

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

The Unification Theory and The Pearl-String Model of the Universe

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ABSTRACT:

Based on fundamental principles we try to prove that everything including forces, particles and even space and time are a manifestation of a single, fundamental state.

1. A Thing, the types of words and word meaning:

An object is defined as that which is the substratum of the genus, differentia and action [1] as depicted in Figure 1.



Figure 1. Object as the substratum of genus, differentia and action

These attributes (Genus, Quality and Action) are classified as shown in Figure 2. An attribute is of two kinds- one that is inherent and the other which is imposed upon it like a name. The inherent attribute again is of two kinds, an attribute that is fully accomplished and that which is in the process of accomplishment. An accomplished attribute is of two kinds- the genus or class and the quality. Genus is never found away from the individuals in which it resides, while a quality distinguishes a thing from other things belonging to the same genus or class.



Figure 2. Object attributes, which uniquely identify an object

An example of the genus is fox-ness, quality is whiteness and action is cooking. An attribute of an object in the process of completion is called an action. For instance, the color of a sheet of paper (whiteness) is an accomplished fact. But action implies a series of activities some completed and some in the process of completion, which occupies successive portions of time [2].





2. Object, its identity and the identity theorem:

Identity theorem: An object stands for that unchanging recognizable element which persists in all the changes that it undergoes [3] as shown in Figure 3. This is because if an object changes, it still remains the object hence the object is something which persists across the change and which we know to be the genus or universal.

For example, if a silver bell (or a silver object) is twisted out of shape what remains is it being made of silver and it is an object. So it is still a silver object but the silver bell is destroyed. So speaking practically it is the genus that the object is. Qualities are properties which undergo change. As a result of the genus persisting you are able to identify the object across all changes as the genus remains constant.

3. Classification of words in the Sanskrit Language and the types of objects a word can refer to:

The Sanskrit linguists hold that the import of words is either genus, quality, action or names. Hence there are four main types of words- genus word, quality word, action word and name word [4]. It is particular to the Sanskrit language but the import or idea is universal to all languages. What is indicated by a word is of four types- genus, quality, action and proper names as depicted in Figure 4.



Figure 4. Types of words and what they indicate with examples.

4. Word Meaning is the Universal or Genus:

Theorem: Word meaning is universal or what is indicated by a word is universal. This is the claim by the Jatipaksa school of thought and is also shared by various grammarians.

Proof:

So as discussed before the four classes of things or words are: 1. Genus word. 2. Quality word. 3. Action word. 4. Proper name word. Genus word: The universal/genus consists of all objects belonging to the class. Example: Tree. Genus: All trees.

Quality word: The universal consists in that they distinguish things from other things of a class. So the Genus consists of the things which they distinguish. Example: White.

Genus word: All white things for example light white box, yellowish-white lamp. All these things produce the cognition of whiteness.

Action word: The universal/genus consists of all similar actions distinguished by subject, object, position, time etc. Example: Eat. Genus: All Eating actions are distinguished by qualifiers, space and time. All these actions produce the same cognition of eating.

Proper name word: It stands for that unchanging recognizable element that persists in all the changes it undergoes. This is because if an object changes, it still remains the object hence the object is something which persists across the change and which we know to be the genus. Hence the name also denotes the universal. Example: Picolo [4]. The four types of words have been listed in Figure 4. With their respective examples.

So we see that the four classes of words convey a genus only, a genus word already conveys a genus. A quality word conveys a class of qualities which fall within the same class for example dark yellow, light yellow etc constitute the class of colours called "yellow" which in itself is a quality. Action words too convey a genus of actions like "eating in a park", and "eating with hand" are all actions which come under the genus of eating (action). A proper name stands for that unchanging recognizable element that persists in all the changes it undergoes; which is by definition the genus. Hence we can generalize that all words that indicate an object (genus, quality, action or class instance) convey the genus only.

5. All Words Convey "Existence / Being":

As discussed a thing has four attributes:

- 1. Name
- 2. Class
- Quality
 Action

A thing and its various attributes are depicted in Figure 5 [5].





6. Existence makes things exist, hence it is in everything:

Existence means the "state of existing". Therefore, it is the class under which all fall. The highest universal is "Being" or "Existence" (Satta), and it is inherent in substances, qualities and activities and makes them exist [6]. Satta is all-pervasive and inheres in everything(that exists) and makes them exist, including substances, qualities, and actions. So everything falls under the category of existence(Satta). All words ultimately refer to Satta.

