

Original Research Article

A theoretical discussion on the earth's neutron-proton structure

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Abstract: Modern Western physics has formed a unified judgment on the composition of the Earth, neutrons and protons. Geophysical research splits the planet into three concentric layers: Core, mantle and crust; particle physics further claims nucleons are constructed by up and down quarks with fractional electric charges. Drawing on the ancient Chinese philosophical system of Yi Learning, this paper restudies the internal structures of such microscopic and macroscopic matter, drawing deductions that differ greatly from prevailing Western physical theories. Relying on the Three Talents rule and Six Harmonies reasoning recorded in Yi classics, the paper puts forward a new composition model: Neutrons and protons are formed by five basic elementary units, namely Metal Quark, Wood Quark, Earth Quark, Fire Polariton and Water Polariton. There exists an obvious divide between Eastern Yi-based analysis and Western physical explanation for material structures. To facilitate academic exchange and collective verification, this paper is submitted for joint discussion by relevant scholars.

Keywords: earth's core membrane; three talents; six harmonies; metal quark; wood quark; earth quark; fire polariton; water polariton

1. Introduction

There exist diverse feasible research paths for exploring natural laws. Applying Yi Learning's thinking to interpret natural phenomena has brought new progress to fundamental natural science research. Continuous practical derivation proves a core axiom of Yi Learning: Yin-Yang dialectics, Five Elements and Eight Trigrams constitute the basic theoretical system that drives the Dao to generate all tangible objects in the universe. Such applied research also helps humans better understand how Three Talents and Six Harmonies work to create every substance across the cosmos.

2. An interpretation of earth's internal structure via Yi Learning

Standard geophysics classifies the Earth's interior into three concentric layers arranged from center to surface: Core, mantle and crust. Two key seismic discontinuities separate these geospheres: The Gutenberg Discontinuity sits at the boundary of core and mantle, and the Mohorovičić Discontinuity forms the dividing line between mantle and crust. **Table 1** lists the layered partition of the Earth deduced by Yi Learning's philosophical logic.

Table 1. The theoretical stratification of the earth derived from Yi Learning.

The Earth							
Yang				Yin			
Metal		Fire	Wood		Water	Earth	
Qian	Dui	Li	Zhen	Xun	Kan	Gen	Kun
Inner Core	Outer Core	Earth's core membrane	Lower Mantle	Upper Mantle	Asthenosphere	Lower Crust	Upper Crust
Core		Gutenberg Discontinuity	Mantle			Crust	

In this paper, we rename the Gutenberg Discontinuity between core and mantle as the Earth's core membrane, as shown in **Table 1**. This thin interface layer holds physical traits entirely different from the core and mantle. Within the Five Elements framework, mantle matches Wood, core matches Metal, and the Earth's core membrane belongs to Fire. As an ultrathin boundary film, its maximum thickness is estimated to be only a few kilometers. The author infers this membrane takes gaseous or liquid form, which obstructs

seismic waves from traveling into the inner core. Against mainstream geophysical consensus, this paper holds that the Earth's outer core is solid instead of liquid.

The layered structure of the Earth complies with the internal logic of Yin-Yang, Five Elements and Eight Trigrams. Based on this rule, Metal, Wood and Earth are confirmed as the Three Talents that construct all cosmic substances among the five basic elements. The Six Harmonies rule derives from matching pairs of the Eight Trigrams: Qian plus Dui composes Metal, Zhen plus Xun composes Wood, Gen plus Kun composes Earth. The matching logic of Six Harmonies perfects and stabilizes the Three Talents system. Every substance in the universe follows the Primordial Eight Trigrams and original Five Elements sequence to form. The primordial sequence of Five Elements ranks Metal as No.1, Fire No.2, Wood No.3, Water No.4, Earth No.5. As the core construction units, Metal, Wood and Earth form all cosmic bodies; Fire and Water only act as transitional boundary media isolating the three core elemental groups.

3. Western academic research on neutron and proton structure

Dominant Western particle physics defines the internal composition rule of neutrons and protons: Each neutron contains two down quarks with $-1/3$ elementary charge and one up quark with $+2/3$ elementary charge. Each proton is made of two up quarks (each $+2/3$ elementary charge) plus one down quark ($-1/3$ elementary charge). **Table 2** sorts out this corresponding structural composition.

Table 2. Neutron and proton composition model in western particle physics.

Neutron			Proton		
Down Quark	Up Quark	Down Quark	Up Quark	Down Quark	Up Quark
$-1/3 e$	$+2/3 e$	$-1/3 e$	$+2/3 e$	$-1/3 e$	$+2/3 e$

This widely accepted quark model has four obvious theoretical defects. First, lab experiments never capture independent free quarks, and scholars put forward the quark confinement hypothesis as a makeshift supplementary explanation. Second, it cannot provide an essential theoretical reason for the different stability features: Neutrons produce spontaneous decay, yet protons maintain ultra-long structural stability. Third, the model cannot interpret the astronomical fact that neutron stars widely exist in space, while no proton star has been observed so far. Fourth, all these defects reveal that mainstream Western physics ignores the Three Talents and Six Harmonies rules that dominate the generation of all cosmic matter, a core theoretical basis missing from contemporary microscopic particle studies.

