began in 1895 to collaborate on a series of researches which continued intermittently un-

## ESP OF SUBATOMIC PARTICLES

### ABOUT THE AUTHOR

STEPHEN M. PHILLIPS, born in Dorset, England, graduated in 1968 from Cambridge University with a B.A. degree in theoretical physics. He took a Master of Science degree in 1971 at Cape Town University, South Africa, then studied for a Ph.D. in high-energy physics at the University of California.

His scientific work includes publication in 1979 of a theory of particles and forces. In his book *Extrasensory Perception of Quarks*, he showed the many remarkable correlations that exist between modern physics and 80-year-old psychic ob-

servations of subatomic particles. These, he believes, have important implications for future research in particle physics. Phillips has lectured before the Theosophical Society, the London Society for Psychical Research and the Institute for Psychophysical Studies. In 1985 he talked about his work to scientists at the Cavendish Laboratory, Cambridge University.

A keen Fortean and student of surrealist art, Eastern philosophy and the Cabbala, Phillips is a member of MENSA and ASSAP (Association for the Scientific Study of Anomalous Phenomena).

Besant and Leadbeater recorded an element they called "masurium" in 1909 and described it again in 1932, five years before science detected it and named it "technetium." In the same year they reported finding atoms of an element with an atomic weight of two. They assumed (mistakenly, as it turned out) that it was a new element unknown to science and they did not correctly identify it as deuterium (a heavy isotope of hydrogen) which the American chemist Harold Urey and his colleagues had discovered the previous year.

Finally, Jinarajadasa compiled all their research material, accumulated over a period of 38 years, and published it in 1952 in a third, enlarged edition of *Occult Chemistry*.

THE TWO Theosophists soon discovered that different specimens of an element were composed of similar units, which they naturally assumed were atoms. They classified these units, or "micro-psi atoms" (MPAs), according to shape into seven groups: spike, dumbbell, tetrahedron, cube, octahedron, bars and star (Fig. 1). They found that the shape of an MPA correlated with the position of its corresponding element in the chemists' periodic table — that is, all elements in the same group in the table (and therefore having similar chemical properties) had MPAs with similar shapes. For example, all the inert gases had star-shaped MPAs. Besant and Leadbeater used this correlation to check their identification of MPAs. But hydrogen, he-

til 1933. They set out to investigate systematically the microscopic structure of matter, using micro-psi to observe\* atoms of all the elements.

They looked first at atoms of hydrogen, nitrogen and oxygen. During a summer holiday, they visited a museum in Dresden, Germany, where they studied many minerals. They asked their friend Sir William Crookes, the famous chemist, to provide specimens of some elements which are difficult to obtain in a pure state. By 1907, along with the first three, they had examined 59 more elements and noted variations in the atoms of neon, krypton, xenon and platinum — although at that time scientists did not suspect that an element could have more than one type of atom. Indeed, after Besant and Leadbeater reported in 1908 in the journal *The Theosophist* their discovery of a variation of neon, five years passed before the English chemist Frederick Soddy gave the name "isotopes" to atoms of an element that differ in mass.

The pair's colleague C. Jinarajadasa, who made sketches and notes during their investigative sessions and who later became an international president of the Theosophical Society, wrote in 1943 to Prof. F. W. Aston, inventor of the mass spectrograph, at Cambridge University, England, informing him

\*The word "observe" is used in its intuitive, not literal, sense.

that Besant and Leadbeater had discovered in 1907 the neon-22 isotope by psychic means five years before scientists found it. Four days later the distinguished scientist replied: "Dr. Aston thanks Mr. Jinarajadasa for sending his communication of Jan. 8 and begs to return same without comment as he is not interested in Theosophy."<sup>5</sup> As if one had to be interested in Theosophy to have his intellectual curiosity stimulated by such an amazing claim!

A summary of the psychics' research was published in 1908 in their book *Occult Chemistry*. A year later 20 more elements had been studied, notably "illinium" which was recognized later to be the element promethium discovered by science in 1945. A second edition of *Occult Chemistry* appeared in 1919 but it contained no new material. Purported descriptions of the molecules of benzene, methane and other chemical compounds were published in 1924. A year later a model of the crystal structure of diamonds and the hexagonal arrays of carbon atoms in graphite were correctly described in 1926. More material was published in 1932, including descriptions of the atoms of the element 87 (called "francium" by science in 1939), element 85 (given the name "astatine" by science in 1940) and element 91 ("protactinium;" isolated by chemists in 1921).

lium, nitrogen and oxygen did not fit into this classification scheme. The hydrogen MPA (Fig. 2) was: "... seen to consist of six small bodies contained in an egglike form. . . . It rotated with great rapidity on its own axis, vibrating at the same time, the internal bodies performing similar gyrations. The whole atom spins and quivers and has to be steadied\* before exact observation is possible. The six little bodies are arranged in two sets of three, forming two triangles that are not interchangeable."

