

Construction of Objects and the Universe

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Construction of Objects and the Universe

We have grown up being taught that the physical universe is made up of atoms and molecules. This may be correct, but I do not think this is the complete truth. We ask, what are the atoms made up of? As we know the atoms are made up of electrons, neutrons and protons. The next question – what are electrons, neutrons and protons made of? Science is not sure. Since 2008, the Large Hadron Collider (LHC) at CERN has been smashing sub-atomic particles against each other at very high speed (almost approaching the speed of light) to discover the substratum of these particles. The discovery has been breathtaking, they have discovered a wide range of new elementary particles including the mysterious Higgs particle. Some people call these the particle zoo – Fermions, Bosons, Tau, Anti Tau, Muon Neutrino Quarks etc. The list keeps growing. So, the next question is what are these newly discovered particles made of? To discover this, there is currently a discussion to build a much larger collider to discover the composition of these new particles. Once they discover another inner layer, the next question is what is the composition of this new inner layer. Some physicists believe that the inner most layer is made up of strings, which vibrates in 13 dimensions. If this is correct, the logical question is what are the strings made up of. Frankly, this seems to be a never-ending discussion.

The current strategy being followed by science will never be successful, because they are approaching the problem the wrong way. Let us try and understand this. Suppose you are looking at a playback of an event from a DVR and someone asks you to find out the number of bones a human being has by looking at the image of the person on the TV. Will you be successful? Never. Whatever you try you will never find out the number of bones in a human being. You may try to digital zoom the image to blow up the image, hoping to see the inside of the human being. There is no doubt you will be unsuccessful, but you will discover that the image of the human being is made up of pixels. This discovery will lead you to further investigate the pixels, hoping to find the number of bones in the human being. You were trying to find out the number of bones in a human being, but you are now focused on investigating and discovering everything about pixels. This is what is happening with science when they continue to smash particles at the LHC discovering new particles - they are moving further away from understanding the real substratum of the universe.

It is obvious, that you will never discover the number of bones in a human being by looking at a recorded human being. The only way to find out the number of bones is by investigating a 'live' or 'real' human being. The requirement of a 'live' or 'real' human being is a must; the image of the recorded human being is just inadequate.

How does this example help us in understanding this universe? If you study carefully, you will discover that this universe also is made of 'recorded' or 'memory' objects. There are no 'real' or 'live' or 'now' objects in this universe. The sun we see is an 8-min young sun as compared to a 'live' or 'now' sun. We know it takes light 8 minutes to reach us, so what we see in the sky is a 'recorded' sun not a 'live' or 'now' sun. This concept applies not only to the sun, but every micro or macro objects in this physical universe. The moon, the trees, stars, animals, human beings – every living and nonliving object in this world is a 'recorded' or 'memory' object. This means that the physical universe is only made up of 'recorded' or 'memory' objects. However hard you try, you will never discover a 'live' or 'now' objects anywhere in this physical universe. Like you will discover only pixels if you investigate a human being on a recorded image, in the same way you will only discover atoms and the sub-atomic particles if you investigate the 'recorded' or 'memory' objects in this universe.

In the case of a recorded image of the human being, it is possible to find and investigate a 'live', 'real' human being to find out the number bones within a human being. Unfortunately, it is not possible to locate a 'real', live' or 'now' object in the physical world. However hard you may try, you will not find anything except memory objects.

So how does one conduct its investigation to find out the real substratum of the universe. There must be a different and better strategy to discover the underlying reality of the universe and understand the construction of the universe. The focus of this article is to show this alternative path and direction.

1. Construction of Objects
2. Construction of the Universe
3. Expansion of the Universe

1. Construction of Objects

The best way to start this discussion is to understand the popular Vedanta metaphor of Pot/Clay. We know the clay pot comes in many different sizes, shapes and designs. Some are tall, some are short, some are round, some are square etc. There seems to be an unlimited possibility for shapes and sizes. If you study all the clay pots carefully you will see that each clay pot has the following two components – Content and Form. So, which part is the content and which part is the form? The answer is obvious, the clay is the content and the pot is a form on the clay. With different shapes and sizes, the form of the pot could vary, but the content of all pots will always be clay.