4. Interpretation of neutron and proton structures from the perspective of traditional Chinese Yi Learning

This paper builds a new particle structural model based on Yi Learning's logical system. Neutrons are assembled by five basic units: Metal Quark, Fire Polariton, Wood Quark, Water Polariton and Earth Quark. Protons only include four units without Water Polariton: Metal Quark, Fire Polariton, Wood Quark and Earth Quark. **Table 3** and **Table 4** display full structural details. Fire Polariton belongs to Yang and carries a complete positive elementary charge; Water Polariton belongs to Yin and holds a complete negative elementary charge. The three core quarks (Metal Quark, Wood Quark, Earth Quark) carry zero total charge and stay electrically neutral.

Table 3. Neutron structural model established via traditional Chinese Yi Learning.

Neutron							
Metal Quark		Fire Polariton	Wood Quark		Water Polariton	Earth Quark	
Qian Sub-Quark	Dui Sub-Quark	Positive Charge	Zhen Sub-Quark	Xun Sub-Quark	Negative Charge	Gen Sub-Quark	Kun Sub-Quark
Yang	Yin	Yang	Yang	Yin	Yin	Yang	Yin
Neutral		Positive	Neutral		Negative	Neutral	

Table 4. Proton structural model established via traditional Chinese Yi Learning.

Proton						
Metal Quark		Fire Polariton	Wood Quark		Earth Quark	
Qian Sub-Quark	Dui Sub-Quark	Positive Charge	Zhen Sub-Quark	Xun Sub-Quark	Gen Sub-Quark	Kun Sub-Quark
Yang	Yin	Yang	Yang	Yin	Yang	Yin
Neutral		Positive	Neutral		Neutral	

We derive this particle composition model from the Three Talents rule, which takes Metal, Wood and Earth as the basic construction units of neutrons and protons. Following the Six Harmonies principle: Metal Quark forms from Qian Sub-Quark matched with Dui Sub-Quark; Wood Quark comes from Zhen Sub-Quark paired with Xun Sub-Quark; Earth Quark assembles Gen Sub-Quark and Kun Sub-Quark. Every matching group contains one Yang and one Yin sub-unit, offsetting electric charges to make Metal, Wood and Earth Quarks neutral overall.

From the geometric logic of Five Elements, neutrons form a three-dimensional double trigonal bipyramid structure, and protons take the shape of a single trigonal bipyramid solid body. By contrast, nucleon quark models from Western particle physics only describe flat two-dimensional planar structures.

Yi Learning argues quarks and electrons sit at different hierarchical levels within microscopic particle systems, and quarks own higher structural and energy grades compared with electrons. Scientists can steadily detect and separate electrons in labs for a long time, but no independent free quark has ever been captured, creating an obvious logical contradiction in modern physical research. Therefore, the author reaches a core judgment: Fractional electric charges do not exist in nature, and the prevailing quark theory adopted by physics communities has essential logical flaws.

This new structural model can logically explain the huge stability gap between neutrons and protons. Inside a neutron, the negatively charged Water Polariton receives electrostatic repulsion from three Yin sub-quarks (Dui, Xun, Kun) inside the Metal-Wood-Earth three-quark group. Such repulsive force pushes Water Polariton out as an electron, and the original neutron will convert into a proton. In contrast, the positive Fire Polariton inside protons keeps receiving attraction from the three identical Yin sub-quarks, forming a balanced structure where three Yin units surround and stabilize a single Yang carrier. This special structural layout endows protons with extremely lasting structural stability.

Astronomical observation data prove neutron stars scatter widely across cosmic space, yet no proton star has been observed. Such a cosmic phenomenon can be explained via the structural distinction between two nucleons. Neutrons have symmetrical matching terminals to realize end-to-end connection between single particles; protons only hold one single positive pole without matched docking interfaces, which prevents large-scale dense accumulation.

Among all microscopic elementary particles discovered by mankind, only neutrons fully contain the complete structural logic of Yin-Yang, Five Elements and Eight Trigrams. All other subatomic particles miss at least one Five Elements unit in their internal construction framework.

5. Future outlook

Famous British historian Arnold Toynbee once stated that human civilization will face a bleak prospect if Chinese traditional culture cannot replace Western culture as the world's leading ideological system. The author holds the opinion that Chinese culture cannot take the leading role in global civilization without two core classics: Tao Te Ching and I Ching. With these two canonical texts as core support, Chinese traditional culture is bound to lead the mainstream development of human civilization. The ultimate Dao operates under concise and universal rules; the endless generation, transformation and cyclic evolution of the whole universe all follow the logic of Yin-Yang, Five Elements and Eight Trigrams. Daoist philosophy and Yi Learning expose the essential formation and evolution rules of all cosmic matter, laying a steady theoretical foundation for humans to explore natural phenomena and the origin of the universe.

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