Each body contained three "points of light," arranged in a triangle in four of the bodies and in a straight line in the two others. Highly magnified, these points appeared as three-dimensional particles (Fig. 3). Besant and Leadbeater called them "ultimate physical atoms" (UPAs), claiming that they were the smallest, fundamental, indivisible constituents of matter. In the 19th Century scientists still thought of atoms as the "solid, massy, impenetrable, movable particles" about which Sir Isaac Newton had conjectured two centuries earlier. But the psychics' description of the basic units of matter differed greatly from the notions prevalent in science of that day.

\*The UPA was composed of 10

\*The psychics claimed to use "a special form of will-power" to slow down the extremely rapid motions of atoms. Such telekinesis was required if they were to discern the details of the complex structures of MPAs.

separate, convoluted, closed spiral curves or "whorls," three of which appeared brighter and thicker than the other seven. The heart-shaped particle pulsated and spun on its central axis, the whorls appearing to change color incessantly. Besant and Leadbeater noticed "positive" and "negative" varieties of UPA, one the mirror image of the other.

In general, MPAs consisted of symmetrically arranged aggregates of bodies made up of clusters of many different groups of UPAs. Some of these groups appeared in MPAs of other elements. This characteristic, together with the geometrical symmetry of MPAs, simplified the psychics' task of determining how many UPAs were present in an MPA. On dividing this number by 18 (which is the number of UPAs in the simplest MPA, that of hydrogen), they found that the quotient was always approximately equal to the chemical atomic weight of the element, defined then by scientists as the average weight of the atoms of its isotopes relative to the weight of one hydrogen atom. For example, carbon with an atomic weight of 12 had 216 UPAs; 216 divided by 18 equals 12.

This mathematical relationship enabled Besant and Leadbeater to check their identification of an MPA by comparing the calculated quotient with scientific tables of atomic weights and picking out the element with the best agreement.

The fact that the agreement is only approximate shows beyond all reasonable doubt that the Theosophists did not invent the relationship simply to create agreement and to obtain an impressive correlation with chemistry. Statistical analysis of the population data published for the 57 elements both known to science and examined up to 1908 reveals that there is less than one chance in 10,000 that these data could have been fabricated with the help of contemporary scientific tables of atomic weights.)

But the two correlations between the psychic observations and chemistry — that MPAs of elements in the same group in the periodic table have the same shape and that populations of MPAs are proportional to atomic weights of their corresponding elements — were about the only discoveries the Theosophists made that did not seem to conflict with science. For example, different MPAs were sometimes seen to be combined into larger units, just as their corresponding chemical atoms are bound together in larger groups or molecules. MPAs, it is true, are combined in the same numbers as atoms do in molecules. But in total disagreement with what is known in chemistry, they were observed sometimes to be broken up into constituent particles mixed with those of other MPAs. It is now well established that atoms transfer or

share only their outer, so-called valence electrons when they bond together to form molecules. Their nuclei certainly do not disintegrate!

When Leadbeater looked at chemical compounds in the mid-1920's, he fully realized that his psychic descriptions of molecules conflicted with orthodox atomic theory. But this did not prevent his claiming that MPAs were atoms, even though they bore no resemblance to the scientific model of atoms then being developed by such physicists as Ernest Rutherford and Niels Bohr.

Skeptics, of course, felt that this glaring discrepancy discredited Besant and Leadbeater's claims, but more sympathetic Theosophists speculated that MPAs were not the atoms studied by science but perhaps their "psychic" or "etheric" counterparts with properties that could not be studied with the gross physical instruments used by scientists. If, according to occultists and psychics, the human body has a subtle "etheric double," why not atoms as well? This proposition cannot really explain, however, why "etheric" properties of atoms should correlate with their physical and chemical attributes.

Other problems emerged. For example, Leadbeater described the micro-psi molecule of benzene as octahedral in shape whereas chemists knew at the time that its chemical molecule is flat and hexagonal.

# EXTRASENSORY PERCEPTION OF SUBATOMIC PARTICLES

Even skeptics cannot deny the remarkable correlations between today's particle physics and 70-year-old psychic observations.

