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## Do the Ten Commandments contain the laws of physical Universe?

### Abstract

In this paper, we argue that some very general principles of the physical world can be, in a sense, deduced from the Judaic law expressed in the well-known Ten Commandments.

This approach relies on two main theological views; the first one belongs to St. Maximus the Confessor saying that the *“logoi”* of things can be identified with the *“logoi”* of virtues (realizing a kind of correspondence between material and spiritual) and the second one which belongs to St. Simeon the New Theologian which says that after the Original Sin the entire universe fell necessarily (and not as a punishment of God) into a



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disordered state, threatening the human existence and, in order to protect it, God intervened and controlled these catastrophic dynamics imposing specific laws (the actual natural laws). Later on, He would do the same by giving the Ten Commandments to protect the humanity from the devastating effects of the sins. Now, applying the above St. Maximus conception, there must be a correspondence between these two types of laws, and we are going to show this.

## Keywords

Ten Commandments, physical principles, logoi, tropoi, "judaic law" of the Universe

## 1 Introduction

The spiritual view (or spiritual interpretation) of the physical nature and its dynamics is an approach that was widely discussed by the Church Fathers. Here, we are not talking about the description of nature as in *Hexaemeron*<sup>1</sup> (as something that God created) but on the spiritual meaning of nature in general. This view has been developed in deep ways by St. Maximus the Confessor in his main writings<sup>2</sup> creating an

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<sup>1</sup> St. Basil the Great, *Omilia la Hexaemeron* (Homilies to Hexaemeron), (Bucharest: Ed. Sophia, 1993).

<sup>2</sup> St. Maximus the Confessor, Questions Thalasius, in *Filocalia*, vol. III, Ed. Harisma, (1994) and also a very clear and beautiful description of St. Maximus cosmology is given in the paper of D. Bahrim, The Anthropic Cosmology of St. Maximus the Confessor, *Journal for Interdisciplinary Research in Religion and Science*, nr. 3, 2008.

orthodox cosmology. His cosmology can be seen<sup>3</sup> as a spiritual equivalent of the so-called “Theory of Everything” developed nowadays in theoretical physics where all fundamental interactions in nature are unified in a unique mathematical formalism. In his “Mystagogia” he pointed out that the universe and the human being have the same dual structure material and spiritual<sup>4</sup> and also any object in nature has a Trinitarian description; namely its existence is the symbol of the Father, its *logos* (a term which will be defined later) is the symbol of the Son and its place in a given hierarchy with a specific role and finality, is the symbol of the Holy Ghost. Moreover, St. Maximus underlines another trinitarian aspect of the reality, namely the God Himself revealed to humanity in three ways. First one, in the rationality of the nature construction (as a transparent background to God), then by Judaic written law in the Scriptures and finally by His Son. Apparently, these three aspects are disjoint in the basic sense. Indeed, one cannot find the rationality of nature (for instance the mathematical regularities) included in the Judaic law and neither the power of the seven Sacraments given by the grace of the Holy Ghost. However, these three aspects are strongly related to a spiritual interpretation (for instance, some monks with deep spiritual living say that in Psalm 50 all the seven Sacraments are contained). Also, in his “Ambigua”<sup>5</sup> St. Maximus reiterates the fact that there is an let us say “isomorphism” between *logoi* of human virtues and *logoi* of things. As an illustration, one can

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<sup>3</sup> D. Costache, Going upwards with everything you are. The unifying ladder of St. Maximus the Confessor, in: M. Satvinschi, B. Nicolescu (eds.), *Science and Orthodoxy, a Necessary Dialogue*, (Bucharest: Ed. Curtea Veche, 2006).

<sup>4</sup> St. Maximus the Confessor, *Mystagogia* (in romanian), (Bucharest: Biblical and Missionary Institute of Romanian Orthodox Church, from here: EIMBMBOR, 2000), pp. 15-16

<sup>5</sup> D. Staniloae, n. 87, in St. Maximus the Confessor, *Ambigua*, EIMBMBOR, vol. 80, (1986), p. 108

read also in Ambigua<sup>6</sup> that the four elements of nature “earth, water, air, fire” (which in modern scientific language correspond to the four states of matter, namely solid, liquid, gas, plasma) can be viewed spiritually as pointing to the basic theological virtues, namely righteousness, temperance, bravery, and contemplation. Also, Vladimir Lossky in his book<sup>7</sup> is saying that just simple aspects of reality can give theological meanings referring to the so-called *theology of shape*. It is enough to contemplate the shape of an object or living being to learn some theology. So, if only the shape can teach theology, we believe that all the scientific views we have today will do much better.

In this paper, we are going to present a rather new point of view namely the possibility of making a connection between basic physical principles of nature and the laws of Decalogue. In fact, we will show that the natural principles can be *deduced* from the ten commandments of the Judaic Law. The rationale behind this approach is exactly the argument of St. Maximus the Confessor about connections and similarities between sensible world and intelligible world and also the conception of St. Simeon the New Theologian about the intervention of God in nature after the Adamic fall.

As a matter of procedure, we are not going to translate the term *logos* and *logoi* since its meaning is too vast and profound. It can be considered, for our purposes as defining the primordial God’s ideas and rationalities on which relies any existence. So we keep in our text as *logos* and its plural *logoi*. We will return to the role of *logoi* in the second chapter.

