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The Universe a Vast Electric Organism

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PREFACE

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This volume is intended to further elucidate my theories of electrical creation, to cover some points lightly touched upon in my previous books; also to bring forward to date the most recent scientific facts and discoveries tending to show that the universe is a vast electric machine or organism.

This is the electrical age of the world, the age of magnetic marvels and electrical wonders. The people of this generation have witnessed the most astounding development of electrical machinery, appliances and utilities. In every department of effort human genius has called forth this invisible, mysterious magician, electricity, to work the miracles of Omnipotence.

And so rapid and marvelous have been the discoveries that the human mind stands paralyzed with wonder and amazement and asks, What next? In discovering electricity man has discovered the working force of Deity, the right hand of Omnipotence, the word of creative power, and uses it in all fields of human effort. With electric cables, electric motors, telephones, phonographs, telectroscopes, wireless telegraphy and mental telepathy, the world is revolutionized, "the old heavens and the old earth have passed away, and behold! all things are new."

The new heavens and the new earth as I see it through scientific facts and analogies is a perfect electrical machine, a vast electro-magnetic organism of marvelous power and perfection. This "stupendous mass of matter and force" we call the universe is a complete whole, a perfect unity,

creating its own light, heat and life and bound together by invisible electric ties of measureless power, as swift as lightning and as strong as Omnipotence.

Then I took up the study of electricity as a matter of curiosity and mental stimulus for my leisure hours from the law practice and realty investments. I had an indefinite idea that this mysterious force and the laws governing it might help to solve the riddle of the universe. I studied its application to ordinary machinery and then applied it to the universe as a vast machine. And behold! the universe as a mighty electric machine or organism answered every scientific question and solved every puzzle in the material world as far as I could comprehend them.

I applied it to suns and planets, man and all animal and vegetable organisms, and as electric creations and electric generators they explained a thousand mysteries. I found man the most perfect electric organism, woven by electric energy from invisible atoms, receiving his physical life, growth and nutrition, and digesting and assimilating his food by an electric process, such as Prof. Loeb and Dr. Matthews discovered in 1902, nearly twenty years after. I soon formulated a theory of electrical creation, which has recently been accepted by some of the ablest scientists.

These things I discussed openly and on the platform for many years and then I published them in my book, The New Cosmogony, in 1898, in Invisible Light in 1900 and in The Cities of the Sun in 1901.

My attention was first called to this subject about twenty years ago when Prof. Henry built the first electric street railway ever built in this country. It was built on East Fifth

Street, in Kansas City, Missouri, the city where I was living, and attracted much attention. It was used for only a short time because the machinery was not sufficiently perfected, and there was too great a waste of power, and the insulation was bad, for it magnetized and stopped the watches in the pockets of the passengers. While pondering over this electric railway and its mysterious force, as I sat in the twilight in the parlor of the old Coates House, a servant came in to light the gas. Instead of using a match, he turned on the gas, took a few gliding steps over the carpet and lit the gas by a flash of electricity from his finger, produced by touching his finger against the tip of the gas jet. I was surprised and said, "Have you enough fire in your body to light the gas?" He answered, "Yes, sir." I said, "Can you do that again?" "Yes, sir," and he turned on another jet took a few gliding steps over the carpet, touched the tip of the jet with his finger; there was a flash and the gas was lit.

I was amazed, for this was a new electric manifestation to me. He said, "You can do it, sir." "Well, I'll see if I can," and I took a few gliding steps over the carpet. He turned on the gas, I touched the jet with the tip of my finger and a flash of electric fire, an inch long, lit the gas. This I did many times afterwards and saw a dozen others do the same thing. In fact the servants seldom used matches in that parlor, the carpet held such a surplus of electricity most any person could by a few gliding steps increase the electricity of their body so they could light the gas by a touch.