## Part II

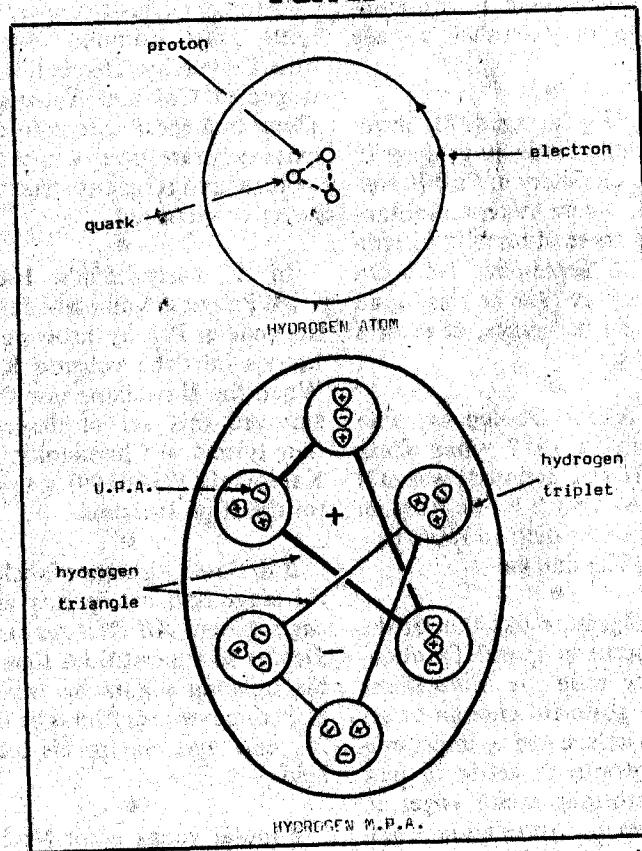


Fig. 1. Egg-shaped hydrogen "micro-psi atom" (MPA) contains two intersecting triangular arrays of three spheres, each enclosing a "hydrogen triplet."

MAY-87

The Theosophist also called octahedral the micro-psi molecule of methane but chemists knew then that its chemical molecule was tetrahedral. Further, the psychics said that they observed MPAs of four elements for which there is no room whatever in the periodic table and which, therefore, cannot exist, according to atomic and nuclear physics. Worse still, instead of seeing three whole MPAs of oxygen in the ozone molecule, Leadbeater reported that the unit of ozone consisted of three half-MPAs of oxygen — that is, 1 ½ MPAs in total!

Such problems add up to overwhelming evidence against the two Theosophists' interpretation of MPAs as atoms. Nor could MPAs have been atomic nuclei, which neither split up in chemical combination nor contain the myriad variety of particles displayed by MPAs. No amount of special pleading or ad hoc hypotheses can eliminate the obvious inconsistencies between established scientific facts and the psychics' assumption that their micro-psi vision enabled them to see atoms in a natural, undisturbed state.

So what *did* they see? If their visions were nothing more than hallucinations, why should the number of UPAs in the MPAs of elements have turned out always to be about 18 times their correct atomic weights? This is true, remarkably enough, even for francium and

astatine whose atomic weights Besant and Leadbeater could not have known because science discovered these elements only after their deaths. Why should the form of an MPA have correlated with the position of the element in the periodic table if it was *not* an atom? How could the two Theosophists have anticipated that some atoms exist in more than one form five years before scientists suspected that elements have isotopes? Why, if their claims to having micro-psi were not genuine, should two people risk damaging their credibility by continuing to publish pictures of molecules which they claimed to have seen psychically but which they knew conflicted with chemistry?

Perhaps, however, science disagrees not with what they saw but with what they *believed or assumed* they had seen. Nearly half a century would elapse before modern particle physics advanced to the stage where it could give satisfactory answers to these puzzling questions.

#### NOTES

1. I. K. Taimni, *The Science of Yoga* (Adyar, India: Theosophical Publishing House, 1965).
2. Stephen M. Phillips, *Extrasensory Perception of Quarks* (Wheaton, Ill.: Theosophical Publishing House, 1980).
3. D. D. Lyness and Geoffrey Hodson, *Clairvoyant Investigations* (unpublished).
4. H. E. Puthoff, R. Targ and C. T.

# WHEEL OF FORTUNE

by Paul Steiner

S. Lynn Diamond is editor-in-chief of *National Jeweler*, a trade journal.

Stanley Gayda, aged 73, never failed to make a daily pilgrimage to St. Mary's Cemetery in East Brunswick, N. J., where he kept a solitary vigil at the grave of his wife Alfreda who died in September 1962. On Valentine's Day 1986 he was found facedown on her grave, dead of a heart attack.

Prince Alexis Obolensky, who left Russia in 1917 when Czar Nicholas II was deposed, was still king of New York's White Russian Society when he died en route to a traditional Russian ball.

Can a migration like that of the Puritans occur in space? Throughout history religious motivations have been powerful enough to set continents ablaze and to impel millions of people to settle in new lands. Historians aren't eager to speculate about lost religious colonies or future space pilgrims recreating the Puritans' voyage.

"First of all, history never repeats itself," says Edmund Morgan of Yale University. This nation's most respected Colonial historian told *Omni* that the Puritans formed an extremely rare group whose distinct cultural and religious structure can never be recreated.

In the early 1880's, Hawaiian High Priestess Kapiolani defied the fire goddess Pele by throwing sacred berries into the volcano Kilauea. When the Hawaiians saw that she survived this act of desecration, they turned to Christianity. Queen Kapiolani (1834-1899) was named for the High Priestess.

