

The Fact of the Energy

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Abstract

This work deals with the Theoretical Physics. The fact of the energy was and still a complex problem in front of the scientists, so they could not reach to a definition describes it. Knowing that the energy concept is a basic concept in the physics, it can be said that "to introduce a solution for the problem of the energy fact may form a crucial point of change in the physics science life cycle. From here, this work takes its importance; this work comes to introduce a "definitive" solution for the disagreement about the fact of the energy concept. And reaching to this "definitive solution", the methodology used in the analysis of the problem was the "logic science", which can reveal the mental oppositions that cause the ambiguity of the energy concept.

Homogenizing with the purpose of the research and the neediness of the objectiveness, the research have gone through the following points and its corresponding processes:

- A. How did the energy concept appear and develop historically? To answer this question a scientific investigation established to introduce facts about the history of the energy concept refer to more than thousand years ago.
- B. How is the energy concept developed philosophically, i.e. how is it concluded from the experimental observations? To answer this question a "suitable" set of experimental observations was selected and treated by the logic science methods reaching to the energy concept trying to simulate how the past scientists developed it philosophically.
- C. Is the energy concept a fact? Finally, based on the facts introduced in the above points and other collected information, the fact of the energy concept discussed and analyzed using "the logical argument" methods, which produce undoubted judgments.

Keywords: The Energy Concept, The Logic Science, Energy Fact.

Note: This work is a gift for my mother.

1. Background

1.1 Introduction

The background represents the departure point of the researcher, or the reader, to understand the problem and so solve it, so the clear and organized background means the strong problem understanding, the comprehensive and integrated analysis, and so clear and easy problem solving. Based on these givens; this section comes in its two subsections, "philosophical background" and "historical background", to introduce the clear and panoramic concepts fitted to be the background needed to establish a deep discussion in the study subject. The "Philosophical Background" section aims to introduce the main basic concepts that must be known to understand *the problem, the methodology* of the analysis and so *the problem analysis*, while the "Historical Background" aims to clarify the history, the beginning and the developing, of the energy concept, which will be the axis of the subject. However; the integrity of the understanding occurs by knowing the concepts that the subject established upon it and the subject growing up stages in the philosophical and historical background respectively.

1.2 Philosophical Background

1.2.1 The Logic Science

The logic science is the science that deals with the concepts and its relation to the fact. So the logic is the science that its aim is to reach to the true knowledge. The logic science deals with the concepts or the imaginations and, on the other hand, deals with defining the relativity of these concepts to the truth, i.e. the judgment if it is fact or not. The judgments made in the logic science are absolutely true, because the logic science depends on mental axioms, self-evident truths, can not be in place of disagreement to make a series of acknowledgments reaching to the clear fact or the agreement. "The part is less than the all" is an example of the logic axioms. However, this property in the logic science made it in a place of trust between the predecessors and the successors, and made some of the philosophers to call it "The mother of the sciences".

In order to understand the meaning of being the logic science the mother of sciences, it is must to know that the absolute fact is the main axis that the logic science turns around it, but in any science the main aim is to be compatible with the truth, and because all sciences are poor to check its relation to the fact, all of sciences are poor to the logic science and its methods, so that; the logic science is the mother of the sciences, and "*The guide*

to the true knowledge", because it differentiates between the fact and the illusion and makes the human takes its factual situations between the facts. So; the logic science is very important.

The logic science specializes in presenting any human concept, or imagination, to the fact, so the logic is a "Comprehensive Science". But knowing that the facts are divided into sensible facts and mental facts, in addition to realizing that the concepts is not sensible things, then potentially the logic science is a "Mental Science" and its results or judgments are mental facts. Not only; but providing that the human mind structurally performs two activates no more; which are: the conception, or the imagination, and relating the concept to the fact, then it can be said virtually that: "The logic science is the science of the mind, hence; the science of the human", because the human is the creature that is distinguished from the other creatures by the mind, so; wherever the human is found the logic is found, and wherever the logic found the human is found; then the logic science is a structured knowledge in the human being. These are some of the characteristics of the logic science.

The logic science judgments are made by comparing the concepts with the self evident facts, so the logic deals with these two sides of comparison, that is: "The Concepts" and "The Self Evident Facts". "The Concept" is: to realize an individual mean, and the fact is what the human can sense directly (the sensible facts) and what the human can not imagine its opposition potentially (the mental facts), e.g. the human can not imagine that the summation of one and one other than two and when the human imagine one and one together then the result occurs in his mind without any affectation or detailed thinking. Another example, the mind can not imagine that the thing is exist and not exist in the same time. The logic science defines "The Illusion" as the opposite of the self evident facts or the opposite of a fact that proven based on the self evident facts. The aim of the logic science is to purify the human mind from these illusions further more to introduce a simple and detailed technique to investigate them.

The main mental fact in the logic is: "The oppositions can not assemble". This fact can be used as follows for example: The thing can not be black and not black in the same time. According to this fact, the logical division is established; for example: the thing is either black or not black... no more, the not black is either red or not red... no more, so the result is the thing is black or red or not red and not black.

Here, the logical argument is the language of this research, it is the optimum way to uproot the disagreement about the energy concept. The logic is not as the falsifiability, because the logic is the science responsible to clarify the position of the sciences from the fact.

1.2.1 The Physics

This work deals with physics, so it is important to define the physics here before entering into its sub-concepts according to the logic science method. There are a lot of definitions for the physics as;

Physics according to "Maxwell" is: "Physical science is that department of knowledge which relates to the order of nature or, in other words, to the regular succession of events".

Physics according to "Freedman" is: "the general analysis of nature, conducted in order to understand how the universe behaves".

Physics according to "Holzner" is: "Physics is the study of your world and the world and universe around you".

However; because these definitions includes another sciences as chemistry, geology, and medicine in addition to the neediness for more clear, specific and deepen background for this research, the following physics definition is introduced based on the scientific investigation of the author,

The physics is: the science that deals with the experimental observations conducting with the non structural characteristics (Note 1) of the sensible creatures (Note 2) and the relationships between them and how to understand them (Note 3) in shade of one integrated vision qualifies us to utilize them in different manners to gain pre determined benefits, i.e. to be ready for engineering process.

The applied physics concerns to investigate and find the physical experimental observations and to define the physical, not the philosophical, relationship between these observations in away assures its readiness to be engineered . The mathematical modules that describes the physical relationships are the optimal way to express these relationships.

The Theoretical Physics concerns to study the philosophy of the relationships between the different experimental observations in order to get the one integrated vision, mentioned above, which can enhance our predications about the physical behaviors and physical facts in the nature, so widen our knowledge about the physics, i.e. serves the applied physics, so widen our inventions, i.e. serves the engineering.