Then I began to think—electric fire in man's body, in the clouds, in coal and wood, on the telegraph line, in flint, in

cold steel—in everything. Electricity must be light, heat, life and creative force, and will explain the mysteries of nature.

In the hot, dry summer of 1901, when The Cities of the Sun[1] was issued, my publisher called me to one side and said that his salesman was going out West. He asked, "If he offers to sell your book, which says the sun is not hot, to those old Kansas farmers, won't they mob him and hang him to the first available tree?" I admitted it did look serious on account of the extreme heat then afflicting the West, but told him to have his salesman inform them that if they would go up in a balloon a few thousand feet nearer the sun they would freeze to death, and that if they had an arm that would reach four thousand feet up into the atmosphere it would freeze to the elbow in less than thirty minutes, the hottest day ever known, as every two thousand feet upwards from the earth there is a loss of over one hundred degrees of heat. I mention this to show how some of these theories may shock the sensibilities of some unscientific thinkers.

All scientists declare that the sun is a burning globe and also the material and electric center of the solar system; but I conceived it to be a living world like our earth, only more prolific in life and power, and the intellectual and spiritual center of our system of worlds. I believe I present the only reasonable scientific hypothesis ever presented in the history of the human race which shows and explains the unity, oneness and perfect organism of the universe. It shows that the universe is self-sustaining, harmonious and eternal, creating its own cosmic light, heat and life in the

magnetic atmosphere of its suns and planets, and so simple that the law of atoms is the law of suns and worlds.

With the able assistance of the many scientists, electricians and specialists who have recently accepted and championed these theories, and the progress already made, they bid fair to soon revolutionize scientific thought.

The time will come, and is not far distant, when those who believe the sun is hot, or a burning globe of fire, will be regarded as the devotees of an antiquated superstition. The enlightened world will look upon them as they do now on those who believe in witches, human slavery and that the earth is flat; and will pity their ignorance, as we do those who worshipped the gods of Olympus.

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[1] Published by G. W. Dillingham Company, N. Y.

CHAPTER I THE UNIVERSE IS A VAST ELECTRIC ORGANISM

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Electricity, next to Deity, is the most remarkable entity in the universe. Its marvelous and varied powers and utilities create a new epoch in scientific thought and discovery. Its study is replete with new and fascinating ideas and scientific theories. It contains the story of the universe more sublime than an epic, more wonderful than a romance. It organized the machinery of the worlds, and holds the secrets of nature and the mysteries of life in its invisible grasp.

Electricity is the right hand of Deity, the tongue of the Spirit, the Word of Omnipotent power, the protean cosmic force and creative machinery of the universe. At the divine fiat it seized all atoms and space, it shook the ether into the nebula into worlds. nebula. the worlds constellations, the constellations into a universe. It shaped planets and rounded suns and hurled them forth to circle in the chorus of the singing spheres. It gave form and functions to all matter from the rounded pebble to the stars; from the raindrop to the surging seas; from the chirping cricket to the sporting leviathan; from the helpless infant to the giant man.

It is the messenger and executive of Creative Will to all created things. It is the ambassador of spirit to matter, the autocrat of communication between all the faculties of mind and all the functions of physical existence. It is the law of affinity in matter, of selection in atoms, and whispers to the

body the intuitions of the Spirit and guides insensate worlds to do the will of Creative Omnipotence.

Electricity is the wonderful medium and agent by which mind acts upon matter and works the miracle of life and growth. This mightiest servant of God and man, this genii greater than Aladdin's lamp, impresses all laws upon nature, and makes the universe obedient to the will of Deity, as man's body is obedient to the dictates of man's mind. This inscrutable word of power from the source of all power is beginning to supply the human race with an inexhaustible force that will revolutionize the earth and link all nations together as one family in a millennium of peace and good will.

