



# Thermodynamics Laws of Physics in light of Quran ( Zero<sup>th</sup> and First)

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## ABSTRACT

The Scientific principals and laws are the knowledge of the things. The human mind makes the decision on biases of four arguments: Natural Argument, Philosophical Argument, Spiritual Argument and Scientific Argument. Each of this argument gave a ground to human thought to develop in search of the truth<sup>[6]</sup>. Quran gave lots of answer if one can understand. Quran also give chance and challenge to the seeker “A quest for hidden truth or knowledge”. In this paper, scientific aspect has been given explanation through the Quran. Thermodynamics Laws are based on fundamental physical quantities like temperature, energy and entropy. These Laws are explaining the behaviour of these quantities under various circumstances. It also gives the explanation to conservation Law of energy. A simple try has been done to explain Zero<sup>th</sup> and First Thermodynamics laws under the view of Quran.

**Keywords :** Zero<sup>th</sup> thermodynamics Law, First Thermodynamics laws, Quran

## I. INTRODUCTION

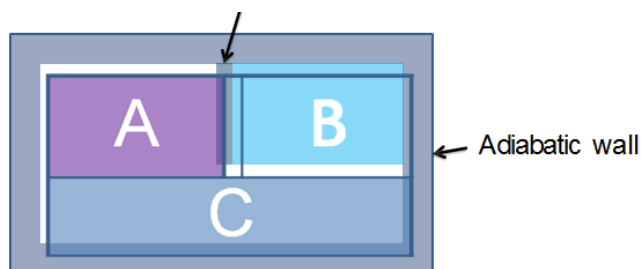
In the view of Dr. Bertrand Russell, there are two kinds of knowledge: knowledge of things and knowledge of truths. So far as “things” are concerned it is possible to apply direct argument to them. But inferential arguments alone can be applied to prove “truths”, as relating to the laws of nature. Inferential arguments are held to be valid in science.

Whole world is combination of various matter and non-matter. Matter is physical substance that which occupies space and possesses rest mass, especially as distinct from energy. Functional entities (like; energy, mass, 'force', attributes, qualities, etc.), created by rational beings, are non-matter. They fulfil functions

assigned to them by rational beings. Matters or non-matters are nothing but the form of energy. Energy is the entity that shows the property (ability) of the substance to do the work. Scientifically, ‘matter’ is divided into three categories solid, liquid, and gaseous. Thermodynamics laws explain behaviour of the substance under various conditions of temperature, pressure, volume and entropy.

### A. Zeroth Law of thermodynamic:

**Statement:** It state that if two bodies A and B are each separately in thermal equilibrium with third body C, then A and B are also in thermal equilibrium with each other.<sup>[1]</sup>



a. **Scientific Explanation:** we consider two system A and B insulated from each other but in good thermal contact with a common system C. then, system A and B will attain thermal equilibrium with third system C.

b. **Quranic View:** In Quran, in verses [21:30]

أَوَلَمْ يَرِ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ ﴿٣٠﴾

it is stated that

“Have those who disbelieved not considered that the heavens and the earth were a joined entity, and We separated them and made from water every living thing? Then will they not believe?”

Here, there is a talk of three bodied heavens means skies, earth, water. Let sky be body A, earth be B then water be C. Verses say have they not see th sky and earth become a joined entity where we are well known of their isolation by scientific proof. Further, verses say “we separated them “ and again it explain that they made water to be a mediator to attended thermal equilibrium between them. This verse mix segment of cosmology and biology of the universe. It alluding to the initial stage of the skies and earth, when they all are single entity. With the reference to Edwin Hubble`s observation of the expanding universe that proved Russian mathematician Alexander Friedmann`s prediction in his solution to Einstein`s general theory of relativity, the universe is a homogeneous and isotropic universe that means single entity<sup>[3]</sup>.

In Quran [41:11],

ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ ﴿١١﴾

it is said that in early stage of formation of Earth, Sky and earth is not more than smoke and Creator (*Allah*) made them to come in harmony and function for a purpose.

A team of astronomers led by Michele Fumagail in Nov 2011 detect two clouds of gas that formed in the first few minutes after the big bang that created the universe. These two primordial clouds of gas contain no elements heavier than hydrogen and deuterium. These clouds condense to form the first stars. The new observation appear to match the theoretical prediction about the chemical makeup of the early universe. The discovery of the pristine gas clouds offers the scientific proof of the Quranic revelation of the primordial Smoke<sup>[3]</sup>.

In Quran, in verses [21:31]

وَجَعَلْنَا فِي الْأَرْضِ رَواسِيَ أَنْ تَمِيدَ بِهِمْ وَجَعَلْنَا فِيهَا فِجَاجًا سُبُلًا لَّعَلَّهُمْ يَهْتَدُونَ ﴿٣١﴾

it is stated that

“ and we made earth stabilize so that it would not tumble with you”

This shows Allah made earth thermally stable with human body that means two systems earth (system A) & Human body (system B) isolated with each other (works independently in view of mechanism ) but made thermally be in equilibrium with each other on words of *Allah*.