Bob Fosse, director of such musical stage and movie hits as *Chicago*, *Lenny*, *All That Jazz* and *Big Deal* is so superstitious that on all his opening nights he wears the \$1.50 dime store cufflinks he bought 25 years ago. So far his luck has held.

Popular young actor Michael J. Fox starred in the hit movie *Teen Wolf*.

claimed to have found four other elements unknown to science at that time. Today scientists report from time to time their discovery of elements heavier than uranium manufactured in the laboratory by fusion of atomic nuclei. But the Theosophists said these four elements were lighter than uranium and not artificial; they could be found in nature. There is no room for these four in the modern periodic table which chemists use to classify the chemical properties of elements. Atomic theory simply does not allow such elements to exist. This and other equally serious conflicts with science can only mean that Besant and Leadbeater were wrong in their belief that they could paranormally observe atoms in their normal, undisturbed state. If the micro-psi ability of the Theoso-

phists was genuine, they must have been seeing something other than atoms.

What else could they have seen? The vital clue to the nature of "micro-psi atoms" (MPAs) lies in comparing the scientific picture of the hydrogen atom — the simplest atom — with the psychics' version (Fig. 1). Under ordinary conditions hydrogen consists not of single atoms but of *pairs* of atoms. This pair is the "molecule" of hydrogen. A hydrogen atom is made up of a single proton — a positively charged particle — and a much lighter, negatively charged particle called an "electron" which revolves around the proton. Atoms of heavier elements consist of a central nucleus around which a number of electrons revolve in various orbits. A nucleus is a tightly bound cluster of

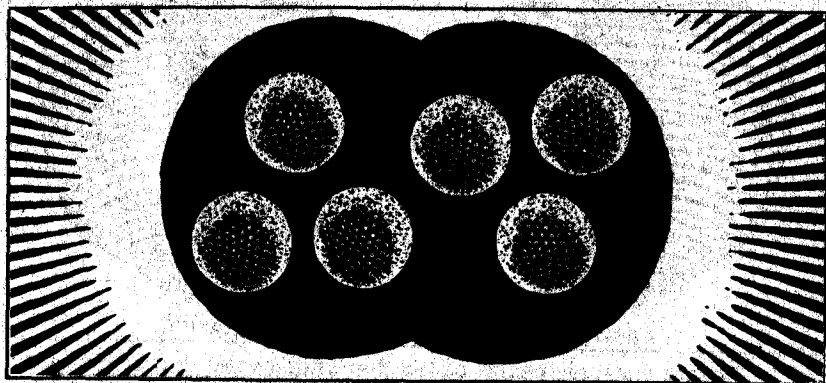


Fig. 3. Theoretical models of the nucleus predict the existence of "bags" of six quarks, or "dibaryons," for which there is now convincing experimental evidence. Note the similarity between this diagram of a dibaryon and the hydrogen MPA (Fig. 1.). (Reproduced courtesy of *New Scientist*.)

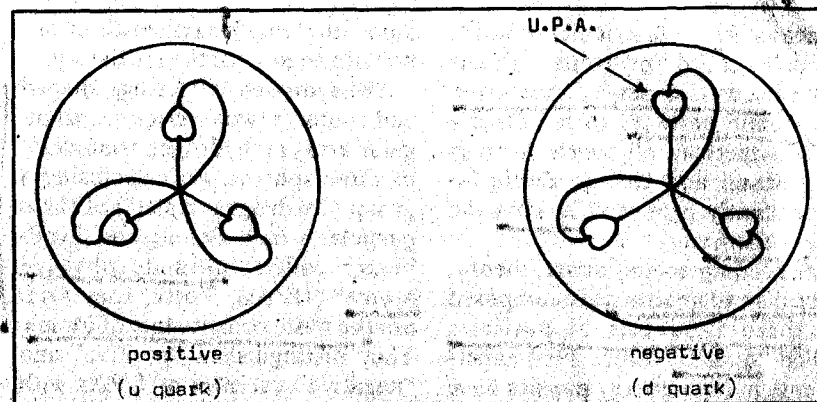


Fig. 5. Besant and Leadbeater noticed two types of hydrogen triplets. There are psychic pictures of the positively charged *u* quark and the negatively charged *d* quark, observed as free particles.

protons originally present in a hydrogen molecule. Note that it is not a molecule itself because, as portrayed in their diagram (Fig. 1), the two hydrogen triangles appear to overlap, which means they are much closer together than protons in a hydrogen molecule where their distance apart is about 100,000 times their experimentally measured size. Nor is the MPA simply two protons bound together, the "diproton" which is known to be unstable. Theoretically, it could be stable if the protons revolved around each other, but Besant and Leadbeater did not observe such motion. The MPA cannot be just a proton (quite apart from the conflict with quark theory presented by a proton having six constituents) because hydrogen molecules are about the same size as other molecules which the

psychics claimed to observe. They would have noticed "a molecule made up of two hydrogen MPAs, whereas in fact they stated that "hydrogen atoms [sic] were not observed to move in pairs."