Human life seems to throb, pulsate, gleam and glow in marvelous current of existence. which transportation, telegraphy, photography, illumination. horticulture. agriculture, metallurgy surgery, manufacture to step forth as master magicians to work miracles for the comfort and happiness of mankind. Every new discovery, every step in the progress of electrical conquers time, destroys distances, diffuses science knowledge, dissipates ignorance, encourages friendship and draws men and nations closer and closer by physical ties spiritual affinities. Where once noisy ponderous mechanism pounded the rocks to release the metals, electrical science with her unseen but resistless currents instantly separate the ore and the dross. Where the sootbegrimed engineer seizes the heavy iron throttle, she cleanly and softly touches a tiny button and the miracle is wrought—the heavy steed of steel receives its life not from smoking, hissing, fussing steam, but from an energy as silent as light and as potent as Omnipotence.

This invisible electrical energy, without brush or color, paints the gorgeous beauties of the rainbow, and photographs in every ray of light and on every human eye the moving panorama of every passing scene. It telegraphs between mind and matter, between soul and body, between suns and planets, and gives life and energy to all the varied functions of this electric magnetic universe. This strange, miraculous power has taken its place as the supreme force of all forces, the ultimate elemental force from which all other physical forces are derived, and, without fuel or expense, flies with its burdens swifter than the flight of eagles.

It is the last and greatest progeny of man genius and discovery, the seventh daughter of science, who dips her wand in the impossible and miraculous until miracles become prolific and common. Its power and expression are universal and its character and process superlatively grand. Its theatre of action is the universe and it comes to earth as the voice of Deity and the word of His Omnipotence.

This science of the impossible, this daughter of miracles, is destined to outstrip all past achievements. The ponderous and noisy mechanisms will pass away, the barren rocks will change into most precious things, the sunlight will be converted into reservoirs of power, and every raindrop and waterfall, ocean tide and wind current, will reveal exhaustless sources of wealth and energy. Then will the ancient curse, "by the sweat of thy brow shalt thou eat bread," be removed, and agriculture and commerce will be

conducted without the drudgery of toil or the weariness of labor, and the earth shall blossom at the touch of the silent electric forces which man will harness to his car of progress and power. Manufacture will then be automatic and the web she will weave in her silent loom will not be wet with the tears of imprisoned childhood, or the agonizing sweat of dungeoned manhood.

Omnipotence follows her footsteps and with the blessings of heaven she comes as a friend to relieve pain and toil and elevate and glorify humanity. Her power is as boundless as space and as universal as heaven's love.

For she comes with the Omnipotent power of Deity to relieve the burdens of toil, lift up the oppressed of the earth, and give man leisure for mental improvement and social elevation.

Electricity, I contend, is the invisible force which evolves form and substance and all visible things. Matter is but the outer garment of these invisible electric forces. It is Spirit which creates psychic life, and makes life the cause instead of the consequence of organism. It is electricity which evolved the physical universe and makes it a vast electric organism bound together by invisible electric ties, where its invisible forces are the cause instead of the consequence of physical organism. These are the basic differences between the materialistic science of the past and the psycho-electric science of the present. In the past science investigated only visible material effects and ignored the supreme invisible forces and laws which evolved and produced them.

This is an age of dominant mind, the development of a cycle of invisible forces. The past century was the age of

matter. It is said Darwin, Tyndall, Haeckel and Huxley did a work which had to be done. But their work was limited to chemical and biological demonstration. It was science, but science of the old school. The discoveries since made in the domain of electricity and mental transmission make their discoveries seem trivial in comparison.

Francis Grierson says: "The discoveries and inventions of the past ten years have made child's play of every previously known system of philosophy. The simple but amazing facts disclosed during the past five years render the dreams, speculations and guesswork of the past absurd. The little we know in a practical way is more than all the philosophers of the past knew, from Aristotle to Leibnitz."