Clay Pot = Clay (content) + Pot (form)

In the same way, we can say the following about the gold chain and wooden chairs

- Gold chain = Gold (content) + Chain (form)
- Wooden chair = Wood (content) + Chair (form)

A simple question – in the wooden chair, what is the weight of the wood which is the content and what is weight of the chair which is a form? The answer is obvious, the wood has all the weight and chair has no weight. Another question – can you separate the chair form from the wood content? The answer it is impossible to separate the chair form from the wood content. They are inseparable. If everything in the wooden chair is wood, what is the chair form? This is not a simple question. It would seem the chair form is an idea or concept which has been superimposed on the wood. Whose ideas? The idea will normally belong to the designer of the chair. In other words, the designer's knowledge is superimposed on the wood.

These Vedantic metaphors can help us understand the underlying components for every object in this physical universe. it would seem every object in the universe must have the following two components

1. Content
2. Form.

There is an unlimited number of objects both living and nonliving in this universe. We have seen in the examples discussed, the substratum of the objects is always the content and form is superimposed on the content. Does this apply to every object in the universe? Logically this principle must apply to all the objects in the universe. Content is content, and it should make up the entire object. You cannot have a wooden chair, in which half the chair is made up of wood and the other half is made up of nothing. This is impossible, the entire wooden chair must be made up of wood. This logic must apply to every object in this universe. Every object has content and this content makes up the entire object. The answer which is not clear – do all the objects have the same content or different objects have different content. This is especially true because of the wide variety of objects in this universe.

Every object has a form and this form is superimposed on the content. The form is something, it is not nothing. We see the form, we feel the form, in some cases we hear or taste the form. So, what is this form? What is its source?

There are many questions about the Content and Form of all objects. In the coming sections we will discuss this further so that we get a good understanding on the construction of the objects.

What is the Content Made up off?

From our earlier discussion the content for the clay pot is clay, for gold chain it is gold and the wooden chair it is wood. This would suggest that the content for every object could be different. Is this correct? This is incorrect - firstly, the examples given where a metaphor only to explain the concept of content and form. Secondly, we know that gold, clay and wood are all made up of atoms and a full array of sub-atomic particles. They all have an inner layer of sub-atomic particles. We have seen earlier that trying to find out the source of the content by investigating the sub-atomic particles is not very helpful and does not yield positive results.

So, what is the Content for all the objects in the universe? We need a different and novel approach. Science has not been helpful, so we must look elsewhere. But, where? The proper understanding of Vedanta can be helpful. There is so much to learn from Vedanta, the ideas, concepts and teaching from Vedanta can be solve many of the shortcoming of science.

As a starter question – how do we know an object exists? The answer is that we are aware of the object. We see it, we know it, we can touch it.

How do we know the tree is green? Because we are aware of it.

How do we know sugar is sweet? Because we are aware of it.

How do we know we have two legs and two hands? Because we are aware of it.

How do we know the weight of the chair is 20 lbs.? Because we are aware of it.

How do we know the smooth touch of silk? Because we are aware of it.

How do we know we are listening to music? Because we are aware of it.

The common thread to all these questions is Awareness. It would seem Awareness is a prerequisite to observe any object. Without awareness, we would not know any objects which are perceived by the 5 senses – eyes, ears, nose, tongue and skin. These objects from the sensory organs must encounter Awareness, then only we can observe the object. For an analogy, think of the sun. When there is no light from the sun, you cannot see anything, but in the presence of the light everything becomes visible. In the same way when any form which comes in the presence of the light of Awareness, we become aware of the object. If there is no light of Awareness, you will perceive nothing.