In reality the hydrogen MPA is an example of what physicists call "dibaryons." These are "bags" of six quarks predicted to exist according to so-called bag models of subatomic particles. Results from a variety of experiments have provided evidence for dibaryons. Compare the similarity between the psychics' picture of the hydrogen MPA (Fig. 1) and a diagram of a dibaryon (Fig. 3) which was published in 1981 in the British magazine *New Scientist*.

In Besant and Leadbeater's day the atomic weight of an element was defined as the average weight of its

By Stephen M. Phillips

**A**NNIE Besant and C. W. Leadbeater, two leaders of the Theosophical Society in the early 20th Century, claimed to have studied the structure of atoms psychically, by means of a faculty acquired through yoga training. The ability to see what is normally too small to be visible to the human eye is one of the eight "siddhis," or psychic powers, mentioned frequently in yoga literature as possible by-products of the practice of yoga. This faculty of "remote viewing" of the microscopic world, almost unknown to Western parapsychology, the author has named "micro-psi."

**B**ESANT and Leadbeater began their extraordinary psychic investigations of the atomic structure of matter in 1895 and finished in 1933 shortly before they died. During those years, with micro-psi vision, they supposedly examined atoms of all 92 elements from hydrogen to uranium. These included francium, astatine, technetium and promethium, which scientists isolated or discovered years after the two Theosophists were dead. They also examined several isotopes, notably neon-22, describing it in 1908 in the Theosophical magazine *The Theosophist* four years before scientists discovered it and five years before the English chemist Frederick Soddy introduced the concept of isotopes.

Besant and Leadbeater also

<sup>1</sup>Stephen M. Phillips, *Extrasensory Perception of Quarks* (Wheaton, Ill.: Theosophical Publishing House, 1980).

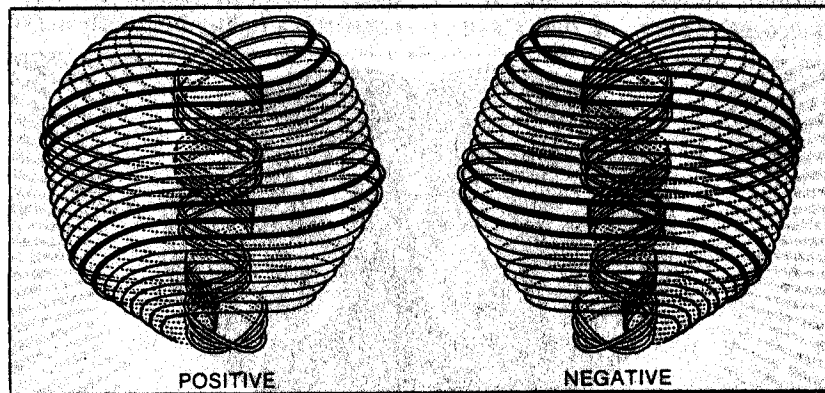


Fig. 2 Besant and Leadbeater called the fundamental unit of matter an "ultimate physical atom" (UPA). They distinguished two forms, positive and negative, heart-shaped spirals which are mirror images of each other. Author Phillips identifies them as constituents of quarks which physicists believe make up subatomic particles like protons and neutrons.

protons and electrically neutral particles called "neutrons." To explain the wide variety of short-lived subatomic particles so far discovered, American physicists Murray Gell-Mann and George Zweig independently proposed in 1964 the quark theory.

According to the quark theory, protons and neutrons are composed of three fundamental particles called "quarks." Since 1964 experiments in high-energy physics have provided convincing evidence for the existence of quarks, but a few physicists (including the author) have proposed that they are not fundamental but are made up of several, still smaller, indivisible particles. There is as yet no universally agreed-on nomenclature for these purely hypothetical entities. Here they will be called "subquarks," a

name implying no reference or adherence to any particular theory.

The hydrogen MPA is egg-shaped and contains two intersecting triangular arrays ("hydrogen triangles") of three spheres, each enclosing a group ("hydrogen triplet") of three particles which Besant and Leadbeater called "ultimate physical atoms" (UPAs). These, they said, are the basic constituents of atoms. They distinguished "positive" and "negative" varieties of UPAs with heart-shaped, spiral forms which are mirror images of each other (Fig. 2).