I contend that the universe is a vast electric organism. That all light, heat, and vital force is generated by electric energy in the dense magnetic atmosphere of suns and planets, where alone it is needed for animal and vegetable life, and in volcanic pockets or circuits in the outer crust of these bodies caused by electric repulsion. That the universe began in extreme cold, not heat, that the suns are not hot, but are self-luminous, perfected worlds, and like our earth, except greater and more prolific in life and power. I also contend it is as reasonable to bury an iron ship in the icebergs of the Arctic seas and expect it to become "red hot," as to expect the sun, planets or any body traveling through space 460 degrees colder than those icebergs to become "hot, red hot or molten," as the astronomers say the sun is. All light, heat, vital force and physical life is created by contact of opposite electrical polarities in the magnetic cushion surrounding all suns and planets.

The sun furnishes the positive electricity and the planet or satellite the negative, and from these two spring all the cosmic and material forces of the universe. The electric currents of the sun create induced magnetic currents on the earth, which evolves all visible substance and life forms.

The earth at its center is a magnet of crystalline rock and varied metals, placed layer upon layer as a thermopile or voltaic battery, which constitutes the solid core of the earth magnet, and draws and holds all matter and substance atoms and atmosphere close to its magnetic heart, so that nothing can be thrown off of its vast surface, though it shoots through space fifty times faster than a bullet from a rifle and whirls round with the speed of a revolving cylinder of a dynamo. Its swift duplicate motion makes it a working battery or arc dynamo of marvelous power. It draws all things to its magnetic center as the magnetic core of a steel magnet draws filings of iron and other metals to its magnetic surface, and they cluster there in the same spherical form.

This earth magnet drew countless meteors, swarms of nebulæ and invisible matter from surrounding space, and grew in size and magnetic power as a steel magnet may grow by adding other countless magnets with their increasing power and growing accretions. For my theory is that every atom is a tiny magnet, and every molecule, meteor and visible form of matter is a combination and aggregation of magnets.

Aside from the theory of magnets, this is not far from Lockyer and Proctor's theory of the stellar formation. Norman Lockyer says: "The stellar constitution may be

explained by supposing it to arise from cool meteoric swarms represented by the nebulæ and the rise of temperature due to contraction toward a centre." And he adds: "In the stars we have celestial furnaces the heat of which transcends that of our most powerful electric sparks." In this heat theory I think he is radically wrong. The rise of temperature on the sun and earth, I contend, is not from contraction, which is both insufficient and too irregular to be considered. But it did arise from the growth in power and size of the earth as a great magnet, so that as a great arc dynamo it began to throb with electric energy, and, by drawing to itself powerful currents from space and from the sun, the central electric heart of its organism, it began to generate heat and light in its own environment, which in time became translucent to the sun's rays, and, instead of the sun and earth losing their light and heating power, they are steadily increasing them.

It is thus apparent that all light, heat, physical organisms and vegetable and animal life are evolved and exist only in the magnetic atmosphere of suns and planets.

The light we see does not come from the sun or stars; it is generated in our own atmosphere. No man ever saw the sun or stars; they see the rays of light which photograph them in our atmosphere. They see pictures of them at the end of the ray emanating from them, but some of these rays have been two hundred years in reaching us.

It takes light over four years to reach us from the star nearest our earth, so it is plain we do not see these stars.

As to the heat of the sun, there has been a vast difference of opinion among scientists. Newton held it to be 1,669,300 degrees hot; Erickson, 2,726,000 degrees hot; Sacchi, 2,000,000 to 6,000,000 degrees; Waterson, 9,000,000 to 10,000,000, and Soret, 5,800,000 degrees hot. But since the discovery of the law of the conservation of energy, which is only about a hundred years old, the scientists have been hedging and crawfishing with wonderful dexterity and reducing it, until now 18,000 to 20,000 degrees are accepted as possibly correct.