7. Word meaning, where word indicates a thing according to the two schools of thought in India is as follows:

1. Jatipaksa claim that the word refers to the class(lati) to which the individual/thing belongs. What is implied is that the word refers to a persistent thing across changes(Jati) [7].

2. Vyaktipaksa claim that the word refers to the individual, which is a finished thing or an instance of a class(Jati) [7].

A word can mean either the individual thing which it signifies (finished thing) or the genus the thing has, according to the two schools of thought as shown in Figure 6.



Figure 6. The two schools of thought and word meaning

7.1 The Individual or finished thing (Dravya) has the following properties [8]:

1. It is a collection of qualities, both generic and specific.

2. It has an essence(Tattva) which is not lost as qualities appear and qualities disappear. It remains the same even if some qualities appear and some qualities disappear. For example, an orange fruit at one instant is raw and in the future, it ripens, instead of naming it a different orange we call it the same orange as the essence is not lost only the quality of being raw is lost and the quality of being ripe gained.

3. The essence is the basis for the cognition of the same form and the naming of the individual and is a property present in the object.

7.2 Jati and the individual thing:

Jati is that attribute which gives life to a thing and is never found dissociated from the individual thing in which it resides.

7.3 The relation between the word and the denoted object must be permanent [9]:

The relation between the word and the denoted object must be permanent, if it is not so then the word would not refer to the object it was referring to initially an example is shown in Figure 7. The word must point to such a thing in the object which is permanent such that the relation between the word and the denoted object is permanent as shown in Figure 8.



Figure 7. Word(Silver ring) stops referring to the denoted object after the silver ring becomes silver object 1 which is undesirable



Figure 8. Word(Silver object) continues referring to the denoted object even after the silver ring becomes silver object 1 and silver object 2 which is highly desirable.

7.4 Persistent Jati, Jatipaksa school and persistent Dravya, the Vyaktipaksa school:

Case 1: When word meaning is a Jati: Jatipaksa school If the word meaning is a Jati, then the highest Jati being Existence/Being or "Satta" can be taken as the word meaning this is because the highest Jati persists or remains with the object in all cases. An example is shown in Figure 9. As a result, the word continues to denote the object in all situations. So if the word meaning is a Jati, the words always refer to "Existence". And each object is a type of "Existence" differentiated by some quality or the other.



Figure 9. The class silver object partially persists, but the class "Being" persists across its existence, hence if the word was to mean "Being" it would be always associated with the denoted object.

Case 2: Word meaning is an individual thing or Dravya: Vyaktipaksa school If the word meaning is an individual thing and the property which names that individual thing or "Dravya" is permanent it continues to denote that thing persistently. In Figure 10, we revisit the example tackled in case 1. If the naming property is "being existent" and the thing is consequently called "Being" or "Existence" the word would always signify the denoted object as shown in Figure 10. Dravya "Being" is the expressed meaning of all words or all objects are the dravya "Being" differentiated by some property or the other.

Hence the message is that both the meanings i.e. Jati and Dravya(Individual object) point to or refer to the same meaning "Existence" or "Being". Hence all words refer to or mean "Being"/"Existence" which is called Brahman (something which is present in all and is present everywhere) as shown in Figure 11.



Figure 10. The individual thing Silver partially persists, but the individual thing "Being" persists always, hence if the word is "Being" it would be always associated with the denoted object. Where the naming property is "Existing".



Figure 11. The two schools of thought on Word Meaning and Existence

8. Being or Existence is of two types [10]:



Figure 12. Static Being: Individual and Dynamic Being: Action

1. Static Being

2. Dynamic Being

A static existence is a reality which is viewed without any temporal sequence, i.e. existence at a given time. When reality appears in a temporal sequence it is dynamic and called an action [10]. The two types of being are depicted in Figure 12.

So existence/being without a temporal sequence is called substance, individual, "dravya" or the thing. In Figure 13. we see that the Genus is that which is constant across a change and the Quality is that which undergoes changes. So a thing is a collection of what is constant (genus) and that which changes (quality). A thing possesses a genus and qualities.

Thing: Type of Being (Static, viewed without temporal sequence)

Action: Type of Being (Dynamic, viewed with temporal sequence)

Genus: Something which is persistent across the change. And as it has existence, it falls under the category of Existence/Being. So the Genus an object possesses is a type of Existence/Being itself. Where Existence/Being is the highest universal.



Thing

Thing'

Figure 13. A Thing Changing

So Being can be classified from our discussion as shown in Figure 14.



