



# “ELMAS’s Theory of Thermodynamics”: A Scientific Approach for 5<sup>th</sup> Law of Thermodynamics – A Theoretical Application Example for Medical Thermodynamics

Emin Taner Elmas<sup>1,2\*</sup><sup>1</sup>Department of Automotive Technology, Iğdır University, Turkey<sup>2</sup>Major Science Department of Bioengineering and Bio-Sciences, Graduate School of Natural and Applied Sciences, Iğdır University, Turkey.

\*Corresponding author: Emin Taner Elmas, Vocational School of Higher Education for Technical Sciences, Division of Motor Vehicles and Transportation Technologies, Department of Automotive Technology, & Graduate School of Natural and Applied Sciences, Major Science Department of Bioengineering and BioSciences, Iğdır University, Turkey.

## Abstract

This article explains the “ELMAS’s Theory of Thermodynamics” stated by Emin Taner ELMAS, the name of the mentioned theory is abbreviated as “ELMAS’s Theory” during this paper and it can be considered as a scientific approach for the “5<sup>th</sup> Law of Thermodynamics”. According to “ELMAS’s Theory of Thermodynamics”, both the energy and the matter may not always be in positive direction. Energy and matter may also have “neutral” or “negative” states as well as they have “positive” directions. As a practical example, “ELMAS’s Theory” is useful and has a valid application scope for the medical treatment of patients who are taking medicine, drugs or pills for their various illnesses. This phenomenon is an example of application scope of “ELMAS’s Theory” for the medical treatment and medical recovery processes and, therefore “ELMAS’s Theory” is valid for medical thermodynamics and it shows that energy and matter can be expressed as vector quantity parameters on the basis of a “system”. In addition, this phenomenon supports the “ELMAS’s Theory” which can be considered as a scientific approach for the “5<sup>th</sup> Law of Thermodynamics”.

**Keywords:** Elmas’s Theory; 5<sup>th</sup> Law of Thermodynamics; Medical Thermodynamics; Energy; Matter; Thermodynamics; Energy Transfer; Bioprocess; Medical Treatment; Medical Recovery.

## Introduction

This article explains the “ELMAS’s Theory of Thermodynamics” stated by Emin Taner ELMAS, the name of the mentioned theory is abbreviated as “ELMAS’s Theory” during this paper and it can be considered as a scientific approach for the “5<sup>th</sup> Law of Thermodynamics”. According to “ELMAS’s Theory of Thermodynamics”, both the energy and the matter may not always be in positive direction. Energy and matter may also have “neutral” or “negative” states as well as they have “positive” directions. The “neutral” states can also be regarded as “zero” or “stable”. In each case, energy and matter have a latent potential or capacity in terms of “heat” or “work”. This consideration may point out that both the energy and the matter, each of them, can be considered as “vector quantity parameters” similar to that of “force”, “velocity” and “acceleration”. Therefore, the “Total Energy” can be described as a resultant of positive, negative and neutral energy amounts. Similarly, it is possible to say that the “Total Mass” can also be described as a resultant of positive, negative and neutral amounts of matter [1-3].

## Method, Findings and Discussion

The “ELMAS’s Theory of Thermodynamics” presents that energy and the matter can be expressed as vector quantity parameters on the basis of a “system”. This system can either be a “closed” or “open” thermodynamic system. Equations 1 and 2 can be written accordingly as follows:

The “positive energy”,  $E_p$ , means that the system gains energy;

The “negative energy”,  $E_n$ , means that the system loses energy;

The “neutral energy”,  $E_c$ , means that the system has a constant stable energy;

The “Total Energy”,  $E_t$ , can be written as the sum of positive energy, negative energy and neutral energy, that is;

$$E_t = E_p + E_n + E_c \quad (1)$$

The “positive matter”,  $M_p$ , means that the system gains mass;

The “negative matter”,  $M_n$ , means that the system loses mass;