As Newton was a great mathematician and the scientists accept him on other scientific questions, they ought to accept him on the sun's heat, and acknowledge a fact that ought to be apparent to all—that if heat comes to the earth from the sun, in a column 93,000,000 miles long and 8,000 miles in diameter through frigid ether 460 degrees colder than ice, the sun must be millions of degrees hot. Then, as nothing in the known universe can exist a million or even twenty thousand degrees hot, they should admit the sun is not hot, and no heat comes from the sun to the earth. Only electric currents come from the sun, which generate heat and light in our own atmosphere.

Then arises another question. All bodies lose their magnetic power when heated to less than one thousand degrees hot. Professor Fleming in his book, "Magnets and Electric Currents" says: "Magnetic bodies become changed into feeble magnetic ones by heating to a certain temperature. Iron at its critical temperature, 690 degrees to 870 degrees or a light red heat, loses all its strong magnetic qualities. In the same way nickel loses them at 300 degrees." Thus we have the sun at even 1,000 degrees hot deprived of its magnetic power and unable to control the

solar system. Prof. T. C. Mendenhal, in a recent article in Harper's Magazine, says: "The electrical resistance of pure metals diminishes at a rate which indicates that at absolute zero it would vanish and these metals would become perfect conductors of electricity." Thus cold increases and heat diminishes the electric energy of metals and all substances.

In my previous book, The Cities of the Sun, I have given over fifty reasons why the sun is not hot. Among them I may mention, first, because of the extreme cold that prevails in the upper atmosphere of the earth, through which the sun's rays must pass, but whose temperature they cannot alter. Second, because the sun's rays must traverse 93,000,000 miles of space between sun and earth, which is 460 degrees colder than ice, which would make it impossible for them to retain any degree of heat whatever. If heat comes from the sun it must come in a column 93,000,000 miles long, 865,000 miles in diameter, converging to 8,000 miles at the earth's surface, which would destroy the sun or any known body in the universe to furnish such heat. Third, because the perpetual snow upon the mountains even in the tropics show the sun's rays bring no heat to the earth, or the snow would be melted by the first and greatest volume of heat from the sun. Fourth, because if heat came from the sun there could be no clouds in our atmosphere, for the heat of the sun would strike them first, and greater heat above the cloud level would prevent their formation and forever banish them from our skies.

Fifth, because heat by the law of its nature is diffusive, and cannot be shot from one sun or planet to another, or forced through space like a leaden ball or other substance,

but is soon dissipated in the cold ether of space. Sixth, the sun is not hot because comets have passed three hundred thousand miles through the sun's corona without visible change or injury, which would be impossible if the sun is excessively hot, for the comet, coming from outer space, must be intensely cold, and excessive heat in the sun would explode and destroy it. This argument alone should destroy the hoary headed superstition that the sun is hot. Seventh, heat does not come from the sun, because there is no such thing as heat. Heat is simply a sensation; it is not a substance or an entity. It is a sensation caused by the increased activity of the molecules of which a body is composed, and, is produced by electric currents. I hold the sun is not a thermal or heating engine, as the astronomers claim, but an electric generator which is not hot and does not need to be hot. I repudiate the law of gravity and adopt electricity as the evolving force of the universe.

As the sun is 745 times larger than all the planets of the solar system combined, and controls the life and energy of the solar system by all laws of analogy and distribution in the universe, it should be more highly endowed with all the elements of growth, living forms and intellectual organisms than all the planets combined. Therefore, the sun should be the spiritual and intellectual center as well as the physical and electric center of our system of worlds, the headquarters of Deity and the future abode of man. No life could come from a hot or burning sun or world, yet all animal and vegetable life comes from the all life-giving energy of the sun. Heat is not life-giving, it is not even a substance or a force. Heat does not exist except as a

sensation created by the increased activity of the molecules of which the body is composed. This increased activity is caused by currents or waves of electricity passing through a body or substance. Cold is the absence of heat or lack of motion of the molecules of a body or substance, and, like heat, is not a reality, a substance or a thing, but only a sensation.

