

WILL SCIENCE VERIFY GOD
An Address
By Walter Russell

President of the Society of Arts and Sciences

Delivered at a dinner of the Society at Hotel Pierre, New York, December eighth, nineteen hundred and thirty-two, on the occasion of the presentation of gold medals for "distinction in Science", to Dr. Harlow Shapley, Astronomer, of Harvard University, and Dr. William Crocker, Botanist, of Boyce Thompson Institute of Plant Research, chosen by the Jury of Awards of the Society, Dr. H. H. Sheldon of New York University, Chairman.

We have met here tonight to honor two distinguished workers, searchers into the secrets of the universe, whose gleanings of knowledge are to be woven into one great synthesis. On such an occasion as this we all remember with deep appreciation, that with the passing of each decade the burden of physical labor that has rested so heavily on mankind, has been gradually lifted. It is to Science that we owe the debt for this deliverance. And today we look to Science with confidence for far greater blessings, for the conviction grows that through its ceaseless searchings will soon come such an understanding of the design and working of the Intelligence behind the perceptible universe, that man shall find far greater peace of mind as well as greater rest of body.

In the forefront of the ranks of devoted searchers we find Dr. Harlow Shapley and Dr. William Crocker, each working tirelessly at his portion of the universal picture-puzzle, to collect data which will eventually be correlated to produce a comprehensive picture of the Divine Concept within which every organic and inorganic thing functions according to the Universal Will.

Dr. Shapley is extending our comprehension of the universe into the far galaxies, star clusters, spiral nebulae, Megallanic Clouds and more especially into a greater knowledge of the details of our own nearby village the Milky Way, within which we move along our minute but prescribed path.

Dr. Crocker has greatly extended human knowledge in quite a different field of practical usefulness. He probes for the secrets of life expressed in plant forms along the paths of physiology, pathology, micro-chemistry and plant breeding. Also he searches for life and the pattern of form in the mysterious seed from which mighty forms unfold to a world of men whose very sustenance depends upon that miracle of growth. Is not each in his own sphere of service, leading the world closer and closer to the day of understanding of that ultimate source of all being which we call God?

The human mind now reaches far beyond the orthodox conceptions of God held to by outdated theology. We are fast releasing ourselves from creeds and sectarian dogmas and from the new knowledge which Science is giving us, we are entering into far broader conceptions of the Intelligence which governs the universe.

Instead of approaching God through blind faith and belief, we are gaining much surer ground from which to approach Him.

It is a strange but significant anomaly that Science, for so many centuries considered an enemy of religion, is now seen by enlightened minds both within and without the church, to be the means by which the invisible universe and the Source of all being will be rationally understood.

In the days of Bruno and Galileo, excommunication and the inquisition awaited the scientific heretic, but today scientific knowledge is dissolving so-called religious fundamentalism and Science the excommunicated must soon be united with its former excommunicator.

The religions of today must gain a new vision, consistent with the proven facts of Science if their disintegration is to be prevented. The stark truth of this assertion is evidenced on every hand. Throughout the world there is a constantly growing resistance to the God which theology has long pictured. The determination of countries to entirely separate religion with its outgrown doctrines from their program of national development is unmistakable. But man needs religion as much as he needs food. It is as necessary to his inspirational development as is education to his social evolution, but his need is for a rational religion based upon a God whom he can comprehend and with whom he can dynamically identify himself.

The many differing creeds and doctrines with their traditions, dogmas and abstractions, cannot be united except on a foundation of scientific knowledge. Millikan says:

"Religion that will endure is that which is open to new truths. If churches do not keep openminded they will get into the backwash and go out."

Sir Berkeley Moynihan, President of The Royal College of Surgeons says:

"My quarrel with theologians,-- I speak as a man of Science is very serious. There have been published, innumerable tracts on religion against Science. That is all the most utter nonsense. The man of Science has a far bigger God than the God that can be contained between the four walls of any creed."

The only catalyst for religion is a knowledge of God, gained through demonstrable knowledge of His works. There is constantly increasing evidence that Science is tracing the Source of Creation to the Creator Himself.

Sir Arthur Keith reminds us,

"Just eighty years ago, Herbert Spencer, (the illustrious founder of this Society) began his search for a basis on which he could forecast the direction in which civilization would develop."

About the same time Spencer and Darwin began collecting data for modern biological research, and Franklin, Cavendish and Faraday began their work on the embryo of the photo-electric cell and x-ray.