1.3 Historical Background:

The concept of energy that studied in the physics is the main concept of this study. So; it is important to know the beginning point, coining and modification processes that the energy concepts and conservation of energy law gone through it reaching to its current characteristics (Note 4).

The word energy derives from the Ancient Greek "ἐνέργεια"; *energeia*, which can be translated into "the activity", and which possibly appears for the first time in the work of Aristotle in the 4th century BCE.

The concept of energy, or something similar, after that introduced by one of the Muslim philosophy school in the 6th century, "Al-mo'tazela" (Note 5) school states that there is "قوة مودعة" in Arabic language which means in English "stored force" or "potential energy" and this energy is created by the odd creator of the universe "in" the

creature and make him "able" to do certain actions. This energy is a potential and owned by the creature, so he can do the changes by this energy. They did not state that this potential energy converts to actions, but they stated that this potential thing explain the ability to do change. Anyhow, a lot of authors today introduce the energy as "the ability to do change", this definition is the same definition of the "stored force" or "potential energy" that introduced by Al-mo'tazela although it was introduced as a belief in that time and as a physics in our time.

The concept of energy was appeared in the physics and was introduced as a conserved thing firstly by Gottfried Leibniz who introduced the idea of "vis viva" which means "living force", which defined as the product of the mass of an object and its velocity squared. He stated that "total vis viva is conserved". To account for slowing due to friction, Leibniz theorized that thermal energy consisted of the random motion of the constituent parts of matter, a view shared by Isaac Newton, although it would be more than a century until this was generally accepted.

In 1807, Thomas Young was possibly the first to use the term "energy" instead of vis viva, in its modern sense. Gustave-Coriolis described "kinetic energy" in 1829 in its modern sense, and in 1853, William Rankine coined the term "potential energy".

The law of conservation of energy, was firstly postulated in the early 19th century. According to Noether's theorem, the conservation of energy is a consequence of the fact that the laws of physics do not change over time. Since 1918 it has been known that the law of conservation of energy is the direct mathematical consequence of the translational symmetry of the quantity conjugate to energy, namely time. It was argued for some years whether energy was a substance (the caloric) or merely a physical quantity, such as momentum.

In 1845 James Prescott Joule discovered the link between mechanical work and the generation of heat. This led to the theory of conservation of energy, and development of the first law of "thermodynamics"; which called also "science of energy".

Finally, Lord Kelvin amalgamated these many postulations and discoveries into the laws of thermodynamics, which led to a lot of developments in the physics and so in the technology, hence promote the confidence in the energy concept and conservation of energy law between the physics scientists.

In the modern physics, during a 1961, Richard Feynman, a celebrated physics teacher and Nobel Laureate, tried to introduce a definition for the concept of energy and conservation of energy law in his lecture for undergraduate students at the California Institute of Technology: "There is a fact, or if you wish, a law, governing all natural phenomena that are known to date. There is no known exception to this law, it is exact so far as we know. The law is called "the conservation of energy". It states that there is a certain quantity, which we call "energy" that does not change in manifold changes which nature undergoes. That is a most abstract idea, because it is a mathematical principle; it says that there is a numerical quantity which does not change when something happens. It is not a description of a mechanism, or anything concrete; it is just a strange fact that we can calculate some number and when we finish watching nature go through her tricks and calculate the number again, it is the same".

2. The Problem; The concept of Energy

"The Energy" is one of the most concepts in "the physics" unless it is the most important. Although the energy concept is so important concept in the physics, there is no a united definition for the energy!!! Why do some authors say: "Although everybody has a feeling of what energy is (Note 6), it is difficult to give a precise definition for it" and another one says: "energy is a fundamental concept, such as mass and force and, as is often the case with such concepts, is very difficult to define (Note 7)"? Why do they starts to classify the energy into types and mention its characteristics without being have defined it before, although the mention of something classifications and characteristics "logically" comes after visualizing it, i.e. after introducing its definition? Why did Richard Feynman, or the modern physics school, think: "It is important to realize that in physics today, **we have no knowledge what energy is**. We do not have a picture that energy comes in little blobs of a definite amount"?

Due to this inability to introduce a clear definition for the energy, the physics scientists divided into doubter, in general due to owing a philosophical background (Note 8), and corroborator to the energy existence, who are the prevalent majority. ***And this is the problem*** :yes, to make a factual decision about the fact or the existence of the energy, taking the unavailability of a clear definition for it in consider, is the problem.

However; because of this real problem, it can be said objectively that: "The energy concept is an ambiguous (Note 9) concept", but the existence of an ambiguous concept in a system of concepts, i.e. in a science, results sourly in a deformed visualizations about this science, because of the uncertainty of receiving the true concept of the energy by the students in the human communication process, which follows that there is a non united understanding so mistakable understandings. These are some of the resulting problems that delivered from the main problem or "the inability to introduce a clear definition for the energy". So solving this problem is a strong desire for physics environments.

3. The Methodology

3.1 Introduction

In any problem solving process; there is a specific and clear methodology followed to reach to the solution. Each methodology used to solve a problem must be adopted and recruited to analyze the problem into two scales; general scale and specific or detailed scale, that is the problem solver must know the main road "general imagination" and the sub roads "specific imaginations" that relates the problem side with the solution side in his selected methodology. In the general imagination, the problem analysis way is defined in the way that serve the overall issue, and so a general imagination about how to solve the problem is coined, which is described above with the main road. In the specific imagination, the details of the formed general imagination of the problem analysis, so the solving way, is introduced, i.e. how the methodology will be applied and organized within the boundaries of the main road to reach to the solution. Here; the general imagination of the methodology is introduced in the section called "Body of the solution" and the specific imagination of the methodology is introduced in the section called "Face of the solution".

3.2 Body of the solution

The methodology followed in here depends on using the logic science methods to reach to the definitive fact about the energy concept. As the logic method provides; the following logical steps will be performed to get the true judgment about the fact of the energy concept;

Firstly; using the logic to reach to how the energy is concluded philosophically. This step will be performed in the section of "Energy concept analysis"..