The “neutral matter”,  $M_c$ , means that the system has a constant stable mass

The “Total Mass”,  $M_t$ , can be written as the sum of positive matter, negative matter and neutral matter, that is;

$$M_t = M_p + M_n + M_c \quad (2)$$

Either for a “thermodynamic system” or for the whole “universe”, the “Total Energy” and “Total Mass” always have a balance between each other. This phenomenon can also be expressed in terms of vector quantity parameters, as indicated by Equations 3 and 4, as follows:

$$\vec{E}_t = \vec{E}_p + \vec{E}_n + \vec{E}_c \quad (3)$$

$$\vec{M}_t = \vec{M}_p + \vec{M}_n + \vec{M}_c \quad (4)$$

Therefore, an equivalence expression can be written as below Equation 5;

$$\vec{E}_t = \vec{M}_t \quad (5)$$

This vector quantity expression, Eq.5, is valid in accordance with the “law of conservation of energy and mass” from the aspect of scalar quantity parameters. Since there are various kinds of thermodynamic systems, i.e. the systems gaining energy or mass in positive direction, systems losing energy or mass in negative direction and systems having constant energy or mass in neutral stable direction, it is possible to say that both the energy and the matter, each of them, can be considered as vector quantity parameters similar to that of “force”, “velocity” and “acceleration” [4-6]. For these reasons, this phenomenon is named as “ELMAS’s Theory of Thermodynamics” that can be considered as a scientific approach for the “5<sup>th</sup> Law of Thermodynamics” which presents that energy and matter can be expressed as “vector quantity parameters” on the basis of a “system”.

## Conclusion

As a theoretical example, “ELMAS Theory of Thermodynamics” is useful and has a valid application scope for the medical treatment of patients who are taking medicine, drugs or pills for their various illnesses. The human body cells can be assumed and considered as an open thermodynamic system, thus, when the patients take the medicine into their bodies, this system allows the transfer of energy and mass across the borders of body cells. Thanks to this thermodynamical interaction between the drug and cells realized through the borders of open cell system, the patients would be treated. The thermodynamical interactions realized as medical treatment bioprocesses may occur in positive, negative or neutral directions in terms of both energy and matter depending upon the interaction requirement between the drug and body cells. “ELMAS’s Theory” says that the regulation of this medical thermodynamics interaction must be controlled in any directions, positive, negative or neutral, in order to provide the medical treatment for the human body as a whole.

The thermodynamical interaction which may realize in these three directions requires that energy and matter must behave like a “force” or “velocity” component parameter during this bioprocess. During the thermodynamical interaction and bioprocess, both the “Total Energy” and “Total Mass” catch a balance between each other through the borders of body cells,

that is, the resultant of positive, negative and neutral energy amounts have a balance and the resultant of positive, negative and neutral amounts of matter have another balance, therefore, the vector quantity expression indicated by Eq.5,  $\vec{E}_t = \vec{M}_t$ , is obtained as an equivalence expression. If this vectorial equivalence is reached for each related body cell, in terms of both energy and matter, the medicine, drugs or pills start to take effect for the medical treatment of related illnesses. This also means that a medical thermodynamical interaction is essential to be realized between the drugs and body cells in order to provide an effective medical treatment and medical recovery.

Apart from that, energy and matter have a latent potential or capacity in terms of “heat” or “work”, so these features supplement the treatment and recovery process by doing a more effective thermodynamical interaction. This phenomenon is a theoretical example of application scope of “ELMAS’s Theory of Thermodynamics” for the medical treatment and medical recovery processes of patients, and, therefore “ELMAS’s Theory” is valid for medical thermodynamics and it shows that energy and matter can be expressed as “vector quantity parameters” on the basis of a “system”. In addition, this phenomenon supports the “ELMAS’s Theory” which can be considered as a scientific approach for the “5<sup>th</sup> Law of Thermodynamics”.

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\*Corresponding author: Emin Taner Elmas, Email: emintanerelmas@gmail.com; e.taner.elmas@igdir.edu.tr

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