So, what is Awareness and what does Awareness have to do with the content of the object? Everything. Awareness is the content of all the objects in the universe. The content of the objects from the 5 senses is Awareness only. To any newcomer, Awareness is just another

English word, with a dictionary meaning 'knowledge or perception of a situation or fact'. Awareness is much more than an English word.

Awareness is the most powerful force in the universe and it is the underlying reality of this universe. It has the power to connect with a form present in the mind and fill up the object with Awareness. If you analyze Awareness, you will conclude that the Awareness is made up of a Subject, Intelligence and Object with the following functions

1. There must be a Subject, who is Aware of the experience. This subject is the knower of the Awareness
2. There must be an Object, which must be experienced. This object is the known part of the Awareness
3. There must be Intelligence by which the subject gets to know the object. This is the knowing part of the Awareness

Knower, Known and Knowing/Intelligence are the 3 powers of Awareness. It must be clear that

- Awareness = Subject + Object + Intelligence
- Power of Awareness = Power of Knower + Power of Knowing + Power of Known

Awareness is made of Subject, Intelligence and Object and it has three different powers - Knower, Knowing and Known. It must be understood that the Subject, Intelligence and Object and the three powers are not something outside in the world, but they are within Awareness and make up Awareness. If any one of them is missing, the awareness will not work, and will be incomplete.

- If there is an object to be observed, but there is no subject, there will be no awareness, as there is no one to see the object.
- If there is a subject, but no object to see, there will no awareness as the subject has no objects to observe
- If there is an object, but the subject has no way of knowing what this object is, no awareness will take place. This knowing must have intelligence.

Wherever there is awareness, the Subject Intelligence and Object must be present with all the three powers. To understand how the content of every object in this universe is Awareness only, we need to understand the Power of the Known

Power of Known

Power of Known is power within Awareness. It is power which deals with objects. It deals with the objects received from the 5 senses. The better way to understand Power of Known is that it is a power to become any object. This power does not create any objects but becomes the object which is superimposed by the 5 senses on this power.

If you see a round circle, then awareness cannot take shape of a square. If it does, you will never experience the round circle. Awareness must also be a round circle with the same exact dimensions. If you see a tree, then awareness must also take the shape of the tree. This tree must be filled up with Awareness. If the tree is half filled with awareness or the awareness does not have the same shape as the tree, you will not be aware of the tree.

If you want to observe any object with form:

1. The form must be filled with Awareness and nothing but Awareness. If the form does not have Awareness, then observer or subject will not be able to experience the object with that form.
2. The Awareness must take the exact shape of the form.

It is therefore correct to conclude that the content of the object must be Awareness. Awareness by itself is formless, but it has the potential to become any object. The object it will become depends up on the input received from the 5 senses. A good metaphor to explain this is that it is like a lump of playdoh which is formless, but you can manipulate the playdoh to any shape. Whatever shape you create, the content is always playdoh. In the same way, the content of all the objects in the universe is only Awareness. It can take any shape or form, but the content is always Awareness.

Next time you see a tree, or listen to music or feel the cold water, you must be clear that the tree, music or water is made up only by Awareness and nothing but Awareness. It is content of every object.

What is the Form Made up off?

We now know the Content of any object is Awareness. So what is the Form of the object made off? What is the source of the Form? To understand this properly, you need to understand how the mind functions. As we have discussed in other articles, the mind is made up of mental waves or Vrittis. The ingredient of these waves is knowledge and intelligence. These waves come into the mind from the 5 input or sensory organs – eye, nose, tongue, ear and skin. These intelligent mental waves are the bases of the Form. When these intelligent waveforms come in touch with Awareness and it superimposes itself on Awareness to become the form of the objects we see in the physical world. The content is Awareness, but the form comes from the 5

senses. The waves from the ear, become the sound form we hear. The waves from the eyes becomes the form of the objects we see. The waves from the tongue becomes the taste form we feel. In the same way, smell and touch also function using the input wave from the nose and skin.