Identifying a UPA as a subquark means that the hydrogen triplets at the corners of the triangular arrays, must be quarks, and that each hydrogen triangle must be a proton. That is, the MPA is actually a composite particle formed from the two

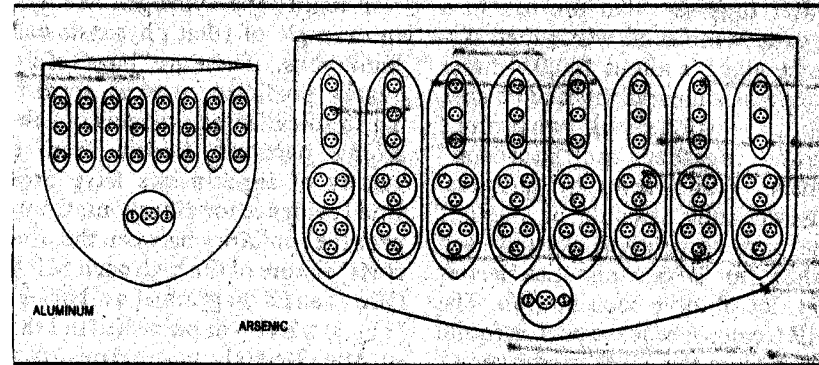


Fig. 4. The aluminum and arsenic MPAs each consist of six of these bodies. The latter has two extra rows of eight particles, making a total of 96 for the whole MPA ( $2 \times 8 \times 6 = 96$ ). This is consistent with the author's hypothesis that two atomic nuclei form an MPA, for two arsenic nuclei contain 40 more protons and 56 more neutrons than two aluminum nuclei.



the few correlations between the psychics' observations and chemistry — the quotient obtained by dividing the number of UPAs in an MPA by 18 (the number in the hydrogen MPA) was always very close to the element's atomic weight. Indeed, although only approximate, so reliable was this empirical rule that they used it to check their identification of MPAs by determining which element in scientific tables had an atomic weight nearly equal to the calculated quotient.

As many as 39 of the 111 MPAs recorded have populations that are exactly 18 times the mass number of the usually most abundant isotope of the corresponding element. This is precisely what should be expected if an MPA is formed from two nuclei. Discrepancies between observed and predicted populations are very small (usually much less than one percent) compared with the populations themselves. Statistical analysis of the data shows that such discrepancies can be plausibly accounted for in terms of random errors in the psychics' observations. It is only to be expected that small errors would creep into their work as a result of miscounting the UPAs present in MPAs, many of which contain several thousand.

The psychics' approximate empirical rule (population divided by 18 equals atomic weight) fits the data much less accurately than the theoretical relationship between

population and mass number mentioned earlier. This fact is significant because it makes it highly unlikely that Besant and Leadbeater could have used atomic weight tables to fabricate data in order to create an impressive correlation with chemistry. Except for hydrogen, none of the atomic weights listed in a scientific handbook the psychics referred to during their work is an integer, let alone one that is a multiple of 18. This means that they had no mathematical reason to make population numbers multiples of 18. Yet multiples of 18 occur in a statistically significant fraction (33 percent) of the 111 MPAs they described. If they had concocted the numbers of UPAs in MPAs by choosing numbers approximately 18 times the atomic weights of elements, it is highly improbable that such a large proportion would have been multiples of 18 by chance. This is another strong argument against the view that Besant and Leadbeater's work was fraudulent. Fabrication was impossible anyway, because elements like francium and astatine, which were discovered only after Besant and Leadbeater were dead, also obeyed their empirical rule.

It is hypothesized therefore that when the psychics focused their micro-psi vision on atoms, they caused *pairs* of nuclei of the element to undergo a transformation during which some or all of their constitu-

ent may decay is to separate into clusters of quarks representing new forms of matter.\* MPAs are such states of matter, created by psychokinesis when the observer focuses micro-psi on atoms.

Besant and Leadbeater noticed just two types of hydrogen triplets — one "positive" and one "negative" (Fig. 5). This is consistent with my interpretation of them as quarks because protons and neutrons, which make up the atomic nuclei from which MPAs are hypothetically formed, are composed of two types of quarks — the positively charged *u* quark and the negatively charged *d* quark.

**L**EADBEATER used micro-psi to examine various chemical compounds. One of the most puzzling features of his description of their molecules is that MPAs appeared in some cases to be broken up and their constituent bodies scattered over the whole molecule, sometimes mixing with one another. But when atoms combine to form molecules, their nuclei do not disintegrate. Leadbeater knew, of course, that this description violated basic ideas of atomic theory, yet persisted with it until his death. Many skeptics, who had accepted the Theosophists' assumption that they were looking at atoms, felt that

\*See "Hot Nuclear Matter" by W. Greiner and H. Stocker, June 1985 *Scientific American*.

this discrepancy thoroughly discredited their work.

This behavior, however, might actually be expected if a pair of atomic nuclei transform into an MPA. Such a transformation would not proceed in isolation. Whether solid or liquid, atoms of one molecule lie close to atoms in other similar molecules. The transformation processes of neighboring nuclei could mutually interfere — with some parts of an MPA drawn to other MPAs by forces of attraction that were stronger than those holding the MPA together.