Figure 14. Types of Being / Existence

If a word refers to the genus as its meaning, it refers to something which is a Being, as Being is the highest genus and all genus fall under it. An Individual or thing has been shown to imply a static being and also as it is existent, it falls under the category of Existence. So whatever the word meaning (Thing or Genus) it would always indicate Being/Existence. Or simply put a "thing" exists and a "genus" exists so they fall under the category of existence or being, i.e. they are a type of being or existence. So it has been proved that all words(which indicate a thing or genus) indicate a type of "Existence" or "Being". Which implies they indicate `Existence'.

9. The four types of things and the four types of words:

So as discussed before the four classes of words are:

^{1.} Genus word

^{2.} Quality word

^{3.} Action word

^{4.} Proper name word (a class instance) These four classes of words signify the four classes of things namely class, quality, action and class instance.

10. What is a Universal:

Something which exists in all its substrata, as a result of which all of them produce a uniform awareness and are called by the same name. So a "genus" exists, "quality" exists and an "action" exists. They have existence(a universal). These entities exist so they are a type of being/ existence or fall under the category of "being" or "existence". So we can conclude that the universal of the universals genus, quality and action is "Being" or "Existence", hence existence is the highest universal as all other universals come under it. So the conclusion is that all words (four kinds) refer to the universal "existence/being". And all words are a type of existence/being (as they belong to that class) or more precisely, the universal conveyed by a word is a type of "existence/being".

11. Significance of all words conveying "Existence/Being":

• This existence or being is called "satta" in Sanskrit. Hence all words convey objects which are manifestations of "satta" ("Existence/Being"). [11]

• All objects are a type of "existence" or "being". They belong to the "absolute existence" genus.

• Existence inheres in all objects as even a non-existent object exists in the mind [12]. Absolute existence pervades all objects and also all objects are a type of it. It is everything and everywhere as well.

• Existence is one only. It is a common characteristic of all entities. It is all-pervading and filling all space, very large in its extent, and it is called "Brahman".

• That which fills, that which swells, that which expands, that which is everywhere and in all things—That is the completeness, the fullness of Reality; and that is called "Brahman" in the Sanskrit language [13]. All existent things are nothing but a type of existence itself or pure existence hence everything is a type of existence. It sustains or upholds everything as without existence an object cannot be.

11.1. "Existence/Being" in ancient Indian religion:

• According to Hinduism the 'satta' (existence) in each and all is God. In Hinduism, it is referred to as Paramatma or the supreme spirit [14].

• The all-pervading 'satta' ("Being") is referred to as Vishnu in the Puranas (as it is all-pervading). Vishnu is the supreme god of Hinduism [15].

• "In the beginning, this [universe] was "Being/Existence" (Sat) alone, one only without a second". He desired, 'I shall become many and be born. He performed Tapas (austerities). having performed Tapas, He created all this (whatever we perceive). Having created it, He entered into it. Having entered it, He became the manifest and the unmanifest, the defined and undefined, the housed and the houseless, knowledge and ignorance, truth and falsehood, and all this whatsoever that exists. Therefore, it is called Existence', according to a sacred Hindu book [16].

• Existence is all existent and non-existent entities. Ahimsa and why to follow it stems from the fact, that he who injures living creatures, injures Vishnu: for Vishnu(Existence) is all things [17].

• Maharaja Prahlada has mentioned in the Vishnu Purana "the whole universe is the manifestation of Vishnu. Search for the identity of Vishnu in all creatures. True worship of Vishnu consists in treating all equally" [18]. So love one, love all, as it is him only.

12. The important ideas discussed are:

- 1. The highest universal is "Being" or "Existence" (Satta), and it is inherent in objects, qualities, classes and actions and makes them exist. So "Existence" is present in all.
- 2. Object, quality, action and genus are the types of entities we come across in the Universe. And all of them are types of "Existence" or "modes" of "Existence".

13. The Pearl-String model of the Universe:

From idea 1 of the above section "Existence" is present in all. So all qualities, actions and genus are like pearls and "Existence" is like the string of a necklace as shown in Figure 16. Now the object is the substratum or collection of qualities, actions and genus so we can treat it like a collection. Figure 15 shows how objects are strung unto "Existence".

Object : {Genus<has Existence>, Qualities<has Existence>, Action<has Existence>}



Figure 15. The "Existence" string with Objects strung on it

As an object is a collection of genus, quality and action we can expand the object1 in Figure 15 as shown in Figure 16.