We saw in the earlier metaphors, clay is the only content in the clay pot. The pot is only a form which is superimposed on the clay. In the same way, Awareness is the only Content for all the objects and the Form comes from the 5 senses which is superimposed on Awareness.

This may be true, why don't we feel that the content is Awareness with our daily interaction with objects? This is because our attention is always focused on the Form part of the object and in the process, we ignore the Content part. As an example, if you go to a furniture shop, our attention is always focused on the different designs of furniture. I like this design, I do not like this design. This design will look nice in the house. The focus is on the form part of the furniture and not on the content part. Our focus on Form of the object is so deep rooted that we do not know and understand that the Awareness is the only Content for all objects. If you think about it, even science has been focusing exclusively on the Form part of the object. They have been investigating the Form part of the object and they have made great strides by discovering all the different inner layers of the Form. Molecules, atoms and all the sub-atomic particles. The problem is that Science has been investigating the Form of the objects, but they want to discover the Content of the Object. They are not going to find Awareness by smashing sub-atomic particles in the Large Hadron Collider (LHC). They are working at the wrong end of the object. They are working with the Form part of the object and not the Content part of the object.

Actually, you do not have to hunt for Awareness, it is hiding in plain sight. If you see an object, Awareness is already present in that object. It is right in front of you. You are already aware of the object. Next time you see an object, do not focus on the Form, but focus on the fact that you are aware of the object. If you do this regularly you will realize that Awareness is everywhere, and objects are just a skin on top of Awareness.

Construction of the Universe

We now understand the construction of each object. Millions and millions (maybe countless) of these objects make up the universe. So how are these objects put together to create the universe we see around us.

We will try and understand the construction of the universe by studying a typical scene we see every day. For example, we see a series of trees from two different location. The following table gives the details of the trees we are seeing

	Location A	Location B
Tree 1	100 ft	600 ft
Tree 2	300 ft	800 ft
Tree 3	500 ft	1000 ft
Tree 4	1000 ft	1500 ft

From Location A, you can see 4 trees at different distances. Location B is 500 feet back, so the same 4 trees will be 500 further away. There is nothing complex about this, we see this type of scene every day. We see objects at different distances from us daily. We are so used to seeing space in terms of distance. Doing this hides all the underlying mysteries of this universe.

So, let us take a different approach, let us look at space in terms of time. Einstein taught us that space and time are the same thing and he coined the term spacetime. Things become interesting and complex when you look at the universe in terms of time. Let us look at these trees in terms of time taken by light to reach us from the trees. We know light travels at 186,000 miles/sec. Even though the trees are not very far, light will take some time to reach us. See below the results

	Location A	Location B
Tree 1	0.10 μ s	0.60 μ s
Tree 2	0.30 μ s	0.80 μ s
Tree 3	0.50 μ s	1.0 μ s
Tree 4	1.0 μ s	1.5 μ s

Note: μ s = microseconds = 10^{-6} seconds

If the distance between the tree and you is zero, light will take zero seconds to reach us. This would mean you would see the most current version of the tree. I like to call this the 'now' tree. The tree we see at 100 feet is a 0.1 μ s younger version of the tree as compared to the now

version. This is because light takes $0.1 \mu\text{s}$ to reach us, so what we see is not the 'now' version but a $0.1 \mu\text{s}$ younger version of the tree. Tree 3 at 500 feet is a $0.5 \mu\text{s}$ younger version of the tree. Extrapolating this, the moon we see is a 3 sec younger version as compared to the 'now' moon. It takes light 3 sec to reach us from the moon. The sun in the sky is an 8 min younger sun as compared to the 'now' sun. If a distant planet is 1 million light years away, then that planet will be 1 million years younger than what it is 'now'. None of the objects we see in the physical universe out there is a 'now' object, they are all 'memory' or dated objects. In terms of placement, the closer the object is to you, the less dated it is and the objects which are further away are much more dated.