Heat and cold are produced by electricity, and are sensations resulting from electrical conditions. Heat is not a creator; electricity is the creator and heat is its servant, and only one of its thousand-fold expressions. Electricity creates the activity of the molecules which gives the sensation of heat. A person standing in the sun on a hot day receives currents of electricity which were not hot when they left the sun, but only became so when they came in contact with the earth's opposite electricity near the earth's surface. These currents produce the sensation of heat. The sun is not a burning globe, or blazing world of fire; it is an enormous magnet of measureless power, thirteen hundred thousand times larger than the earth magnet on which we live. It revolves on its enormous axis at the rate of four thousand miles an hour and is thus constituted a working magnet or arc dynamo, drawing electric energy from its vast electric field, embracing the solar system, six billions of miles in diameter. Of this electricity, it uses for its own light, heat, and vital force what it needs, and the balance is thrown off to its luminous corona or photosphere, where it is shot by the law of electric repulsion in the sun and electric attraction in the planets to the earth and plants. The brilliancy of the sun is caused by its surplus electricity creating a luminous aurora which extends from its poles to its equator.

Newton discovered an imaginary force. Newton had an imagination which the scientific plodders who came after him lacked. They have dug in the dirt, while he sailed through azure seas and linked suns and worlds together by the mere sweep of the imagination, without any explanation or conceivable cause, and called it gravity. He might just as well have called it weight or ponderosity, which means the same as gravity. And the scientists followed him and accepted his theory of gravity, which means nothing and explains nothing. It was the best they could do, as he had an imagination and an idea and they had none. Thus the blind led the blind for two centuries, until electricity and its invisible forces were discovered, and a new field for thought and causation was opened up.

Let us suppose that space and the invisible atoms or star dust which permeate it are seized by electric energy, creating a boundless sea of invisible electro-magnetism, which began to vibrate to the law of action and reaction, attraction and repulsion. Under this law every atom became a tiny magnet, and electric centers are formed which are the foundation stones and nuclei of growing suns and worlds; and invisible atoms, nebulæ and finally meteors are drawn by electric energy and woven by magnetic force or induced electric currents into orderly layers of crystalline rock and varied metals, forming a vast thermopile, galvanic battery, working magnet, and electric dynamo all combined. By the law of electric attraction all matter would tend toward a common center, and in that common center would

be found the vast central magnet-sun, sphere and dynamo many times larger and more powerful than all the others combined. As each grew in size their electric potentiality would be increased, their electric and magnetic attractions multiplied, and their revolution upon their axis and their orbit motion would be accelerated to a marvelous extent, giving them measureless force and power.

Herbert Spencer affirms that space is eternal and has always existed. We will suppose the same of matter in its elemental form, known as the atom, and we will venture also to assert that force is a substance like matter, but a thousand times more refined and invisible than the atom, and we will call it the electric ion, or electron.

Thus we have three indestructible, invisible entities space, matter and force—which have existed eternally and which constitute the basic foundation and fallow ground of primeval chaos, which was the beginning of the universe. Then stars and planets, suns and worlds were transparent ether, as impalpable as the viewless air, and scattered as star-dust in the measureless void of space along the forgotten highways of the eternities. Silence profound in the pulseless regions of the air where, motionless and dumb, the atoms hung in dark and lifeless space. There was nothing in all that seemingly chaotic universe; nothing but cold, darkness and silence. But these are the home of atoms and ions, the star dust and cosmic force, creative Deity had scattered by the breath of His power through the highways of space in the beginning of primeval creation. While these seem as nothing to man, they are the foundation stones of all creation.

This nothingness of space was the fallow ground of the universe and the formless shadow of suns and worlds. It was a universe in solution, as viewless as ether and as intangible as mind. The electric energy of space was yet unstirred by the divine fiat or shook into vibrating force by the word of creative power.