Mendeleef opened up a new world of thought in emphasizing the orderly repetitive nature of all matter in octaves of tones which exactly correspond with the color spectrum and with the octaves and tones of the musical scale.

At this period physical data began piling up amazingly. Science became intensely physical. The only facts it tolerated were physical facts. The microscope opened up new worlds of crystals and of micro-cosmic cells where life impulses spelled out generations in a moment of time, while the spectroscope, camera and telescope were extending the universe to where life impulses are but one in billions of years.

Still more physical became Science as it added relativity to its concept of physical things of varying potential and action, until the time came when ostracism from the fold threatened any scientist who flew off on a so-called "spiritual" tangent.

But then the question arose, "Is there any line of demarkation between a spiritual and a physical universe," and "have we been calling the invisible universe spiritual just because we could not see or sense it?"

Power seems omnipresent but evidences itself only through matter. Is power actually within matter or is matter but the marionette of space? What is that mysterious energy which motivates our thinking?

Many of our foremost scientists are seriously considering whether that invisible blankness which we call "space" may not be God's invisible universe of omnipotential force. Millikan says:

"I do not believe that the eternal laws that govern our world are limited to the physical."

Such statements are not made officially, mind you, but as prophecies and usually with profuse apologies.

We have begun to sense something tangible and inspiring beyond place, mass, and dimension. There must be a limitless source of static energy somewhere back of all dynamic expression. May not static energy be the seed out of which dynamic action grows?

The power we use in our bodies, may not be in our bodies. Our minds which command our bodies may also not be in our bodies. We know that the singer's voice is not in the radio, it is merely condensed there from space. As a radio condenser records but one of the unnumbered extensions of one voice, operating through it, perhaps mind is a multiple extension of One Universal Consciousness operating through the gradually improving radio sets which we call our bodies.

The soul of man is considered to be a "spiritual" something, emanating from a disintegrating body. What is this organic soul emanation? Is it really "spiritual" or will it be proved to be electro-chemical such as those emanations which integrate inorganic bodies.

Are the familiar Alpha, Beta and Gamma emanations in any way related to what we call the human soul? If a human body is electrocuted the human soul is supposed to leave the body. If the element tungsten is electrocuted, helium emanations leave the tungsten body. Are these effects related? If so, Science will prove not only the existence of "soul" within everything organic, but may it not be found that the chemistry of the soul is confined within the inert gasses which we know will not combine with any other elements.

It may be found that within these gasses lies the possibility of a new science, the science of "psycho--chemistry," in which the patterns of unfolding ideas may be rolling themselves up in the "souls of things and in the seeds of things, ready for their next periodic unfolding.

Within this new domain some Dr. Crocker of the near future may unfold the mystery of the seed and the electric pattern within the seed, and find not only the plants think, but evolve through their thinking as man does.

Conservative Science is slow in co-ordinating the data it collects. It wisely draws no conclusions until its data is sufficiently convincing and premises sufficiently dependable.

If Science the Searcher, were asked if scientists are searching for God the answer would be "No," we are searching the visible universe of matter for material evidence which will allow us to segregate cause and effect in order to find out which is which and where each is.

If Science finds itself justified in altering the traditional concepts of our Newtons, Keplers, and Maxwells, in regard to energy, space and motion, the first of the two necessary steps will have been taken toward verifying and explaining God.

Science says, the universe is full of forms which appear from other forms. But where do their patterns come from; from themselves, or from the ground, or from the seed or from space. What controls growth? What is the Life principle, and what is the pattern principle of growth?

The old physics decreed that space was a void. Space then became an ether. Today's physics places energy within matter. Tomorrow's physics will undoubtedly divorce energy from matter and give it to space. Perhaps space is all there is; all energy, all intelligence, and all concept. It is to space that Science shall look for a comprehensive God.

The first step will have been taken when it is recognized that matter is merely the visible effect of an invisible cause and that energy and force belong to space and not to matter. I am con-

vinced that we are today at the threshold of this revolutionary concept.

Einstein forecast this far reaching change of base from matter to space when he said that the next great step in Science will be the solution of space. "It appears," he says, "that space will have to be regarded as a primary thing with matter only derived from it, so to speak, as a secondary result. Space is now turning around and eating up matter."

I am certain that we are at the point of finding that electricity is but an expression of force in matter and of itself is not energy or force. Also, that we shall soon learn that matter is not energy but merely the quantum or measure of electric expression. In other words, we are on the verge of ascertaining that the dimensional universe which we call the physical visible universe of form emerges from non-dimensional space.