Einstein in his theory of relativity mentioned the presence of a spacetime fabric. Different objects are placed on the fabric depending upon how much time it takes light to reach you from these objects. If light takes less time, these objects will be closer to you on the spacetime fabric and if light takes a longer time, those objects will be further away on the spacetime fabric. In the tree example, the light from tree 1 takes $0.1 \mu\text{s}$, so it is placed much closer to you on the spacetime fabric as compared to tree 4, which takes $1.0 \mu\text{s}$. Light takes 8 mins from the sun, so it is placed 8 min away on the spacetime fabric. In the same way all the different objects are placed appropriately on the spacetime fabric.

So, where does the spacetime fabric start and end. The only logical starting place is You. We are talking about light reaching you from different objects, so you or your location is the critical starting point. This is the $t = 0$ for the spacetime fabric. Let us look at this in a different way. In the current example, location B is 500 feet away from Location A. If you were standing at location B, light will $0.6 \mu\text{s}$ to reach you from tree 1. If you move to location A, which is 500 feet closer, light will take $0.10 \mu\text{s}$ to reach you. If you are standing at tree 1, light will take zero seconds to reach you. This also shows that the spacetime fabric must start with your location.

The end of the spacetime fabric will be the longest distance you can see. If you are indoors, the spacetime fabric will end at the walls of your house because you cannot see anything beyond the walls. Outdoors it will depend upon what you are seeing. If you are seeing the stars, the spacetime fabric will cover a long distance into space. So, the spacetime fabric keeps changing depending up on the scene you are seeing.

Person 1 at Location A and Person 2 at Location B

There are two people, person 1 is standing at location A and person 2 at location B. They are looking at the same trees but from different distances. They are looking at the same trees, but are they seeing the same version of the tree? The answer if no, they are not seeing the same version of the tree. Person 1 is seeing the $0.1 \mu\text{s}$ younger version of tree 1, while person 2 is seeing the $0.6 \mu\text{s}$ younger version of tree 1. The age difference between the two versions is 0.5

μ s. This difference is very small, but it must be understood that the two versions of tree 1 are not the same. The same applies to tree 2, 3 and 4 and in fact to every object in the universe.

It seems Person 1 at location A has a spacetime fabric with his own version of objects. Person 2 at location B even though looking at the same objects has a completely different spacetime fabric with different versions of objects. We have seen earlier that the start point for spacetime fabric is You. So, person 1 has his own spacetime fabric with his own version of objects. Person 2 also has a different spacetime fabric with a different version of objects.

It is breathtaking to conclude that every living being in this universe creates their own spacetime fabric and place different versions of objects on this spacetime fabric. It must be understood that spacetime fabric comes from the mind and is a creation of the mind.

Person 1 moves form Location A to Location B

Suppose Person 1, moves 500 feet away from location A to location B looking at the same trees. What happens? At location A, this person was seeing the 0.10 μ s version of the tree 1, but from location B, this person sees the 0.60 μ s version of the same tree. It is same tree, but different version of the tree. What happened? It is a physical tree out there, how did it change its version? Who changed the tree version? Did someone uproot the old version and replace it with the new version? This not only applies to tree 1, but all the objects which are being viewed along with the tree. If person 1 moves 10 feet back, this person will now a see a different version of all the objects. This means any movement forward or backwards by this person or any person will always result in a different version of all the objects being viewed. The object version is continuously undergoing change. How to explain this continuous change? Can Science explain this? I do not think science has any explanation. So, what is solution? Vedanta has a clear-cut and correct explanation. Vedanta has always maintained that there is no physical world out there, it is only a projection of the mind. The mind projects the physical world. It is not like a projector and a screen. The mind itself becomes the physical world. Your mind is the physical world.

In the articles at our website 'Understanding the Mind series' and 'Life is Really a Wave', we have given a detailed explanation about how the mind functions, how the mind creates and projects the physical world.