Then at the creative behest, "Let There Be Light," the ions of force, like an electric clothing of light and life, leaped into power, permeated all atoms, and wrapped as in swaddling clothes a new-born universe. Then atoms and ions of electric force met in fond and unending embrace, substance and energy clasped hands, and matter and persistent force were woven into each other's arms and saturated with electric life-giving energy.

The sun magnet, being larger and more powerful than all the others combined, would hold the others we call planets in the magnetic field of his sovereign power, and become the electric heart and commanding force of his system of world magnets. He would draw his electric life and energy from his vast electric magnetic field embracing his solar system, which with our sun is six billions of miles in diameter.

As these bodies grew in size under the law of electric attraction, which draws all matter toward a common center, they would become more and more compressed, dense and stable, until they attained their natural equilibrium of balanced forces and assumed their permanent form and solidity. Then they would assume their normal velocity of revolution on their axis, and their orbital motion along evenly balanced lines of force, without friction or change,

for countless ages. All suns and planets revolve on their axis under the law of electro-magnetism by which electric currents of force pass through their centers at their poles, and magnetic currents of equal force pass one way around them, creating their diurnal motion.

This law is briefly stated by a standard work on electricity: "A wire or any conductor having a current of electricity passing through it has lines of magnetic force passing one way around it, and the number is in direct ratio to the quantity of current passing through the wire. This magnetic effect is strongest close to the wire, and decreases inversely as the square of the distance." This is a marvelous combination of the dual forces of electricity, which operates as a wonderful mechanical contrivance to spin the heavenly orbs on their poles, like a top is spun by a string or band around it or like the cylinder of a dynamo is revolved by its leather bands or a water wheel turned by the swift current of a river. By reason of this law, all suns and planets revolve on their electric centers at their poles. The great electric currents from the sun eight thousand miles in diameter and length, like a million miles in ninety-three inexhaustible river of force and power, cause the earth to turn over, as a water-wheel is turned by the swift current of a river. This vast stream or current of invisible power, when it starts from the photosphere of the sun, is 865,000 miles in diameter and is narrowed to a focus of 8,000 miles at the earth's surface, thus increasing its force and power a thousand-fold. The largest river on the earth is 180 miles wide at its mouth and about 3,000 miles long, but what an insignificant rivulet it is in contrast with this vast, invisible,

omnipotent stream of electric life-giving power, constantly passing to and fro from sun to earth and from earth to sun.

Think of its marvelous speed! While the swiftest current of a river or the speed of a railroad train is scarcely fifty miles an hour, this mighty electric tide comes with the speed of light 186,000 miles a second, or almost 12,000,000 of miles an hour: and it turns the earth over at the rate of a thousand miles an hour by its lines of magnetic force, just as the swift tide of a river turns the water-wheel of a mill. And that the earth may turn more surely and steadily, it has vast mountain ranges running north and south from its poles, such as the Andes and the Himalayas on opposite sides of its surface, and other ranges scattered between, to act as extending flanges and paddles, like those on a waterwheel, to enable this vast electric tide to turn it more readily, and, like the brushes on an electric dynamo, to generate and draw electric currents from earth and sky, and moisture from the clouds, to bless and fertilize the earth and make it the theatre of man's life and activities.

Beneath these mountain ranges and in the outer crust of its surface are many cavities or openings we call volcanoes connected by powerful currents of magnetism constantly circulating from the equator to the poles; and when there is an influx of water or other substance sufficient to generate electric resistance and repulsion, a fuse burns out in the circuit at that point, the volcano sparks, blazes, explodes with great force, and shoots its molten lava into the clouds, or, like Mount Pelee, blows its head off.

Another simple illustration of the universe as a vast electric mechanism is the electric street-car system in our cities. The sun represents the great central power house where the electric power is generated.

The planets represent the cars, which revolve on their axis and speed forward by the same force and in almost the same manner as the planets revolve on their poles and continue in their orbital lines of force. The trolley wire and current are the cars' electric line of force and they come and go in their circuit propelled by the electric generator at the central power house, in very much the same way as the planets revolve and come and go on their orbital circuits around the sun by the moving force and electric power of the sun.