What we call the spiritual universe may prove to be the undivided static Source in space of all divided electric energy. We already know that force can be made active only by division into oscillations. But what is being divided? That is the super question. It is not possible that space is being divided into definite points in space through polarization?

Is it not also possible that space may be found to be the flux record of all images of Mind's ideas, and that all mass is woven forms of those ideas?

If the thinking Mind of God is eventually proved to be the flux of space, light, Mind, energy and the flux of space, will be found to be the One Universal Essence, expressing itself through electricity, weaver of its patterns and constructor of the forms of its ideas in corpuscles of light.

If Einstein's prophesy is fulfilled it would cause a far greater upheaval in Science than Copernicus caused to the concept of Ptolemy. Practically all basic conclusions of today would either be reversed or discarded entirely, for if energy belongs to space as the cosmogony suggests, light would belong to space as Jesus inferred.

It would then necessarily follow that matter is not electricity, but only the dimensional record of polarized action and reaction to LIGHT, acting through known dual electric oscillations. Within this dividing process of electric action and reaction into pairs of opposite poles, may we not ultimately look for the life principle, the sex principle, the reproductive principle and the elusive principle of growth, instead of looking for them in matter?

Necessarily both the first and second laws of thermo-dynamics would immediately go to the board, for heat, being dimensional and measurable, could not possibly belong to energy. Nor could heat belong to space. Heat could only belong to the divided "points" in space which we call "mass".

When energy is found to belong to space, light will be under-

stood to be an emergence from space, and God will have been found to be what Jesus said He was, - LIGHT.

Light would then be found to be the Father-Mother Source of all things, the One Reality, the Spiritual God Force from and to which all evolving-devolving things electrically emerge and merge in cyclic periodicities of genero-active and radio-active pole-creating oscillations, acting dually in absolute balance.

In-so-far as man shall come to know the dual working principle of light will he know the mechanics employed by God in assembling His universe of form and tearing it apart in forever repetitive cyclic sequences.

In-so-far as man shall know energy from which light emerges will he know the Spirit of God as Universal Mind, from which man-Mind emerges as patterned idea, and man-body emerges as the polarized form of that idea.

If matter is electrically derived from space, Millikan and Dirac should get together, for the secret of creation could logically be found in matter being pumped sequentially into appearance at the compressive end of the cosmic piston and into disappearance at the vacuum end. Integration and disintegration would then be found to be continuous everywhere, in the hottest stars as well as in the cold of space, pumping forever back and forth between the two focal poles which control every mass in the universe. Personally I believe the Dirac discovery to be the greatest of this generation.

Astro-physics would then have the advantage of new periodicities, now unknown, such as the periodicity of magnetic poles, the periodicity of prolateness and oblateness and the periodicity of orbit.

Dr. Shapley might localize his work long enough to make a continuative and connective "graph" of the orbits of Jupiter's moons for such a slow-motion-record would show just how electric force unwinds the cosmic clock by its gradual gyroscopic expansion of pressure gradient, how it gradually develops equatorial deserts, then belts, followed by rings, satellites and comets as expressions of its negative, centrifugal oscillation, just as a slow motion picture of a runner plainly shows actions that are too quick for the eye to see.

Our present cosmogony is built upon the dissipative power of one of the attributes of electricity, that of radiation, the distributive oscillation. But what of the other, the compressive one, gravitation, which accumulates? Should not the balancing power then logically be found in gravitation?

Gravitation could logically be the genero-active force which contripetally winds up the cosmos into what we call dense mass, as radiation is the dissipative force which centrifugally unwinds it.

Certain it is that gravitation accumulates and holds things together by its attribute of attraction. And equally certain it is that radiation distributes, and tears things apart by its attribute of repulsion. If gravitation could be suddenly obliterated and leave radiation unbalanced, the universe would instantly explode and disappear.

The "expanding-universe" theorists claim that the universe was "created" billions of years ago. What could have assembled it other than the attractive power of gravitation? Has gravitation resigned from its job? If in doubt one may ascertain that it is functioning as usual by stepping off of a high building and observing the results.

This cubic inch of wood was generated quite recently from many cubic miles of low potential. If the power of gravitation which assembled it were suddenly released by great heat the terrific explosion that would be caused by the return of this cubic inch of condensed solid to its cubic miles of tenuous gases would blow this building to smithereens.