Secondly; Also by the logic science, to define if the energy is fact or not depending on the outputs of the first step. This step will be performed in the section called "The Problem solving; the energy is...". In these two main steps, the following logical methods will be recruited in the processing;

- A. "The logical classifying" which is to introduce all the logically possible alternatives,
- B. "The logical exclusion" or "logical discarding" which is to impugn all the fact's opposites reaching to its opposite, that is the fact itself, by discarding all the self opposite logical premises that will results in remaining or exclusion the fact.
- C. "The logical argument" which is to imagine a disagreement about subject, and two opposite opinions, since each opponent tries to impugn the others' opinion by the logic. This argument can guide to objective judgments. The logical arguments are detailed and long ordinarily, because to find a self opposition, it is must to make branching under the opinion and check the logicability of each branch, and so if the branches or sub-opinions are an illusion then the main opinion is an illusion.

3.3 Face of the solution

The general methodology is the above three logical methods together. The logical argument is one these three recruited methods. In any argument there are two sides with two opposite opinions, one of these opinions are the true and so the other one logically is the false. Objectively, to know what the true opinion is, it is suitable to take up with one of these opinions supposing that it is the true, and then to listen to the evidences supporting the taken up opinion and to the opponents' evidences to check the trueness of your opinion. The researcher or the reader do not represent journalist or informant, but they represent the justice in here, so as the justice do, it is must to make first impression so take up one opinion and then to doubt in your opinion, by the other evidences, further to defend on it by your evidences. However, the result of the logical argument will evaluate itself by itself, i.e. the result of the argument will be the true judgment about the energy, because every thing will be clear and detailed in logical argument.

As stated, it is suitable to take up or to incline to an opinion of the two opposite opinions, the energy exist or not exist. The taken up opinion will be selected depending on the section "Formation of primary point of view", which represent an entrance for the detailed logical argument established in the section "The fact of the energy".

4. Problem Analysis

4.1 Introduction

The judgment on the energy concept is associated with visualizing its definition, but its definition is not clear, so this forces to refer to the energy concept creating; i.e. how the energy concept is concluded from the experimental observations. This is the valid and the suitable analysis. And because such analysis is not possible without certain set of experimental observations, a suitable set of experimental observations will be introduced in the section called "Set of experimental observations" and will be analyzed reaching to the energy concept in the section called "Energy concept analysis".

4.2 Set of experimental observations:

In the fluid mechanics (Note 10); we can observe by the sense and experience that: "When the fluid moves in a pipe, in a certain velocity through certain cross section, and flows then through a larger cross section, the flow velocity decreases. And if the cross section of the pipe decreases after that, the velocity will refer (Note 11) to its first value". See figure 1; observe V_1 in A_1 , V_2 in A_2 , and V_1 in A_3 which equals to A_1 .

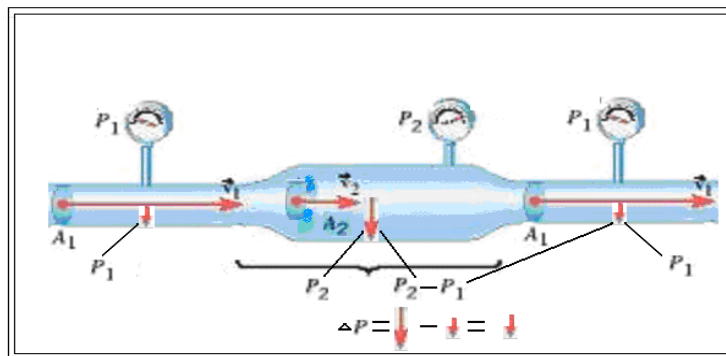


Figure 15 divergent- constant- convergent pipe

4.3 Energy concept Analysis:

Now, coming to analyze this set of the experimental observations; consider that the reference velocity is the velocity in the larger cross section; then the velocity in the fluid body appears, disappears and appears once again in the first second and third pipe section consequently as its relatively zero value comes in the second section, But why is this?

The mental fact that can not be denied: "The change follows the existence of changer" imposes the observer who wants to interpret these observations to research about the causer of this correlated observations. So the above question can be reformatted into,

What is the causer of this?

The answer of this question can be logically,

Either the causer is apparent

Or the causer is non- apparent

No other alternative.

If the causer is apparent, then we can observe it apparently. By the direct observation, it is easy to see the cross section changes, and by the measurement its observable to see the pressure, which is the fluid effect on the pipe wall and on the adjacent fluid particles, increases. So, we have cross sectional area change and pressure change together with the velocity change. Now, the following question appears here,

Does the cross section change or the pressure change cause the change of the velocity?

The answer of this question can be logically,

Either yes,

Or no, then the velocity change refers to another reason.

Mentally, these are the two possible alternatives, no more.

So, the logical alternatives can be rearranged logically as follows,

Either the causer is the cross sectional change or the pressure change (the only apparent causers)

Or the causer is non- apparent. No more.

However, logically the pressure change can not be the causer, because the pressure is a physical quantity comes from the force and the force comes from the acceleration but the acceleration comes from the relativity of the velocity, so logically the pressure results from the relativity of the velocity, or the velocity change causes the fluid pressure not the inverse. In other words, the pressure is the effect results in the fluid body due to the relativity of the velocity between upstream and downstream fluid section, when the upstream fluid is faster than the downstream fluid section, it exerts on the downstream fluid section by a pushing force resulting in an effect called "The Pressure" in which the fluid behaves to absorb the internal force action and its internal reaction, and when the downstream fluid section is faster than the upstream fluid section, it exerts on the upstream one by a pull force called "Negative Pressure" or "Vacuum". This can be simulated by a rope. Anyhow, this means that the pressure change can not logically cause the velocity change.

Then the velocity change logically,

Either caused by the cross sectional change (the only possible apparent causer),

Or caused by non- apparent thing.

Now, can the cross sectional area change be a causer?

The answer: Physically, yes, but Philosophically, no. It is philosophically no, because the cross sectional change itself is a change, not a changer, so the cross sectional area is changing not doing creating the change in the other things, in other words: the cross sectional area change has not virtually a willingness. It is physically yes, because the cross sectional area change is a physical change, and in the physics each physical change follows another correlated physical change, as in the collision of the billiards' balls. In other words, physically the cross sectional area change can be represented by a force exerted by a human or a machine; if the pipe is elastic and a

human exerts on the first and third section of the pipe shown in figure1 to decrease its cross section, then the fluid in these sections will be faster and it will be slower respectively in the second section, so the velocity change here is similar to the velocity change in the studied case. Then physically the hard cross sectional area represents the role of the force maker on the fluid body by its mechanical resistance.

So, now we are at crossroads,

Either to accept the philosophical vision, which judges that the change in the cross sectional area is not the changer of the velocity, but the two are correlated changes occurs together,

Or to accept the physical vision, which judges that the cross sectional area is the physical changer of the velocity.