The circuit of the electric current on the car line starts from the dynamo at the power house and returns along the rails or through the earth back to the dynamo. In like manner, the vast electric currents of the sun pass to the earth through the ether without wires and do the lighting, heating and cosmic life-work, and return to the sun completing their circuit; and the earth sends its electric currents to the sun and they return to the earth through the ether in the same manner and complete their circuit. Thus there are vast highways and boulevards of electric currents passing from suns to planets and from planets to suns which are pathways to the stars and the great highways of eternity, on which invisible atoms, and perhaps invisible human souls, may pass from earth to suns and central suns. In the future, man will turn the searchlight of investigation upon electricity as the universal operating cause of all physical phenomena. He will solve the riddle of the universe by its subtle invisible forces. He will cease to regard creation as vast constellations of burning spheres whirling through frigid ether. He will look upon it with wonder and inspiration as a vast self-controlling, life-evolving, varied but unchanging unity, a perfect whole—a vast electric organism of omnipotent power and eternal existence. He will regard electricity as the finger touch of Deity that makes the world go round, that marks out the orbits of suns and the pathway of constellations, and guides them in their mysterious courses to their eternal and inscrutable destiny.

CHAPTER II ELECTRICITY PRODUCES ALL THE PHENOMENA OF NATURE

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I contend that electricity produces all the phenomena of nature—that it is the ever active agent in evolving visible forms and substances whose results are known as laws. Man is the most perfect enfoldment of nature's electric laws, and the world and the universe are the universal expression of electric life and energy.

Man and all the visible forms of creation are woven from invisible ether by electric forces, and, as man's will and thoughts are the governing force of his electric organism, so simple and universal are the laws of nature that the will and thoughts of Deity, by electric energy, are the controlling law and force of the universe, and the ultimate cause producing all causes, all creations, and all tangible forms.

The natural world is the product of matter, and force and all matter is one matter represented by the invisible atom, and all physical force is one force, being the varied manifestations of electric energy. For the natural world is the spiritual unfoldment made manifest by electric power.

Therefore all the varied phenomena of nature, the revolution of the earth on its axis and in its orbit around the sun, the brilliant light and governing power of the sun, the circling stars, the blazing comet, the shooting meteor, the gorgeous rainbow, the luminous aurora, and the dazzling corona are all expressions of electric power. The lightning in the cloud, the reverberations of thunder, the ebb and flow of the tides, the wind currents in the air, the swaying of the

forest, the variations of heat and cold, the falling of snow, the rain drop and the dew are all electric manifestations.

You cannot raise your arm, lift your foot, or move your body except by electric energy. You cannot see or hear or feel or taste or smell or exercise any of the functions of the body without bringing to your aid the electric force which permeates all forms and substance. Electricity creates the mystery of physical life and provides the food and sustenance necessary to its growth and development. Electricity works the miracle of digestion and assimilation and converts inert matter into blood and bone, tissue and muscle, and organizes man's body into an electric machine, and runs it as truly and perfectly by electric energy as the electric motor or generator is run by electricity. Man draws his electric life currents from the air into the lungs as a great electric reservoir, there it purifies and energizes the blood and sends it as an electric fluid and circulating magnetic current through every part of the body, causing the heart valves to pulsate with measureless force and the human machine to throb with intense life and power.

The heart throbs and pulse beats of man's body are but the rythmic whir and vibrations of the human electric machine. Man makes electrical machines of wood and glass and metal, but nature makes them of flesh and blood and of and substance. all-wise matter Nature, the necromancer, makes nothing mysterious but electric machines from the infinitesimal atom to the self-luminous perfected dynamos—the suns and stars. All things that exist are electric generators or electric creations of marvelous construction, power and utility; and all expressions of form