

**Trinity in Light: One Essence, Numerous Attributes; Hypostatic Union in Light: Wave & Particle Duality of Quantum Mechanics Illustrates Deity & Humanity**

- 14) God is one in essence but with several attributes that define it.  
A summary is provided by:

Thieme, R. B., Jr. *The Integrity of God*. 4th ed. (Houston: R. B. Thieme, Jr., Bible Ministries, 2005), 264-66:

Essence is defined as the basic constituent of a thing, the intrinsic nature of something; that which underlies all outward manifestations and is both permanent and unchangeable, as contrasted to what is accidental, ephemeral, or superficial. Essence implies being or existence and identity.

God's essence refers to His qualities and perfections which are classified as attributes and have always existed: sovereignty, righteousness, justice, love, eternal life, omniscience, omnipotence, omnipresence, immutability, and veracity. The sum total of God's attributes is His essence. (p. 264)

All the attributes of divine essence are present in God, but all are not always manifest at the same time. This is illustrated by light. All the colors of the visible spectrum are resident in a ray of white light, but the individual colors are only seen under different circumstances of reflection and refraction.

When divine essence is the subject, God is revealed and studied as one. The oneness of God, called His glory, is the identical essence or character in all three persons of the Godhead. In the unity of God, there is only one essence, one substance. Therefore, God is one in essence, three in persons.

When divine persons are the subject, God is revealed in three separate and distinct persons who are distinguished throughout Scripture. The word "Trinity" is used to express three persons in one Godhead. In the Trinity, there are three coequal, coinfinite, coeternal persons in one essence: the Father; the Son; and the Holy Spirit. (p. 265)

To more fully understand the invisible, immaterial, infinite, unlimited essence of God, the believer is dependent upon the infallible Word of God—the canon of Scripture—and the filling of the Holy Spirit. (p. 266)

- 15) Although all the colors of a ray of light are present, not all are manifest. When an object reflects a frequency common to the red zone of the spectrum it means that it has absorbed all the other frequencies. The eyes' red receptors detect this reflection and transmit it to the visual cortex and we see the color red.
- 16) All the characteristics of divine essence are present in each person of the Trinity but only those pertinent characteristics in a given situation are observed by man.

C) Light As an Analogy of the Hypostatic Union:

- 1) The composition of light has befuddled scientists for centuries, however discoveries in the early twentieth century resulted in the conclusion that light is made up of both waves and particles.

**2) The following excerpts from an article by Andrew Zimmerman Jones present this duality in elementary terms:**

<http://physics.about.com/od/lightoptics/a/waveparticle.htm?terms=Wave+Particle+Duality>

Wave Particle Duality

Andrew Zimmerman Jones

The wave particle duality principle of quantum physics holds that matter and light exhibit the behaviors of both waves and particles, depending upon the circumstances of the experiment. It is a complex topic, but among the most intriguing in physics.

### Wave Particle Duality in Light

In the 1600s, Christiaan Huygens \hī'-ganz\ and Isaac Newton proposed competing theories for light's behavior. Huygens proposed a wave theory of light while Newton's was a particle theory of light. Newton's prestige helped lend support to his theory, so for over a century his theory was dominant.

[English physicist] Thomas Young [the first to explain color sensation as due to presence in the retina of structures corresponding to colors red, green, and blue] conducted an experiment in 1801 that firmly supported the wave theory of light over Newton's particle theory.

In 1905, Albert Einstein published his paper which proposed that light traveled as discrete bundles of energy. The energy contained within a photon was related to the frequency of the light. This theory came to be known as the photon theory of light (although the word photon wasn't coined until years later). It still left the odd paradox of why wave behavior was observed.

As experiments were performed and evidence accumulated, the implications quickly became clear and alarming: Light functions as both a particle and a wave, depending on how the experiment is conducted and when observations are made.

### Wave Particle Duality in Matter

The question of whether such duality also showed up in matter was tackled by the bold [Louis-Victor] de Broglie \brawl'-yā\ hypothesis, which extended Einstein's work to relate the observed wavelength of matter to its momentum. Experiments confirmed the hypothesis in 1927, resulting in a 1929 Nobel Prize for de Broglie.

Just like light, it seemed that matter exhibited both wave and particle properties under the right circumstances. Obviously, massive objects exhibit very small wavelengths, so small in fact that it's rather pointless to think of them in a wave fashion. But for small objects, the wavelength can be observable and significant.

### Significance of Wave Particle Duality

While the mathematics, though complicated, makes accurate predictions, the physical meaning of these equations are much harder to grasp. The attempt to explain what the wave particle duality "actually means" is a key point of debate in quantum physics. Many interpretations exist to try to explain this.