The justice between these two opposite visions is the logic science, but this will be done in” The problem solving” not here, because here the function is to know how the energy concept is concluded.

If the physical vision is accepted, then the answer of the main question, who is the causer of the velocity change, is available now, that is the area change, but if the philosophical vision is accepted, the answer of this question have not given yet. Then philosophically, what is the answer?

Philosophically, the apparent changer is not the causer, because neither the pressure change nor the cross sectional area change cause the velocity change, so a non- apparent changer is the causer logically in shade of this vision. But, how can this disappearing causer define?

Depending on the philosophical vision that rejects being the cross sectional area change as the causer of the velocity change because it changes together with the velocity not makes the change of the velocity, the disappear causer must be something does not change, else it will be rejected philosophically as the cross sectional area change. Then the disappearing causer must have a constant value or it must be “conserved” logically under the assumptions of this vision.

Another point, in the physical vision, the cross sectional change causes the velocity change and the velocity change in turn causes the pressure change, but in the philosophical vision what is the causer of the pressure change?

The answer of this question is: philosophically it is a non apparent causer also. Now, it is suitable to relate the causer of the change of the pressure with the causer of the change of the velocity. Also, as observed, as the velocity decreases the pressure increases and vice versa, this can be related with conservation of the causer.

Then the causer is hidden, conserved thing, interprets both of the change in the velocity and the pressure, and can interpret the inverse proportion between the velocity and the pressure. This thing can be called “The Energy”.

Another insight can be made here, the velocity disappeared in the second section and return to appear in the third section. The velocity in the second section either vanished or not, if it is vanished, then it is created another once in the third section, but this apparently may not serve our inclination to define a relationship between the variable parameters because each velocity, and so each pressure, is created in each section independently, but the aim of the physics is to define a relationships between the physical parameters in here, so this will not “apparently” serve the fact, so going to the second alternative. The velocity is not vanished, then where it is going in the second section?

The answer: it disappears, not vanished, in the second section and appears in the third section, this disappearing can not be explained else by the “storing”, yes it is stored in the second section of the pipe and appears in “another phase”, as a pressure, in other words it is not vanished but it “converts” to another phase, and recovered then in the third section of the pipe. The recovery of the velocity in its same magnitude as in the first pipe section supports the converting assumption.

Then there is something called “The Energy” responsible to appear the velocity and store it, or appear the pressure, this thing is own by the fluid because it interprets its behavior, conserved thing, responsible to increases the pressure on the expense of the velocity and the vice versa because it “converts” according to the adverbs from the kinetic phase, velocity, to the potential phase, the pressure.

By this way; the energy concept is concluded.

And Generally, it is suitable here to summarize the basic experimental observations that guide to the energy concepts, these experimental observations or bases are:

- The first base: the proportions existing in the universe. In our example; the inverse proportion between the velocity from side and the cross sectional area and pressure from the other side.
- The second base: The recovery of some physical characteristics with its quantities or appropriate quantities after it has disappeared. In our example, the recovery of the velocity in the third pipe section with its first quantity as in the first pipe section after it has disappeared in the second pipe section.
- The third base: the observation of similarity in the above two points or behaviors between different physical characteristics. As the appearing and disappearing, storing, in the heat, electrification, magnetization further more the motion and as the proportions between the governing equations of these fields.

- The forth base: the existence of a different body cases in a successive and relating form. As the motion and heat; the heat can be found after the motion, by the friction, or the motion can be found after the heat, by the fluid expansion as in the turbine, the both in successive and proportional way. .

4.4 The coined visions

4.4.1 The physical vision

The velocity change occurs because of the direct effect of the cross sectional area on it. And the velocity increase is caused by the cross sectional area decrease, while the velocity decrease is caused by the cross sectional area increase. No hide and recovery of velocity is assumed here, each change in the cross sectional area delivers change in the velocity separately and independently. Then, the velocity change in turn causes a pressure change in the fluid body physically by pushing the faster upstream fluid particles on the slower downstream particles. So each physical change is caused by another physical change successively.

4.4.2 The philosophical vision

The reason of the recovery of the fluid velocity is: there is something called the energy owned by the fluid appears in the first section as a motion or "Kinetic type", and is not vanished in the second section, but it is stored and this is called "Potential type", then it refers in the third section as a kinetic type. And where the kinetic energy in the first section related with the velocity, the potential energy related with "the pressure" which is the fluid effect on the pipe enclosure and on the adjacent fluid particles. See figure 1. This conversion from the kinetic type to potential and then to kinetic type is called "the conversion of the energy". Besides, as the motion refers to appear in the third section in the same value as the first motion value, it can be said that: the energy has the same value, so it is conserved; so it converted from kinetic type to potential type in an equivalent way and the evidence is referring the kinetic energy to its first value.

This description can be seen in other fields in the physics. the answer of the question "why does the apple fall after it have stopped when it is thrown?" is as the answer of "why does the velocity recover?". The voltage and the current squared represent the potential energy and kinetic energy for a unit charge. The apparent heat and latent heat are similar to the potential energy and kinetic energy respectively.

4.4 The outputs of the problem analysis

The above analysis provides with the following:

- A. The previous analysis indicates that the energy concept was concluded according with philosophical background, so the energy concept does not effect on the applicability of the physics, because it is not observable directly as the other physical variables as the velocity or pressure. So, the physical vision introduces the physics without the energy concept, as it depends on the law of the equivalence in the physical changes; each physical change follows another equivalent physical change or changes, so the summation of the differences in the physical changes equals to zero, this can describe the conservation of energy law physically without the energy concept.
- B. The previous analysis shows that the energy concept is coined due to different and various experimental observations in skillful and subtle way.
- C. This analysis eases the problem solving, because it represents an approach about the energy concept fact.

5. Problem solving; The energy is ...

5.1 Introduction:

The solution of any problem appears from the true and the suitable problem analysis. So according to the problem analysis introduced above, the solution of the problem, which is "to know the fact of the energy", can be deduced. Yes; by detecting and following the logical fallacies the energy existence fact can be deduced.

And as mentioned in the methodology section, this part consists of two sections "formation of primary point of view" and "The fact of the energy". In the first section; an inclination will be made toward one of the two opposite opinions about the energy fact; the energy exists and the energy does not exist. In the second section; the fact of the energy is stated from three different sides in three subsections, "The logical conclusion and the concept of energy", "The energy fact based on the logical division of the recognizable objects" and "The energy and its ambiguity!".

5.2 Formation of Primary Point of view

Objectively, to make first impression about certain thing, it is must to define this subject logically before starting in making this impression. But here there is no definition for the energy, then this problem is going to be recruited here to make the primary point about this issue.