When astro-physicists discover that all systems are fixed striations of cosmic waves, and gain more knowledge of wave principles and the electrical nature of the universe, the heavens will become even more interesting and these orderly structural relations will be safeguarded from such impossible inventions as the De Sitter roulette wheel concept of motion.

The world of Science is willing to accept God, but only a God which could reasonably be the Source of His Creation. "But," say the theologians, "Jesus taught us to accept God through faith and belief." Why cannot Science do likewise? "No," replies Science, "Jesus did not teach us that. He taught that to an evolving people two thousand years ago, whose capacity to comprehend was less than that of children of today.

As we study his teachings from the standpoint of science, we become convinced that He understood light, energy, motion and space and knew what filled space.

He said, "God is Light, in Him there is no darkness." This statement can never be explained through faith and belief. But Science not only can explain it but can prove it.

Science has proved the universality of Light as the One Cosmic Essence, by photographing a room filled with people in pitch black darkness, by a brilliant invisible light. We are now familiar with "dark-light."

Jesus taught that life is eternal; that there is no death. Science may soon prove this to be literally true, and that the body, like all other material phenomena, merely registers the intensity of the thinking of a Supreme Intelligence.

If Science proves this it will give meaning to the words of Sir James Jeans that "matter may eventually prove to be pure thought." Man's body would then no longer be considered man, but merely an electric mechanism of patterned matter through which man thinks and acts his will.

Jesus did not teach that bodies are eternal, but that life is eternal. If the Church would but realize this, and Science prove it, the present dismal idea of death would end, for it would then be understood that our bodies are merely borrowed from the planet for

light to flow through for a time, and must be returned to it as "dust to dust."

Logically then, man created in the "image and likeness of God", would be understood to be Cosmic Mind, working from the invisible flux of space through each forever evolving individual, in cyclic repetitive, patterned waves of measured force.

Science is already giving a dynamic meaning to the idea of omnipresence. Through the radio we are learning that whatever happens anywhere happens everywhere. The universe repeats every word we speak at every point in space. This we may prove by placing a proper condenser anywhere. A condenser is but a mirror. Place a mirrored sphere anywhere in space and all the universe is repeated in it. When we toss a ball in the air, the farthest star adjusts itself to that movement. The universal sea of electro-magnetic flux communicates this action to every corpuscle in the universe through so-called "lines of force" which connect every magnetic pole in the universe to every other magnetic pole, and bids them move the masses which they control, to maintain the universal balance.

Professor Michael Pupin, one of the honored governors of this Society, speaks of corpuscles as being a "countless host of ministering angels coming out of space as a celestial host, toiling harmoniously for the good of man."

Arthur Compton says, "I can well believe that if intelligent direction is back of the universe, life may be the greatest reality in it. The study of physics has changed my conception of the kind of God, but has strengthened my confidence in the reality of God."

Dr. Edwin Frost of Yerkes Observatory says, "the study of astronomy points precisely to a purposeful operation of nature. When you accept this it seems inconsistent with physical science not to believe in a Mind behind the universe."

Our much beloved Willis Whitney says, "In the last analysis, everything operates by the Will of God."

When greater knowledge of space brings to man a consciousness of the reality and dependability of space as all energy, man will then advance into the first stage or tone of Cosmic Consciousness.

This transition should be considered no more remarkable than other transitions in the evolution of the human mind.

Cosmic Consciousness will ultimately become the basis of a new religion as it was the basis of the religion Jesus taught. The bible describes those who experienced this state of illuminated consciousness as having been "in the Spirit." Jesus and Paul referred to this ecstatic condition many times.

Einstein has felt it strongly enough to say,

"The cosmic religious experience is the strongest and noblest driving force behind scientific research."

Einstein has publicly announced this sensing of the cosmos within all things as the basis of his religion and he has been pronounced an atheist for having done so.

Everyone feels it to the extent that he is possessed of those qualities known as intuition, inspiration, imagination, rhythm, ecstasy and genius.

These qualities are the essences of the Cosmic Sense of Space Consciousness through which man may find God.

Through the rhythm of beauty as expressed in the Arts; through knowledge as expressed in Science; and through unity, love and the Divine Nature of things as expressed in Religion, civilization will be lifted to new heights.

When Science the Searcher, has added to its present knowledge the data which will have been unfolded when Space has given up its secrets to the patient research workers of the world, humanity will then know through them what was meant when Jesus was referred to as "the Son of the Living God," and when He declared, "I and My Father are One, and the Father is in me and I in Him."

Walter Russell