Also, according to Leadbeater, the shape of certain molecules differed significantly from what is known scientifically about them. For example, he said that benzene and methane have octahedral molecules, whereas a benzene molecule is known to be a flat, hexagonal ring and methane has tetrahedral molecules. This discrepancy disappears, however, according to my interpretation of MPAs, for as quasi-nuclear systems they would be bound together by the nuclear force, which obeys quite different laws from those obeyed by the electromagnetic force determining the shapes of chemical molecules.

But what about the four "impossible" elements which have no place in the periodic table? Obviously, if MPAs are formed from two nuclei of an element, only if it originated from nuclei of two different ele-

atoms relative to that of one hydrogen atom.\* Since this atom, the proton and the neutron weigh almost the same, an element's atomic weight is almost exactly equal to the number of protons and neutrons in its nuclei (its "mass number"). If quarks contain three subquarks, then protons and neutrons, which consist of three quarks, should each

\*The atom of carbon, not hydrogen, provides the modern standard of mass. This difference is irrelevant to the theory of micro-psi observations.

have nine subquarks. Therefore, the number of subquarks in a nucleus should be nine times its mass number. If, as in the case of hydrogen, two nuclei of an element form its MPA, then identifying UPAs as subquarks means that the number of UPAs in an MPA should be 18 times the mass number of the nuclei forming it — that is, approximately 18 times the atomic weight of the element.

This deduction explains one of

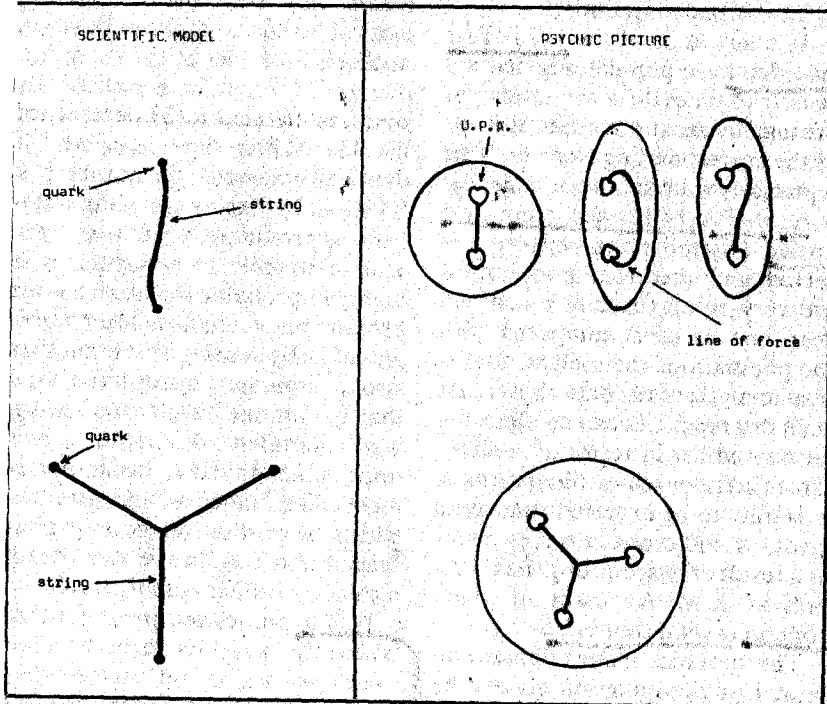


Fig. 6. Besant was responsible for reporting how groups of UPAs were bound together. She depicted hundreds of stringlike configurations of lines of force in addition to the single string and Y-shaped string.

ent protons and neutrons broke up into free quarks and subquarks. These subsequently recombined to form stable, quasi-nuclear systems of subatomic particles all bound together — in other words, MPAs. The composition of MPAs supports this, for they have as constituents many exotic combinations of triplets and single UPAs but rarely protons and neutrons. These, as groups of three quarks, would have been seen by micro-psi vision as clusters of three hydrogen triplets — that is, hydrogen triangles. Moreover, analyses of 50 MPAs (22 published in my book, 28 unpublished) show exact detailed agreement between the psychics' observations of types of particles in MPAs, quark theory and nuclear physics. Indeed, his high degree of consistency makes it hard to avoid the conclusion that Besant and Leadbeater did truly observe\* quarks using ESP some 70 years before physicists proposed their existence.

A comparison of the MPAs of aluminum and arsenic provides a simple example of this remarkable agreement. Both consist of six similar bodies arranged perpendicularly. Each body (Fig. 4) in the arsenic MPA differs from that in the aluminum MPA by containing two extra rows of eight particles similar to one of the hydrogen triangles (protons) in the hydrogen

MPA (Fig. 1). Independent analysis of other MPAs indicates that these extra particles may be neutrons. Therefore, identified as either protons or neutrons, it follows that each body in the arsenic MPA contains an additional 16 such particles. Since both MPAs consist of six bodies, the arsenic MPA has 96 more particles, some of which are protons, the remainder neutrons.

