

Essay

Bhrgu: The God of God Particle

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ABSTRACT

It is suggested that there exists a conceptual proximity of *Rishi Bhrgu* with Higgs boson. It also brings Higgs field and gravity within its fold. One has to marvel at the intuitive powers of the human mind, and the *Vedic Rishis* are the finest example of that. This is a queue that Nature has given us and missing it will cast us in darkness. Thus it is said that, *Bhrgu* is the “God” of “God Particle”!

Key Words: Bhrgu, Vedas, Rishi, God, God Particle, Higgs boson, gravity.

Science today stands at a unique vantage point from where it can unravel many mysteries in Nature. We were aware of atoms for long, and now we are learning about the sub-atomic fundamental particles that make up an atom. These fundamental particles are categorized in to two types – one that is matter and the other that carries force. The former is known as fermions and the later bosons. Again, elementary fermions are of two types – leptons and quarks. The most common known leptons are electrons and neutrinos, while examples of composite quarks are protons and neutrons. Thus, we have the ingredients of an atom from the fermions family – electrons, protons, and neutrons. But these fundamental particles by themselves could not have created this material world unless they interacted with each other. So there is another part to the puzzle and that is force.

There are four fundamental forces that are known to us – electromagnetism, strong interaction, weak interaction, and gravitation. If there is force then there are force carrying particles too. These are known as bosons, named after the great Indian scientist Satyendranath Bose. The process can be simply described as follows: two fermions go in \rightarrow interaction by boson exchange \rightarrow two changed fermions go out. Due to the impact of these bosons, the fermions undergo a fundamental energy transformation which in turn results in change of speed, direction, and charge. Each force interacts with the help of a mediator particle or bosons namely – photons for electromagnetism, gluons for strong interaction, W&Z bosons for weak interaction, and gravitons for gravitation.

However, there is a big question that still remains unanswered- How do fundamental particles get mass? To put it in perspective, our weight on planet Earth is a resultant of two things – our body mass and the force of gravity. But what determines our mass in the first place? With the help of the Standard Model of Quantum Physics science could only vaguely predict the cause of mass lending phenomenon with the help of Higgs field and Higgs boson, both named after physicist Peter Higgs. The Higgs field is the stuff that gives all other particles mass. Different particles interact with the Higgs field with different strengths; hence some particles are heavier than others. Some particles have no mass because they do not interact with the Higgs field; actually, they do not feel the field at all. However, Higgs field is not a force as it cannot

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accelerate particles. On the other hand, it can transfer energy to other particles. Higgs field interacts through Higgs boson. This illusive Higgs boson is popularly known as the God particle. It gets its mass like all other particles: by interacting with the Higgs field. It can be thought of a dense spot in the Higgs field, which can travel like any other particle. The Higgs boson can be compared to a Hollywood superstar. Imagine you are at a Hollywood party expecting the arrival of a superstar. The crowd is rather thick and evenly distributed around the room, chatting. When the celebrity arrives, the people nearest to the door gather around her. As she moves through the room, she attracts the people closest to her, and those she gradually moves away from return to their conversations. By gathering a bulging cluster of people around her, she has gained momentum, an indication of mass.

Also, scientists postulated that what we would consider empty space is in fact permeated by a mysterious something - a field always ready to “resist” the presence of any particles it may encounter, and thus endows them with mass by effectively condensing momentarily around the particles it encounters. Without this mass-giving effect, nothing would exist. Recent scientific discoveries at Large Hadron Collider at CERN, Switzerland, confirmed that scientists found a glimpse of the elusive Higgs particle, which is the last missing piece in the Standard Model.

However, this is not all and the story does not end here. As we turn our attention to the *Vedas* we find that some 5000 years ago, India knew the existence of particles and fields that provide the missing mass, and captured its essence in the name “*Bhrgu*”. Recent studies in *Sanskrit* linguistic and the vast *Vedic* and *Puranic* dossiers that we have at our disposal have unveiled a completely new scientific base of our *Vedas*. The key lies in the nature of *Sanskrit* language and its essential character being verb-based. A name in *Sanskrit* describes the function or action that it performs and is not just a mere sound symbol. #