For our current discussion understanding the role of time is important. Time must be subtle – you cannot see it, touch it or feel it. Vedanta teaches us anything subtle must be part of the mind. Everything which is present in the mind is made up of mental waves or Vrittis. So, Time is present in the mind as a mental wave. This wave has the power to create Time. It is quite difficult for us to understand or visualize the composition of this waveform, but one thing is certain that Time is subtle and therefore it is a waveform and is present in everyone's mind.

Vedanta also teaches us that all the objects in the world must have a subtle form and this form is present in the mind as mental waves or Vrittis. The time waveform combines with each object to create a combined time object waveform. The time factor is now added to the object. It is like a mathematical waveform with time as a variable. If you think about it, this superimposed waveform will now provide a history or timeline of the object. Since Time has been superimposed on the object waveform, the new waveform will have the 'potential' to show the object in all its stages of growth from its birth to right now. The object with the historical time line is present in the Vritti in its 'potential' form.

Let us how this work for tree 1 when person 1 is viewing from location 1. There is tree vritti or waveform in our mind and this waveform superimposes with the time waveform to give a combined tree 1/time wave form. This combined waveform has to potential to take up any version of tree 1 from its birth to now. Since the tree is 100 feet away, the combined time/tree 1 waveform takes up the $0.1 \mu\text{s}$ version of the tree. When this $0.1 \mu\text{s}$ version tree waveform meets with Awareness it collapses. When this waveform collapses, the $0.1 \mu\text{s}$ version of the tree is projected out in its physical form and it is placed at 100 feet on the spacetime fabric. In the same way, all the other time/objects waveform in mind collapse in the presence of the Awareness and the correct time version of each object is placed on the spacetime fabric.

Now person 1 moves to location B to see the same trees. All the trees are now further away. Here again, the time vritti combines with tree 1 wave form. This combined waveform has the potential to take up any version of tree 1 from its birth to now. Since the tree is 600 feet away, the tree takes up the $0.6 \mu\text{s}$ version of the tree. This $0.6 \mu\text{s}$ version tree waveform collapses in the presence of the Awareness. When this waveform collapses, the tree is projected out in its physical form and it is placed at 600 feet on the spacetime fabric.

We have been talking about a single tree, the outdoor scene is complex with so many different objects at different distances. If you put all this in the time scale, the processing of the scene is not easy. Depending how far the object is, the correct time version of the object must be selected. This must be done for every object in the scene. If we move forward or back, or if we see another scene, the full process must be repeated. It is not easy to fathom how all this processing is taking place in the mind. It seems very difficult.

Is there an easier way to understand this complex process? Yes, I believe there is a map of the entire universe pre-installed in the cosmic mind. Depending upon the persons location, the relevant sub-portion of this map will show up in the individual mind. It is exactly like Google Maps. The entire map is available, but depending upon our location, only that local map will show up. If we move around, the map will adjust to the new location. The pre-installed universe map works exactly in the same way. The objects in this universe map will be pre-treated for the correct time version depending upon the distance of these objects from you. This universe map

is dynamic and updated instantaneously. For example, you cut a branch of the tree, the universe map will update itself immediately. The next person who sees the tree, will see the missing branch.

To understand the complexity of the universe, it maybe a good idea to start looking at space in terms of time and not distance. This will highlight that the version of the objects keeps changing with our movement. It will also give a feeling that we are the starting point of the spacetime fabric and we are projecting our own world, which is different from others. Oh! What a feeling.

Expansion of the Universe

Does the universe expand? Science tells us the universe is expanding. Why is the universe expanding? How fast the universe is expanding? Science is not very sure about these questions. Using powerful telescopes, they have watched the movement of different planets and galaxies and noticed the expansion is uneven. Some places the expansion is faster and other places the expansion is slower. There is no explanation about this uneven expansion. Looking at some far away planets and looking at their rate of expansion, they have come up with a Hubble constant. The Hubble constant states that the [rate of expansion](#) is about 71 kilometers per second per megaparsec. A megaparsec is a million parsecs, or about 3.3 million light-years. It means objects 3.3 million light years away are expanding at 71 kilometers per second. This is based on observation only. If you understand the fundamentals of the universe expansion, it is possible to calculate and prove the Hubble Constant.