Figure 16. The "Existence" string with object1 genus, object1 quality and object1 action as pearls

So we observe that in our model a single string (existence) has many objects strung on it which are nothing but a collection of genus, quality and action of the same single string in that region. We also observe that the string or "Existence" supports/sustains the genus, quality and action in an object. Also, it is easier to see pictorially why all entities are a manifestation of "Existence".

14. The Attributes of Existence

1. The generic part of everything (unchanging part) is a manifestation of existence.

2. It is the highest universal.

3. It is everywhere and in everything. This universal is in everything, hence things exist. Everything is a type of being and existence; hence it is everywhere.

4. So existence inheres in all objects as even a non-existent object exists in the mind. Absolute existence pervades all objects and also all objects are a type of it.

5. Existence is one only. It is a common characteristic of all entities. It is all-pervading and filling all space and very large in its extent, hence it is called Brahman. As it pervades everything, in Sanskrit it is called "Vishnu".

6. It sustains or upholds everything as without existence an object cannot be.

14.1. "Existence/Being" is manifested as everything movable and un-movable in the universe its attributes are:

1. It is the manifest and unmanifest.

2. It is the defined and undefined.

3. The housed and houseless.

4. It is Knowledge and ignorance.

5. Whatever exists it is.

6. Supports the cosmic manifestation.

7. Cause of all activities.

- 8. It is outside and inside.
- 9. It is non-moving and moving.

10. It is far and near.

11. The supporter, destroyer, creator of all beings and the controller of the Universe.

12. Indestructible.

13. Formless and with form.

14. Everything and everywhere.

15. Sees through all eyes, hears through all ears, eats through all mouths, feels through all hearts, thinks through all minds, and reasons through all intellects, as he is everything.

16. Has innumerable hands and legs.

17. With hands and feet everywhere, with eyes, heads, and mouths everywhere, with ears everywhere, he encompasses everything in the world.

18. Existence is fire, sun, air, stars, and the moon.

19. It is woman, it is man, it is the youth. it is the maiden too. It is the old man who totters along, leaning on the staff. It is born with his face turned everywhere.

20. It is the thundercloud, the seasons, and the oceans. It is without beginning. It is the Infinite. It is from whom all the worlds are born.

21. It possesses countless heads. All heads, all eyes, all hands, and all feet belong to "Existence". It works through all hands, eats through all mouths, sees through all eyes, hears through all ears, walks through all feet, and thinks through all minds.

22. It is the internal Ruler of the universe.

23. It is great because, as the sun it gives heat and light, as the moon it gives light, as earth food and shelter, as the oceans and rivers water as your father, mother, brother and sister love and affection.

24. The enjoyer, the enjoyed and the enjoyment.

- 25. Appearing as Many due to the multiplicity of its powers.
- 26. It is the creator, destroyer, and preserver of everything.

14.2 The Attributes of "Absolute Existence":

Existence in its absolute form is called "Absolute Existence" which is just Existence and has the property of existing and no other property. Determining the attributes of "Absolute existence" is an interesting exercise.

14.2.1 Classification of properties

Anything experienced falls under the category of good, bad, or both good and bad and neither good nor bad. Here good is defined as what is pleasant and bad is defined as what is unpleasant. Hence the properties of an object can also be classified into four categories:

- 1. Only good properties.
- 2. Only bad properties.
- 3. Good and bad or a mixed property i.e. it is partly good and partly bad.
- 4. Neither good nor bad.



Figure 17. Classification of Qualities based on experience

The attribute of Existence is Q1 :: [it exists] it has no other attributes, in terms of the first three types of properties all three of them are 0: So the quality of existence is: Qe = Q1 + 0(only good) + 0(only bad) + 0(good and bad) - [1]

14.2.2. Badness is the absence of goodness and the opposite of it

Something good has goodness, something bad has badness and something good and bad has both goodness and badness. Something good is pleasant and something bad is unpleasant. So badness is the opposite of goodness in nature and effect.

Also In Indian philosophy and Sanskrit language, goodness(or virtue) is called "dharma" and badness(or vice) is called "adharma", which is literally translated as not-dharma or opposite of dharma or absence of dharma. So This fact is found in Sanskrit language and Indian philosophy as well. Badness is the absence of goodness.

14.2.3. Badness is the mathematical reciprocal of goodness (as they have opposite natures and effects)

Now badness being the opposite of good, is the opposite of it in nature and effect, mathematically speaking it is the reciprocal of it, as then only it can nullify the effect of good and have a nature which is opposite of it.

Badness or bad quality = |Qbn| Qbn;

Opposite goodness or opposite good quality = [1/|Qbn|] Qgn - [2]

Qbn is a bad quality and Qgn is the opposite good quality e.g. cruelty is the bad quality and kindness is the opposite good quality. Opposite in nature and effect. |Qbn| is the magnitude of the bad quality and |Qgn| is the magnitude of the good quality.