To solve this problem definitively; the logic provides with only two tracks to solve this problem;

The first one: to accept a united definition for the energy.

This is so difficult; because the past scientists who organized this science branches did not agree or provide us with united definition for the energy, and if the energy concept would not an ambiguous concept, then the past

scientists had been reached to a united definition for the energy because they introduced it firstly. The clear subject does not cause a disagreement because it is not ambiguous.

Not only, but this alternative is impossible, because if all the scientists in our and coming time agree as one man on one definition for the energy, then;

Either The past scientists who organize the physics science and who introduce the energy concept was meaning this definition;

Or they did not mean this definition.

if they meant this definition, then; either the past scientists virtually could define what they called "the energy" or not, if they not, then this follows either what they called the energy is an illusion because the problem in the concept or they was stupid because the problem in them, if they are stupid, then the energy concept is not trusted, so illusive, because a stupid men introduced it, but they were not stupid, so the problem not in the persons but in the concept, then the energy concept is an illusion according to the claim of being the scientists short to identify the energy concept.

Then; they could identify what you called the energy, then either the past scientists are liar because they did not introduce the definition although they know it, or the claim of there capability to identify it is false, then the energy is illusion.

Then the energy is an illusion any way.

But if they did not mean the united definition that have been assumed to be introduced for the energy, then they talking about something other than the energy, but we talking about the energy.

Then; any new definition for the energy is not compatible for the nominated of the energy. Then logically; the energy is an illusion.

So the second alternative is the true.

The second one: to not accept a united definition for the energy. Then;

Either to leave the concept of the energy unchanged. But this is the problem it self; so this alternative is rejected because we seek to solve this problem not to maintain it.

Or not to leave the concept of energy in its current status. Then;

Either to refuse the concept of energy.

Or to modify the concept of energy and then introducing it in a form that makes it with clear definition. But this means that the introduced definition is for something other than what called the energy, because the energy can not be defined as said above but the modified concept is with definition, so they are different concept, then this alternative is equal to the rejection of the energy concept.

Then, logically no alternative available to solve this problem except refusing the energy concept because it is illusion. This is the primary point of view about the energy fact.

5.3 The fact of the energy:

5.3.1 The logical conclusion and the concept of energy:

As stated in "The energy concept analysis"; the energy concept rests on four experimental observations or bases. Here, the trueness of concluding the energy concept depending upon these bases is checked logically as follows:

- A. The energy concept is introduced as a philosophical vision versus the physical vision that refers the physical change to other physical change, because philosophically it is false to refer change to other change. Now, this introducing is true logically, because of the logical rule "Each change needs to changer", not to change, but this does not mean that the physical vision is false also. How?

Simply, as observed, the physical vision is sufficient to interpret and define the relationship between the different physical variables, i.e. it is sufficient to accomplish the function of the physics science and make the outputs of the physics ready to the engineering process, to the application in certain useful manner, so there is no problem in this vision from the physics science side, but it is the original vision physically, but the odd problem in this vision is its opposition with a mental fact "the change need to changer to create it not to change", so the problem is from the philosophical or logical side. But the physics science and the logic science must not be logically opposite, because both of these sciences depends on the same processor to produce the results, that is: the mind, so this follows logically that the claim of being an opposition between the physics and the logic or the philosophy is false, then the problem logically in false use of the processor, the mind, which, i.e. the false use of the mind, results in mistakable relation between the two true results of these two sciences. In other words, the opposition between the physical vision and the logic science is apparent not real. How?

It is known that the physics science is an experimental science, i.e. it deals with a collection of the facts that observed and happened in the past and "assume" or "acknowledge" that it will repeat in the future in the same manner and amounts, so to utilize our assumption or acknowledgment, we assume that there is a relationship between the physical variables that we had observed in the past. So, the physics depends on a main assumption, which is "to assume that the studied relationship between the physical variables will repeat". Two things can be concluded from this introducing; the first one: in the physics, we do not talk about "causers", but about "relationships" and the second one: the physics can not reach to sure results to be dealt in the future, because it

depends on an assumption, not as the logic that depends on mental facts. Then, to search about the causer of the physical changes in the physics is false, because it is not the subject of the physics and because the physics can not provide with results assured to repeat in the future so how it can provide with sure results about things are not dealt in it! So, no opposition between the physical vision and the philosophy as seemed, because the question "What is the causer?" in the physics is originally false, and instead the true to ask "What is the physical change related with this change?", but the two questions are used sometimes, to brief the question, in the same meaning. So, no problem logically in the physical vision, it is whole; "Each physical change is related with other physical change or changes" and also "Each change needs to changer, not to change to create it" is true, but it is not dealt in the physics that deals with the relationship between the physical changes not with the changer or causer of these changes; the causer or changer is researched in the philosophy or belief sciences.

Then, no need to go to the philosophical vision, because no "logical" problem in the physical vision that is the original vision. Anyhow also, the energy concept is a concept must be dealt in the philosophy not in the physics, but even the energy concept is checked in the philosophy or the belief science, it will be dropped logically, because it is undefined-able concept. It can be said here: Philosophically, the true vision is to belief that the universe creator, the god, is the direct causer or changer of each one of these "Physically correlated" changes.

B. "The energy converts from phase to phase" this characteristic is concluded depending on the observation of "appearing- disappearing- appearing" the velocity, and the observation of its recovery in the same quantity. The conclusion of being the energy converting thing depending on these two observations is false logically.

The velocity is either vanished or not vanished in the second section in figure 1, this is a logical fact, if this fact opposes the conclusion of the energy conversion, then the claim of the energy conversion is false, i.e. if the energy conversion approach opposes being the velocity in the second section vanished and opposes being it not vanished, then the energy conversion is an illusion.

Now, the velocity either vanished or not, if it is vanished, then the energy concept is dropped down, because the pressure increase does not result from the vanished velocity and so the recovered velocity does not result from the potential motion or the pressure. And if it is said: the velocity is not executed, but it just hides from our eyes and appears another once as "The storing process", then we say: this statement is false, because the vanishing is the hiding itself here, and if it is said: the hide means not the vanishing as if someone hides from the watchers. Then, it will be said: how can you interpret the pressure increasing then, if the velocity is valid but hide, then the pressure does not increase, but it increases, so the energy conversion claim is false then. So, any way the energy conversion is false claim, or the experimental observation of the "appearing- disappearing- appearing" of the velocity, does not follow the conclusion of the energy concept and conservation of energy law, but it opposites with it.

The logic science proves that the energy concept is taken mistakably from the experimental observations.