So, what are the fundamentals of this expansion? Understanding the spacetime fabric is the key to understand this expansion. We have already discussed the spacetime fabric in some detail. We have seen that the individual person or the observer location is the start point for the spacetime fabric. We can call this the $t = 0$ for the spacetime fabric. We have seen that the spacetime fabric is a time-based fabric in which different objects are placed depending upon the time light takes to reach the observer from these objects.

What is the maximum size of the spacetime fabric? Science tells us that the age of the universe is 13.7 billion years old. This is the big bang moment. Light reaching us from the big bang moment would be the outer edge of the spacetime fabric. Light will take 13.7 billion light years to reach us from this big bang moment. This is the outer edge because there was no universe before the big bang. So, the size of the universe: 13.7 billion light years or 12.9×10^{25} meters. One light year is the amount of distance light travels in one year, which is $= 9.46 \times 10^{15}$ meters

Is this spacetime fabric expanding? Definitely, yes. How much? Let us try and understand this. If you assume the universe is 13.7 billion years old 'right now'. After one second, the age of the

universe will be 13.7 billion years + 1 sec. Light must now must travel an additional 186,000 miles to reach us, which means the size of the universe has grown by 186,000 miles. After 10 seconds, the size of the universe would increase by $186,000 \times 10 = 1,860,000$ miles. After one year from now, the size of the universe will increase by 1 light year. 1 light year is the distance light travels in one year.

From the above, we can conclude that the rate of expansion of the Universe = 1 light year per year.

If you can imagine the spacetime fabric as an elastic rubber sheet, starting from the start point $t=0$ (which means you) to the edge of the universe. The end at the observer's side is fixed it is always the $t = 0$; the other end which is the outer edge of the universe is being pulled outwards. This elastic space time fabric is expanding by 186,000 miles every second. It is expanding at the speed of light every second, which is one light year every year. As time flows, the expansion of the spacetime fabric will continue at the speed of light.

It must be understood that only the edge of the universe is expanding at the speed of light, anything in between will not expand at the same speed, it will be proportional to the distance from the observer. Using the rubber sheet example, if you pull the outer edge by a certain distance, the inner parts will not be stretched by the same amount. The stretching will be more at the outer edges and it will be much less as you move inwards to the other side. This means that the rate of outward expansion of galaxies, stars etc., would really depend upon how far these galaxies are far away from the observer. The observer is $t=0$. Stars close by will expand more slowly, as compared to stars which are further away. This is because the space time fabric for the stars nearby will stretch less as compared to the stars which are further away.

Based on our understanding of the stretching of the space time fabric, let us try and calculate the Hubble Constant

- The size of the universe is 13.7 billion light years and it expands by 1 light year every year
- The object 3.3 million light years away from us, it will expand by $3.3 \times 10^6 / 13.7 \times 10^9 = .240 \times 10^{-3}$ light year per year
- 1 light year = 9.46×10^{12} Km
- Therefore $.240 \times 10^{-3}$ light year per year = 2.27×10^9 Km per year.
- 1 year = 3.15×10^7 sec
- 2.27×10^9 Km per year = 71 km /sec

The above calculation shows that the Hubble constant is indeed 71 km/sec. We have just proven what has been observed by science. Since the calculation of the Hubble constant is accurate, it only shows that the expansion model explained in this section is correct and accurate. Science, please make a note and accept this expansion model for the universe.

Conclusion

All objects in the universe are made up of Content + Form. The content of the objects is Awareness. Input from the 5 senses are the Form part of the object. When the form meets Awareness, we then see, hear, touch, taste and feel all the objects in the world. To understand the construction of the universe, you need to look at space in terms of time and not distances. If you do that, you will learn that the construction of the universe is complex with different versions of objects placed on the spacetime fabric. Finally, we have proven the Hubble Constant, so the expansion of universe must be based on the model discussed in this article.