This agrees precisely with nuclear physics and the hypothesis that MPAs are formed from two atomic nuclei, because two arsenic nuclei have 40 more protons and 56 more neutrons than two aluminum nuclei. Besant and Leadbeater could not have known that atoms have nuclei and that they differ according to the numbers of two types of particles they contain, because the Theosophists described both MPAs in 1908, three years before the British physicist Ernest Rutherford proposed the nuclear model of the atom and 24 years before another physicist, James Chadwick, discovered the neutron, leading scientists to conclude that this particle was present with protons in nuclei.

Nuclear physicists believe that future atom-smashing machines may achieve such compression and heat when pairs of nuclei collide at high speed that a plasma of free quarks (or "quagma") may be created from the initial, very dense, hot conglomerate. They speculate that one of the ways this quagma

\*The word "observe" is used here in its intuitive, not literal, sense.

ments could an MPA corresponding to no known element have been observed. The populations of the four "impossible" MPAs support this conjecture. For example, one such MPA contains 2,646 UPAs, precisely the number it would have if it had been formed from nuclei of the isotopes Ru102 and Os192 of, respectively, ruthenium and osmium — elements which have similarly shaped MPAs.

The Theosophists' description of the forces binding UPAs together provides further evidence of the objective character of their observations. They support the "string model," one of the current theories of the force holding quarks together.

Many metals show no electrical resistance at temperatures near absolute zero and thus are superconductors. When a magnetic field is applied to a superconductor cooled to a low temperature, instead of passing through its interior, the field becomes confined almost entirely to the surface of the superconductor. Sufficiently strong fields destroy its superconductivity. For some superconductors, the magnetic flux (lines of force used to represent magnetic induction) is squeezed into narrow tubes of normally conductive material by the surrounding superconductive medium. The string model regards quarks as pointlike sources of magnetic flux, or magnetic charges,

embedded in a superconducting medium called the "Higgs field" which permeates all space. This medium squeezes together the magnetic lines of force emanating from the magnetic charge into bundles or "strings" (Fig. 6). A positive and a negative charge are linked by a single string with a quark at its end. Subatomic particles made up of three quarks are Y-shaped strings with quarks at their ends. Particles physicists call "mesons," consisting of a quark and an antiquark (the antimatter version of a quark), are single strings.

In the psychics' diagrams of pairs and triplets of UPAs, some pairs are bound by a single "line of force" with a UPA at each end. A Y-shaped configuration of three lines of force, each ending on a UPA, is also depicted. Such diagrams are essentially identical to pictures of subatomic particles appearing in physics research journals of today.

Besant was responsible for reporting how groups of UPAs were bound together, whereas Leadbeater concerned himself with the large-scale structure of MPAs. She depicted hundreds of stringlike configurations of lines of force binding UPAs in addition to the single string and Y-shaped string. Some of her diagrams also showed single lines of force terminating on a UPA

\*The fact that such diagrams published in the research literature refer to quarks and not subquarks is unimportant; the string model applies to any kind of magnetic charge.

just as the string model conceives quarks as the end-points of strings. This is unambiguous evidence, therefore, that UPAs possess a magnetic charge. In fact, the positive and negative UPAs (Fig. 2) are subquarks with opposite magnetic polarities. The fact that the two Theosophists described the forces binding UPAs together in a way that resembles a scientific theory proposed nearly 70 years later gives further support to their claims.

There are remarkable correlations between particle physics and Besant and Leadbeater's psychic observations of the fundamental constituents of matter. Scientists and laymen alike may find it difficult to believe that the paranormal faculty of micro-psi can exist. But they cannot dismiss the Theosophists' claims as fraudulent for the obvious reason that their work finished many years before pertinent scientific knowledge became available to make fraud possible. Nor can the skeptics interpret Besant and Leadbeater's observations as

precognitive visions of future physics because it would then be reasonable to expect them to have described atoms according to the Rutherford-Bohr model. This was formulated during their lifetimes *after* they had completed most of their investigations of MPAs but is conspicuously absent from their accounts.

Precognition should not have led them to portray some chemical molecules in a way that conflicts with science. Worse still, if they had merely used precognition, they would never have observed MPAs of four elements which science does not permit to exist and which, therefore, could never be discovered in the future. Through precognition Besant and Leadbeater could have anticipated *only* what science later discovered.

How, therefore, can one explain these two psychics' remarkable anticipation of modern physics except by admitting that they did, indeed, observe the microphysical world by means of extrasensory perception?

The illustrations for this article are from *Occult Chemistry* (third edition) by Annie Besant and C.W. Leadbeater.

## ESP OF SUBATOMIC PARTICLES

91

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*This is Part I of a two-part article.*