5.3.2 The energy fact based on the logical division of the sensible objects:

The human can divide the existents that he can sense logically into two types no more; "The Bodies" which are: any thing vacant a place, and "The Symptoms" which are any thing other than the bodies. I.e. the bodies satisfy to several changes, therefore it is found in several cases; in motion or rest, hot or cold...etc, these cases represent what called "The Symptoms". These two things are called "The sensible objects".

If the energy exists, then logically the energy is either a body or a symptom no more. Then logically; if the energy is not a body and is not a symptom, then it is nothing, so it is an illusion.

Firstly; the energy is not a body, because the body is the thing that occupies a vacant in the place and the energy does not occupy a place.

Secondly; the energy is not a symptom, because the symptoms are not conserved thing, as the symptom is the case that the bodies observed in it, and as observed these cases change to its opposite, so it is vanished and created continuously, but logically it can not be said that the thing converts to its opposite, so the energy is not symptom.

If it is said: the energy is a certain kind of the symptoms studied in the physics, this type is one of the two opposite symptom, the energy is the motion not the rest, the energy is the heat not the cold, it is the electrification not the non electrification and etc... yes, all of these cases are the energy, so the energy is the positive type of the symptoms.

Then it is said: this claim is nothing; the energy is something conserved, and if all of these are the energy, then all of these together, as the one thing, converts to what? There are no remaining symptoms else it oppositions, so this lead to the opposition.

And if it is said: each one of these is a type of the energy, so it can be said: the motion is energy, the heat is energy, the electrification is an energy and etc... as you can say: the human is a type of animals; it is the minded animal.

Then it is said: fallacy! because if each of these is energy then it can be said logically that each of these is conserved as the energy is conserved and they are type of energy, but each of these is not conserved in the fact,

the motion, the heat, the electrification is not conserved things, each of these disappears or vanished and its opposition appears as observed in the outdoor fact. So, how can the energy be conserved while its types are not conserved?

And if it is said: the energy is a part of these symptom (motion, heat and etc...) as the hand is a part of the human, or these symptom is a type of the energy as the human is a type of the animals so you can say: the motion, heat, electricity and etc are types of energy.

Then it is said: these two claims are out of the argument subject, because the argument in the past paragraphs built on the acknowledgment of being the energy a symptom as it is impossible to be a body, but in these two claims the suppose is the symptom is part or type of energy. However; it is easy to deconstruct these two claims because they contain clear false; the first claim is false because it is stated that there are two types of objects; the bodies and the symptoms, and if this type of symptoms (motion, heat, electrification and etc...) is a part of the energy, then what is the other part or component of the energy! There are no remaining objects else the bodies and the opposite of these symptoms (the equilibrium, coolness, non electrification and etc...) but it is known that neither the bodies nor these symptoms are energy, but this is a contradiction, so this claim is impugned. This judgment is the same for the second claim; as the human is an animal with mind, then this type of symptoms (motion, heat, and etc) is energy with what! With body... surly false, or with its oppositions (equilibrium, coolness, and etc)... surly false because the result then is all the symptoms (these symptoms plus its opposite symptoms are all the symptoms).

Then; the energy is not a body and is not a symptom. So the energy is a fabulous thing; it is not a fact.

5.3.3 The concept of energy and its ambiguity

Because of the deal with the energy concept for a long times in physics, the concept of energy is difficult to be uprooted from the minds, yes, in the lectures, industry and even in the ordinary life we used to say this word in certain situations. So to promote the convincing in the false of the energy concept, and so direct toward removing the concept of energy from physics, it needs to the exaggeration in uprooting this concept by impugning it different angles, so this section comes mainly to increase the certainty degree not to create the certainty which has been created.

In the "problem analysis", the lack of a clear definition for the energy caused a converting in the analysis track from "studying whether the energy concept exists or not" to "studying how the energy concept came". Hence; this is the main problem faced in the problem analysis, then it must be a part of the solution. Then the coming argument concentrates in the lake of definition for the energy as a causer of destruction the energy concept.

The following logical truth will be the base of the argument "If the premise is opposite with the fact, then its opposite is the true logically". And here, suppose that the energy is exist, and if this is opposite with the fact, then the energy is not exist.

Here; the argument starts (Note 12);

A questioner can ask: we "suppose" that there is energy; any one can not prevent the other from supposing! You can not prevent the others from supposing except by a definitive prevention; then what is the definitive prevention?

The answer: this claim is not scientific; in the sciences we deal with the facts not with the supposes. However, the origin imagination in the human mind is no energy, because the energy is not sensed and some one must explain and teach you this concept. So to convenes some one in certain claim, you must transfer it from its origin convincing case to the desire convincing case; i.e. you need to show your evidence to prove the existence of the energy, not we need to show our evidence to show the mistake of your suppose.

This closes the door in front of continuing the argument, but no problem, oh questioner! Your vent going to be given; Argumentatively, suppose that there is something called "the energy" as you claims, then, please; define the energy in order to start the discussion about this concept;

Does "the energy is the ability to do change" as published in the science of energy [11] books?

This definition contracts what you belief about the energy; does the kinetic energy is ability to do change? No; so this definition simply is not true for what you called "the energy". Also; the word "ability" is not suitable here; does the ability convert to change? Also, the potential energy converts to kinetic energy, then; does this ability decrease after this conversion? Yes; because it converted to change (a part of the potential energy converts to kinetic energy), then the ability is not conserved; but the energy is conserved as you claim; then "the ability to do change" is not the energy; but this fact opposes your claim, so your claim is false;

The definition "the capability to produce an effect" [12] satisfies to the same judgment, as the word "capability" equivalent to the word "ability" in the past definition.

No problem,

Give us another definition...