Now 0 absence of badness corresponds to an infinite presence of goodness.

From equation [1] and [2]:

|Qbn| = 0 hence $|Qgn| = \infty - [3]$

Which implies the following:

(0) $Qbn \Rightarrow (\infty) Qgn - [4]$



Figure 18. Classification of Qualities based on the fact that a bad quality is the opposite of the corresponding good quality in nature and effect

Hence when equations [2], [3] and [4] are applied to Figure 17 we get Figure 18. Goodness is a series of good qualities which is inexhaustible, hence: Goodness = |Qg1|Qg1 + |Qg2|Qg2 + |Qg3|Qg3 + ... - [5]Qg1 = Good quality1 and |Qg1| its magnitude. Qg2 = Good quality2 and |Qg2| its magnitude. Qg3 = Good quality3 and |Qg3| its magnitude. And so on and so forth.

 $Badness = | Qb1|Qb1 + | Qb2|Qb2 + | Qb3|Qb3 + \dots - [6]$

Qb1 = Bad quality1 and |Qb1| its magnitude.

Qb2 = Bad quality2 and |Qb2| its magnitude.

Qb3 = Bad quality3 and | Qb3| its magnitude.

Substituting equation 4 in 6 and then 6 in 1 we get, $Qe = Q1 + 0(only \ good) + (0) \ Qb1 + (0) \ Qb2 + (0) \ Qb3 + \dots$ $Qe = Q1 + 0 + (\infty) Qg1 + (\infty) Qg2 + (\infty) Qg3 + ... - [7]$

So we see that Absolute existence is pure and has Infinite good qualities in an infinite amount. It is the epitome of goodness.

Good qualities include all virtues, so some of the good qualities of Absolute existence are:

- 1. Infinite Honesty.
- 2. Infinite non-violence.
- 3. Infinite Purity.
- 4. Infinite Goodwill.
- 5. Infinite Mercy.
- 6. Infinite Patience.
- 7. Infinite Forbearance.
- 8. Infinite Self-restraint.
- 9. Infinite Generosity
- 10. Infinite Love.
- 11. Infinite Calmness.
- 12. Infinite Compassion.
- 13. Infinite Beauty.
- 14. Infinite Valor.
- 15. Infinite Strength.
- 16. Infinite Politeness.
- 17. Infinite Righteousness.
- 18. Infinite Joyousness.
- 19. Infinite Contentment.
- 20. Infinite Confidence.
- 21. Infinite Forgiveness.

All these and many more virtues and good qualities are in infinite quantities in Absolute existence.

14.3: Significance of the attributes of the "Manifest existence" and "Absolute existence" in the Hindu religion:

In the Hindu religion Existence or "Satta" is referred to as "Vishnu" (One who is present in everything) i.e. the State of Existence. He is also called the Brahman [13][15], The "Manifest existence" is called "Saguna Brahman" or existence with attributes and "Absolute existence" is called "Nirguna Brahman" or Existence without material attributes but with infinite good qualities. Vishnu is widely worshipped in Hinduism as one of the main gods. He or "Existence" is given the name "AUM" which is widely chanted by Hindus. The attributes or glories of Existence are supposed to produce love or "Bhakti" for him upon knowing them as they are glorious. Chanting his name is supposed to bring to mind these qualities, as you are remembering him and the all-knowing "Existence" when called upon offers protection and mercy to the chanter in the form of removing his miseries. The general procedure is to chant "AUM" and bring to mind his qualities this process when repeated many times purifies the person and according to Hinduism can cure a person of diseases and eradicate miseries [20], this has to be done following perfect harmlessness to all as everything is a manifestation of Vishnu and if done with great faith and love for Vishnu brings quicker results as per Hindu scriptures [21]. In Hindu scriptures, it is further said that these qualities when uttered on a regular basis purify the person and destroy all miseries and calamities and bring great happiness and prosperity [22].

Conclusion:

The "Unification Theory" is that all things are a manifestation of "Existence" and are different types of "Existence". Hence all forces, particles and even time and space are a manifestation of "Existence" or the "State of existing". The performer of the action, the receiver of the action and the action are manifestations of the same "Existence". We further enumerate the wonderful attributes of "manifested existence" and "absolute existence" with proof. And finally, a pearl-string model of the Universe is put forward which shows the sustaining principle(Existence) and how the other entities are related to it.

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