The formation of Ocean made a the environmental conditions under which life first arose. With the help of verses 21:31 it is explain that how the earth made suitable environment for the human. Function of earth is to make environment and the purpose was for the human race. With the help of oxygen and carbon dioxide the photosynthesis process can able to complete which give a greatest support to human race.

## B. First Law of thermodynamic:

**Statement:** when a certain amount of heat  $Q$  is supplied to a system, which does external work done  $W$  in passing from state 1 to state 2, the amount of heat is equals to the sum of the increase in internal energy ( $U_2-U_1$ ) of the system and the external work done by the system.<sup>[1]</sup>

$$Q = (U_2 - U_1) + W$$

a. **Scientific Explanation:** Although the First law of Thermodynamic is based on the principle of conservation of energy of a system, which say “energy neither be created nor destroyed, only change from one form to another” and applicable to every process in nature between equilibrium states, it does not specify the condition under which a system can use energy to produce a supply of mechanical work.

### b. Quranic View:

Quran say in verses [39:62]

وَجَعَلْنَا فِي الْأَرْضِ رَوَاسِي أَنْ نَمِيدَ بِهِمْ وَجَعَلْنَا فِيهَا فِجَاجًا سُبُلًا لَعَلَّهُمْ يَهْتَدُونَ ﴿٣٩﴾

“Allah is the Creator of all things, and He is, over all things, Disposer of affairs.”

Allah created everything in the universe. The process of creation has been long since prescribe as “creation from nothing”. “Nothing” that is intangible (gayab) to us, that means we the human have no knowledge about it. This knowledge is with Allah. What and how, he is best to know about it.

Quran say in verses [20:98]

إِنَّمَا إِلَهُكُمُ اللَّهُ الَّذِي لَا إِلَهَ إِلَّا هُوَ وَسِعَ كُلَّ شَيْءٍ عِلْمًا ﴿١٨﴾

“Your god is only Allah, except for whom there is no deity. He has encompassed all things in knowledge.”

Quran say in verses [42:12]

لَهُ مَقَالِيدُ السَّمَوَاتِ وَالْأَرْضِ يَبْسُطُ الرِّزْقَ لِمَنْ يَشَاءُ وَيَقْدِرُ إِنَّهُ بِكُلِّ شَيْءٍ عَلِيمٌ ﴿١٢﴾

“With Him are the keys of the sky and earth. He enhance or restricts the sustenance to whom He pleases. Verily He has full knowledge of everything”

The first law of the thermodynamic concentrated on the conservation of energy not on creation and source of it origin. The aspect of existence of energy leads to the question as to how it originated in first place.

One of the most interesting, inspiring and contemporary problems in Astronomy, is Dark Matter, which was introduced by Zwicky (1933). In simple word this issue can be explain as follows: if we try to study the universe, we will see that the total visible mass present in it, is not enough to create require gravity to keep stable the stellar system it is made of, like galaxy and clusters. Since, the block of universe are not damage means there should be special type of matter, which produce the missing required gravity for this stability. Astronomer assigned the name “Dark Matter” to this particular matter.

Dark Matter is present not only in galaxy clusters but also in individual galaxies even in the solar system. The presence of invisible matter in elliptical galaxies was confirmed by studying the hot gas and the existence of x-ray emission (Johnson *et al.* 2009; Das *et al.* 2010). The actual density of the luminous matter in the universe is just a few percent of critical density  $\rho_c$  (which is density of matter require to expand the universe.), that shows 90% of universe has non luminous matter<sup>[4]</sup>. The existence of the invisible matter with such huge amount shows intangible entity, whose knowledge is not with us but proven to kept the stability in the energies and work done of universe and hold the First law of Thermodynamic.

Every component was exists from the beginning of universe inform of intangible entity to which Allah said “Be” it turn into the required formed.

In Quran, verses [2:117]

بَدِيعُ السَّمٰوٰتِ وَالْاَرْضِؕ وَاِذَا قَضٰى اٰمْرًا فَاِنَّمَا يَقُوْلُ لَهُ كُنْ فَيَكُوْنُ ﴿١٧﴾

“Originator of the heavens and the earth. When He decrees a matter, He only says to it, "Be," and it is.”

## II. CONCLUSION

It is with the help of cognition of the ideas and finding, the man justifies its hypothesis. The Quran is viewed as religious text by the world and its area of observation is around the Islam. This thought limited the scope of Quran. In view of Quran, this paper is one of infinitesimal effort to prove the relation between Laws of nature and Quranic perspectives. Science has divided the world of knowledge in to two parts- knowledge of the things and knowledge of the truths. According to this division, science has confined its study only to a part of the world. This means that science being confined in its scope to the physical aspect of the world. Science try to find how the objective world function not why its functions. There are several verses of scientific significance in the Quran. These verses give very useful hints about certain aspect of the physical world such as its origin, structural components and organization. This shows that Quran objective is not confined to just on functionality but also give the knowledge of the

origin and purposes of its function. If we add these two different fields of study, we can study the quest to find the absolute truth.

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