Do you agree with Feynman's definition "It is a numerical quantity which does not change when something happens", if yes, then you must agree him also in the his following speaking "It is not a description of a mechanism, or anything concrete; it is just a strange fact". This indicates that he did not introduce a definition for the energy but he introduced a confirmation for the ambiguity of the energy. However, in the physics, when we

introduce a concept it is must to define the concept then to coin a numerical scale describes its quantities depending on its definition not the inverse as described in Feynman's definition, e.g. the pressure is the force exerting on the unit area, so depending on this definition the concept of pressure is expressed numerically by umbers refer to certain quantities of pressure, i.e. certain quantities of force exert on certain area. So without the definition of the pressure concept, the mathematical description and so the numerical values of the pressure can not be introduced, because its physical component (the force and area) are unknown and it can not be imagined and evaluated else by these physical components. Also, the physics concept is not related virtually by the numerical quantities, but these numerical quantities represent names of certain sensible physical quantities, these names are accepted to enhance the human communication about these physical quantities. E.g. if you want to displace a block of iron, then you know by the experience that you need to do force more than that needed when you try to displace the same volume of wood, you know that the iron is denser, depending on the concept of density, so you prepare yourself to do more force to move the block. This is a physics without numbers, the numbers help to obtain an accurate results not to make physics. The "true" physics scientists do not need to the numerical quantities to understand and relate the physical variables of there own experiments, if they would not to announce the results, because they obtain the feeling of the variables values and its relations as same as the man that would like to displace the iron and wood blocks, but in more complicated scale, who can determine in his mind that he need for example to exert more force appreciated by what the word "double" means to displace the iron relative to the needed to displace the wood. So, definitively, Feynman's words about the energy is cracked, knowing that he had not introduced a definition or description as he acknowledged for the energy.

Anyhow, the challenge is still, Give us the definition of what called "The Energy"...

No problem; oh physicist! the help is coming to be rest;

As you read in the physics references, you will not ever get a definition for the energy concept; why? Because Newton, Niles Bohr, Rankine, Kelvin, Einstein and other famous physics scientists did not or could not define the energy;

If it is said: but this is not a mental prevention; may some one formulate a definition for the energy in the future; in the future we will have more information about the energy, this is what our scientists say [10] [12] (Note 13),

Then we say: this is the problem originally; the usefulness of any definition is to check whether the student or recipient understands the concept would to be sent by the teacher or the sender. In other words, if any one define the energy concept, then we can not reanimate Newton, Rankine, Kelvin, or Einstein to get a confirmation from them regarding the new concept, i.e. no one of us argue about Newton, Rankine, Kelvin and Einstein ability to give the definitions, especially that they considered the establishers of the science that we have started to study recently; this judgment is true for the scientists that can not define what called "The Energy". Also, even the energy is seen by the eye, we must be sure that this is not the energy that described by the physics scientists in the past centuries, because they talked about insensible something. So this claim is logically dropped.

Oh questioner! The argument also can be researched from another side;

The energy concept logically is a concept that can be understood by the human or can not, no more.

If it is said: the human can understand it, then logically it can be expressed potentially by the human being or it can not be expressed, no more;

If it is said: the energy can be understood by the human and can not be expressed,

Then we say: if we understand something then this means logically that we know its parts or its descriptions, but its parts or its descriptions logically either can be expressed or not; **if it is said:** can not be expressed; then this part or descriptions have part or descriptions, these parts or descriptions either can be expressed or not, **if it is said:** not... and continue to say not; then this means that the human can not expressed any thing about this concept, but you are now argument us about the energy then you can express something about the subject, you are not keeping silent now, so either you should now start to keep silent regarding this subject or acknowledgment that you know and express some parts or descriptions, then if you know one of its parts or descriptions then you can use it to express some part or description of this concept and use this some part or description to express another part or description...and continue until you express the desired concept; then **logically if the human can understand something, then he potentially can express it.**

But if it is said: the human can express and understand some of its parts or descriptions, but he can not relate it with the other parts or descriptions reaching to the overall understanding so to the definition of this thing.

Then we say: false, how can he judge that there is an all or the all is really an all without knowing its parts or its descriptions, there is a relation between the parts or descriptions and the all, so because you know the parts and there all, then you know the relationship between them. Then the statement: "The energy can be understood by the human and can not be expressed by him" is logically false.

If it is said: the human can understand the concept of energy and can potentially express it,

Then we say: express it... if you say: I can not now but I potentially can; then we say: no problem; when you define it then come to continue the argument and through this time we must belief that you can not express so are not logically understand the energy concept (Note 26) ... Then you do not understand the energy concept; if you

say: yes I do not understand it but there are other persons understand it, then we say: specify them...we wait; if you said: they died, then we say: they did not express it, so we are imposed to belief that they did not understand the energy until you proof that they understand it by bringing there definition for what called "The Energy", then they did not understand the energy.

Then all the doors are closed in front of your claim, then logically you and all of the past physicists do not and did not understand what you called "the energy" to define it. Then the energy concept is not an understandable thing, then what called "the energy" is not any thing except an illusion; i.e. what called "the energy" does not exist in the fact.

If it is said: all of us **currently** do not understand it and all of the physicists **in the past** did not understand it; but in the future the energy will be understood; as implicated from Richard Feynman statement: "It is important to realize that in physics today, we have no knowledge what energy is" [10].

Then we say: destructed claim; how can you judge that something is a fact or not or it will be understood although you do not visualize it? **We also say:** what you called the energy concept can not be understood potentially by the human, because the time is either past or future, and the energy concept is not understood by the human in the past, so if any one introduce a definition for the energy, then how can any one confirm that it is the energy although the past humans are not sure that they taught it truly, because they do not understand its fact, and the coming students are not sure that they learn what there teachers try to teach them.

The "Energy" name **logically** refers to something not understandable by the human. Then **logically**, you must choose; either the energy concept is a non understandable concept potentially by the human and so the energy is an illusion or you are not a human being because you can understand it, but if you can understand this speaking, then virtually you are a human being;

Then; definitively; the energy concept is an illusion. Just.

6. Conclusion

- The logical analysis indicates that the energy concept was concluded according with philosophical background, so the energy concept does not effect on the applicability of the physics, because it is not observable directly as the other physical variables as the velocity or pressure. So, the physical vision introduces the physics without the energy concept, as it depends on the experiment fact of the equivalence in the physical changes; each physical change follows another equivalent physical change or changes, so the summation of the differences in the physical changes equals to zero, this can describe the conservation of energy law physically without the energy concept.
- The energy concept is one of the most important concepts in the physics. In this paper; the most important conclusion is: this energy is not a fact, but it is an illusion, so the importance of this conclusion equals to the importance occupied by the energy concept in the physics. Using an "active" and "perfect" methodology, which are the methods of the logic science, a judgment about the energy is concluded, so this judgment obtains its strength from the absolute certainty of the logic science. That is, the statement "the concept of energy is an illusion" is an absolute fact.

The energy concept destruction depends mainly on two observations: the first one is "No definition for the energy" or "Our disability to define the energy until now", and the second one is "The energy concept introduced and developed in the physics depending on set of self-opposite conclusions about "particular" experimental observations", so this self opposite conclusions in addition to that non comprehensive vision, that did not take the all the experimental observations in consider, make the energy concept ambiguous and non susceptible to be identified by a precise and comprehensive definition that is including and homogenous with all the experimental observations .