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- 3) Research in the field of quantum mechanics is ongoing and designed to determine if light is made up solely of waves, particles, or both. This article sums up the quantum quandary:

**Encyclopaedia Britannica: Macropaedia. 15th ed. (Chicago: Encyclopaedia Britannica, 1979), 10:946:**

**Quantum theory of light.** In the classical electromagnetic-wave theory, the absorption of light is a continuous process and there is no lower limit to the amount of energy that an atom can absorb from light of given frequency. The minimum "element of energy" is now called the quantum.

The theory in which [Max] Planck \plānk\ introduced the quantum was concerned with the interaction between radiation and matter. He expected that only minor modifications of the electromagnetic theory of light in free space and of the electron theory of matter would be needed. This expectation was not realized. Experiments led Albert Einstein to regard light as an assembly of entities, later called photons. In many situations the photons appear to have the properties of particles.

The theory which includes those experiments that seem to require a particle theory and those that support a wave theory is known as quantum mechanics.

- 4) What research into quantum mechanics is trying to resolve is the inscrutable idea that light is made up of both particles—or matter—and waves which are immaterial.
- 5) The theories that define light as both particles and waves hold up under present formulas developed by the physicists mentioned: Huygens, Newton, Young, Einstein, de Broglie, Planck, and others.
- 6) Whatever the final solution the debate gives us an obvious illustration regarding the hypostatic union of Jesus Christ. He has two natures but one personality.
- 7) The hypostatic union is defined as follows:
  1. In the person of the incarnate Christ are two natures, divine and human, inseparably united without mixture or loss of separate identity, without loss or transfer of properties or attributes, the union being personal and eternal.
  2. There is no mixture of the two natures to form a third substance or hypostasis. The human nature always remains the human nature and the divine nature always remains the divine nature.
  3. It is orthodox to refer to Christ as “theanthropic”: Θεός, *Theos* plus ἄνθρωπος, *anthrōpos*: the God-Man. The two natures are united without transfer of attributes. It is impossible to transfer an attribute of one nature to the other nature without destroying that nature.
  4. Each essence is composed of the sum total of its attributes. A change of attributes involves a change of essence. Therefore, there is no change in the essence of deity or the essence of humanity. The focus of the doctrine concerns the union of two natures, divine and human in one hypostatic union, one person.
  5. Beginning with the incarnation of Jesus Christ, a human nature was inseparably united forever with the divine nature of Jesus Christ. Yet the two natures remain distinct, whole, unchanged, without mixture or confusion, so that Jesus Christ is true humanity and undiminished deity in one person forever.
- 8) Thus the person of Christ is made up of two essences, one is undiminished deity which is invisible and immaterial and the other is true humanity which is visible and material.
- 9) The way the apostle John chose to illustrate this doctrine is through the phenomenon of light which itself is apparently made up of two natures.
- 10) The wave theory illustrates the immaterial nature of the Lord’s undiminished deity while the particle theory illustrates the material nature of the Lord’s true humanity.
- 11) Light is one thing but expresses itself in two ways: particles which are matter and waves which are immaterial.
- 12) The Lord Jesus Christ is one personality but it is expressed in two ways: through His undiminished deity which is immaterial and His true humanity which is material.
10. John’s point in verse 5 is that God is Light. We find this phenomenon of nature to be made up of several categories: the electromagnetic spectrum, within which we find visible light’s color spectrum bounded by ultraviolet and infrared radiation. In addition, these attributes are discovered to have a dual nature of both material particles and immaterial waves.

11. All of this communicates to us the inscrutable aspects of the Godhead and the hypostatic union of Christ. Not only is God said to be light but His Word is said to be light and when it enters into the *kardia* of the soul we are said to “see the light.”
12. John goes on to declare that in God “there is no darkness, no, none at all.” This verse identifies the opponents in the Invisible War. Doing battle for The Light are the invisible angelic armies under the leadership of Michael and Gabriel.
13. Systematically recruited among the ongoing generations of human history are the visible soldiers for Christ among whom are developed the *promachoi*, front rankers that in every generation withstand the assaults of the enemy by using maximum doctrine to outthink the ingenious strategies of the Luciferian conspiracy.
14. In unrelenting opposition and with nefarious designs to rule this world are the forces of Darkness whose invisible legions under the rulership of Lucifer recruit through duplicity and deceit, human operatives who reject the authority of God, attack His standards, and denounce His followers.
15. Therefore, John’s use of the Gnostic’s dualistic vocabulary of light and darkness identifies the opponents in the Invisible War. The forces of the Dark Side operate as a Fifth Column within the souls of men.