Let’s take for example the word *Rishi*. It stands for an entity or that fundamental form of matter that spins on its axis to give new forms. The change in matter is irreversible and it is an intermediary step before we arrive at a final gross form of matter. The verb-root “*re*” is responsible in starting a new phase in the development of both material and physical existence. English language also carries this legacy with words such as ‘return’, ‘remake’, ‘renew’ etc. The biggest treasure of *Vedic* knowledge is *Rig* as in *Rig Veda*, applied in the sense of knowledge or *Aryan* as the *Vedic* people identified themselves; such high value was given to the verb root-‘*re*’. As per the *Puranas*, when a person brings new knowledge (*vidya*), matter (*sat*), penance, meditation, heat (*tapas*) is a *Rishi*. In that sense, stars including the Sun are all called *Rishi*. So, one has to go beyond the ordinary meaning of *Rishi* as a seer or illumined man. *Rishi* also means the second level matter having spin and movement responsible for creating third and final level gross forms of matter as in atoms.

Further systematic studies on Sanskrit verb-root have found that *Bhrgu* is composed of two roots – *bhrs* + *u*, where *bhrs* means the entity that provides the essence of fulfillment in the act of becoming. And how does it do that? The answer is, by giving its own mass. *Bhrgu* is derived from the word *bhar* or weight or mass and also the word *bhob* meaning becoming or existent. Finally the root *gu* means that which is delivered in a new form. Thus it is said that the concept of *Rishi Bhrgu* is that of the Higgs boson, which transfers its own weight to some other particle, thus accounting for the missing mass in an atom. Also, we find references in the *Vedas* that

Bhrgu has been put in the navel of the world so that men can see the light of the day. *Bhrgu* as a *Prajapati* or progenitor falls under a totally different class and denotes the causative state of matter. Coupled with the word *Rishi*, this stands for fundamental particle.

A parallel interpretation of *Bhrgu* at a philosophical level is that *Bhrgu* is the spiritual essence in man that gives man the needed weight in thoughts, so that he becomes capable of separate existence drawing from the infinite source. In the Puranas, *Bhrgu* is closely associated with *Agni* or consciousness, which they find and bring to men, telling us that spirituality in man is a consciousness raiser.

However, a question may arise at this point. How does the information that *Bhrgu* is Higgs boson, help us in any way. It is now when we need to look deep in to the *Puranic* stories and decode them to know more about this mythical character *Bhrgu*. As per the *Upanisad*, *Bhrgu* is the son of *Varuna*. *Varuna* is the cosmic water and also the Lord of Oceans on earth. *Varuna* etymologically means, that which gifts the essential core without him taking any credit for the gift. Throughout the *Puranic* stories *Varuna* is the lord of the universe, associated with darkness, and is described as fashioning and upholding heaven and earth, the all-encompassing lord. *Varuna* has two attributes - heat and force. *Varuna* is conceptually the Higgs field or alternatively can be the sea of Dark Energy. Thus the weight that *Bhrgu* or Higgs boson carries is from his father *Varuna* or Higgs field.

The importance of *Bhrgu* in *Vedic* science is unsurpassed. In the *Bhagavad Gita*, Lord *Krishna* while disclosing the various facets of His essential nature mentions that – “among *Rishi* I am *Bhrgu*”. Indicating that *Krishna* or gravity or the undetected graviton owes it's allegiance to Higgs boson. The subsequent function of *Bhrgu* is allegorically represented through his son *Cyavana*, meaning one who causes to move, or the reason behind motion in this universe. Besides few other sons of *Bhrgu* are worth mentioning as it serves to clarify *Bhrgu*'s contribution in the overall scheme of things. *Bhrgu*'s son is *Bhuta* meaning existent or reality, another son is *Dhata* meaning to balance, hold in equipoise as a pair of scales, and *Vidhata* meaning that which in center maintaining the balance at all times between things moving in different direction. These all are role played by Higgs boson.

So, it can be safely concluded that there exists a conceptual proximity of *Rishi Bhrgu* with Higgs boson; it also brings Higgs field and gravity within its fold. One has to marvel at the intuitive powers of the human mind, and the *Vedic Rishis* are the finest example of that. This is a queue that Nature has given us and missing it will cast us in darkness. Thus it is said that, *Bhrgu* is the “God” of “God Particle”!

Sanskrit root meanings cited in this article have been adopted from the encyclopedic work of Bangiya Sabdarthakosh by Kalim Khan & Ravi Chakavarti

NB: All Sanskrit words have been identified using Italic.