The energy concept destruction has proved in organized manner based on each of the above mentioned two observations. The first one is used to make a judgment about the fact of energy, or any "potentially undefined" or "indefinable" concept, by the logic science to reach to the fact of the energy concept, or any indefinable concept. The second observation concluded after the "logical" analysis of "how the energy concept is concluded from the experimental observations" has been performed. The second observation is taken and tested then also by the logic science to know whether the energy concept came from true or false conclusions. "The logical check" of the first observation shows that the energy is an understandable and illusive thing, and the logical check of the second observation shows that the energy concept came from set of false acknowledgment or based on false conclusions educed from real experimental observations or bases.

Also; the energy concept have impugned logically from a third angle. Depending on dividing the human recognizable objects logically, it is proved that the energy can not be one of these recognizable objects.

- Now; the energy concept is a fable, so what is to do in front of this fact? And how the face of the physics can seem without the concept of energy?

Before answering these questions, it is important to understand that to stay deal with the energy concept because we have not an alternative vision in the physics in spite of knowing that it is false means that we have a strong

poor in the physics knowledge, yes; the power of the knowledge and the knowledge of the power do not assemble with accounting the energy concept after its impugnation, because the power of the knowledge prevents you from accepting the opposite of the knowledge; the ignorance, and because the knowledge of the power prevents you from accepting the opposite of the power, the inability... it is the rule of the perfection. Then, it can be said: oh physics! go back with the energy concept or progress without it... it is your heavy burden.

From this true conceptive speaking, and because any true conceptive speaking can be materialized and transferred to a fact, it can be said that we can account the physical vision for the physics, and besides the coming scientific paper will be an example of a new philosophical vision introduces the physics without the energy concept; "Heterogeneity of Symptoms" law is the true that versus the false "conservation of energy law".

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Notes

(Note 1) "Non structural characteristics" this statement prevents the inclusion of the chemistry, biology, metallurgy, geology, and astronomy (the astrophysics is different from the astronomy science) in the definition of the physics. "Structural" word: includes the human body structure (biology), the reactions between the matters as its represent the molecular structure of the products (chemistry), the earth, atmosphere (geology) and space (astronomy). So the "non structural" word prevents the inclusion of these sciences in the physics term. That is: the physics does not deal with the parts of the universe from the point of view of being components, but it deals with the relationships between these components from the point of view of being all or independent objects have a relationships between them; i.e. because we can not study the thing from two sides in the same time, (from the side of its relation with the alls that it belongs to it) and (from the side of its relation with the other components), we single out studying the second one in the science called "physics" and the first one in different sciences according to its all as "biology", geology, astronomy and etc...

(Note 2) "Creatures" word: means the universe objects. The word "creature" prevents the inclusion of the universe creator because he is not a part of the universe and he is not created so he is not a creature. "Sensible" word: means any creature that can be sensed by the human being. The word "sensible" prevent the inclusion of the non sensible creatures or the creatures that the normal human can not sense them as the angles and the evils that studied in the belief sciences.

(Note 3) "How to understand them": this statement is a description for the job of the theoretical physics.

(Note 4) The logic of the ideas train forces to introduce the energy concept definition here, but because one of the main problems discussed in this research is "no definition for the energy", this issue is impossible at this stage of the research.

(Note 5) Al-mo'tazela school considers an oblique school in the Islamic religion. Its opinions' mistake is proved by the Muslim scientists that have a deeper philosophical insight about the Islamic religion as "Al-asha'era" school [7].

(Note 6) According to the logic, this claim is an illusion, as if you do not give us a definition for something, then we can not decide that we feel in it or not, how can I feel that something is exists although I do not visualize it? It is a contradictious claim.

(Note 7) This claim is not absolutely true, because the mass and the force have a precise definitions in the inverse of the energy. The mass is the resistance of the body to the motion, while the force is the physical causer of the motion.

(Note 8) Einstein is one of the physicists used the philosophy in the physics although he accept the energy concept. He said: "knowledge of the historic and philosophical background gives that kind of independence from prejudices of his generation from which most scientists are suffering. This independence created by philosophical insight is - in my opinion - the mark of distinction between a mere artisan or specialist and a real seeker after truth." [13].

(Note 9) Some of physicists say: "Although everybody has a feeling of what energy is, it is difficult to give a precise definition for it", this statement means that the energy is not an ambiguous because it included "every body has a feeling

what the energy is". In fact this statement is logically self opposite, contains a conceptive illusion and it is physiologically sentimental. It is self opposite because of to have a feeling of something means logically that you realize it, and if you realize it then logically you can distinguish from the other thing it, then logically you can define it, because to define something means to distinguish it from the other things. This statement contains a conceptive illusion because the word "feeling" denotes to using the sense in realizing the energy, but this is not the fact because the energy is not sensible thing as the heat, the motion, and the volume, but it is imaginative concept, so he might say: "although every body can visualization of what the energy is...". This statement is sentimental because the "feeling", knowing the feeling do not denote to the sense as stated above, is the source of the judgment not the mind, and because if the judgment is not taken from the mind this means that it is taken from the sentiment as the women do often. However this statement follows a pre- acknowledgment of existing the energy to the insistence degree and without any tendency to doubt in the energy or to doubt in the clarity of the energy as "everybody" word provides, although the acknowledgment of the ambiguousness of the energy as the "it is difficult to...for it" statement provides. Also; the word "precise" appoints to the fallacy due to using the absolute sentiment, as there is no something called non precise definition, the definition is a precise thing originally and potentially, because the definition is the set of means, taken by words or signs, that distinguishes the thing from the other thing, so either it distinguishes so be a definition or not does not distinguish and do not be a definition... yes, black or white. However; the past speaking does not mean that the energy is not a fact, but it proves that it is an ambiguous concept. Also; this speaking is not to "chide" somebody, but it is the "alignment" to the facts must be introduced in this paper, so it is absolutely a scientific speaking aims to impugn the opposite claim of "being the energy concept an ambiguous" and it aims to push the fallacy away in order to inter the coming discussion with a clear and acknowledged basic. Just.

(Note 10) This example is just an example. The reader can apply the following analysis for another suitable example.

^(Note 11) It will refer approximately to its initial value. The friction effect did not taken into account to avoid the digression.

(Note 12) In the following paragraphs the pronouns (you, we, and us) will be used to denote to the two claims; the existence of energy (you), non existence of energy (we, us). Here the logical argument method is used.

(Note 13) Richard Feynman said: "*It is important to realize that in physics today, we have no knowledge what energy is. We do not have a picture that energy comes in little blobs of a definite amount*".