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<sup>6</sup> St. Maximus the Confessor, *Ambigua*, PSB vol. 80, (Bucharest: EIMBOR, 1984), p. 217.

<sup>7</sup> V. Lossky, *Introducere în teologia ortodoxă*, (București: Sophia, 2006), pp. 84-89.

The paper is organized as follows: in the second chapter, we discuss some aspects of Genesis and how Judaic law appeared, in the third one we describe, in a nontechnical way, the main scientific principles of the physical world and the fourth one the effective deduction of them from the Ten Commandments. The conclusions and possible extensions together with some discussions will end the paper.

## 2     **Genesis, Death and Judaic Law**

Before entering into our discussion, it is instructive to clarify some aspects about death and Judaic law, as they are rooted in the original sin. As it is well known, God created the Universe in seven days. In fact, St. Andrew the Fool for Christ gives a fascinating interpretation of Genesis<sup>8</sup>; he pointed out that the first creations were eons or time in its general meaning<sup>9</sup>. He also said that “*the logos of time is a very beautiful one being set in seven points*”<sup>10</sup>. Then, God created the spiritual or angelic worlds. Moreover, what is even more interesting is that “*...God created the angels from the logos of eons in the same way as He created the Man from the dust*”<sup>11</sup>. Then God created the well-known facts presented in Genesis namely the darkness, fire, water and the “God’s spirit was hovering over waters” (Gen.1.2). Finally, He created the man and settled him in the garden of Heaven. Here, Adam could ascend spiritually to God

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<sup>8</sup> *St. Andrew the Fool-for-Christ*, Sfântă Mănăstire Paraklitu: Ed. Evanghelismos, 2002, pp.163-169.

<sup>9</sup> According to St. Maximus the Confessor time is a dual concept: it consists of time and eon. The first is in a sense the ordinary chronological time used in science while the eon is a kind of created eternity reflecting the intelligible aspect of the rationality. As Lossky pointed out it is more related to angelic hierarchies, see *Ambigua*, p. 161 and D. Staniloae, in: *Ambigua*, n. 205.

<sup>10</sup> St. Andrew the Fool-for-Christ, p.163.

<sup>11</sup> Idem.

by many ways (trees in the Heaven) except only one (the good-evil tree) which was heading to the closed circle of pleasure and pain<sup>12</sup>. Soon after that, the man fell (original sin). Before explaining what happens after the fall, we need some clarifications. Two crucial concepts are pivoting the dogmas of Church fathers about Creation. The concept of *Logos*<sup>13</sup> and the idea of *Tropos*<sup>14</sup>. *Logoi* as we previously said, represent the primordial God ideas about an entity. At the base of the whole Creation are the uncreated divine *logoi*. These *logoi* belong to the uncreated divine energies, which belong to the Divine Logos. The Creation is nothing but the appearances of some *plasticized logoi* in accordance with uncreated divine *logoi*<sup>15</sup>. For any entity, the Logos is eternal and cannot change. According to St. Maximus the Confessor all the *logoi* have been elaborated in a “pre-time” of Creation<sup>16</sup>. The other concept is

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<sup>12</sup> St. Maximus the Confessor, Questions Tallasius, in *Filocalia vol. III* (in romanian, Bucharest: Apologeticum, 2005), p. 15.

<sup>13</sup> A lot of authors wrote about *logoi* of St. Maximus and we list some works; P. Sherwood, The Earlier Ambigua of St. Maximus the Confessor and his Refutation of Origenism, in „*Studia Anselmiana*”, no 36, Rome, 1955, p. 166-180; H.U. von Balthasar, *Kosmische Liturgie. Das Weltbild Maximus des Bekenners*, Einsiedeln, 1961, p. 110-117; A. Riou, *Le Monde et L'Église selon Maxime le Confesseur*, Paris, 1973, p. 54-63; J.-C. Larchet, *Introduction in Saint Maxime le Confesseur, Questions à Thalassios*, translation and notes by E. Ponsoye, Paris-Suresnes, 1992, p. 10-12; L. Thunberg, *Microcosm an Mediator. The Theological Anthropology of Maximus the Confessor*, Chicago&La Salle, 1995, p. 72-79; J.P. Farrell, *Free Choice in St. Maximus the Confessor*, Pennsylvania, 1989, p. 139-144; J. Van Rossum, The *lógoi* of Creation and Divine „energies” in Maximus the Confessor and Gregory Palamas, in *Studia Patristica*, XXVII (1993), pp. 213-217, etc.

<sup>14</sup> D. Staniloae, *Dinamica creatiei in Biserica* (The dynamics of Creation within the Church), presented at the Congress of Orthodox Theology, Athens, 1976.

<sup>15</sup> D. Staniloae, *Dogmatic and Orthodox Theology*, vol.I, (Bucharest: EIBMBOR, 1996).

<sup>16</sup> St. Maximus the Confessor, *Ambigua*, PSB, vol. 80, (Bucharest: EIBMBOR, 1984), p. 280.

the so called *tropos*. It represents the way of the dynamic of any logos. It is related to the laws of “movement” of any entity and, what is crucial, it can change itself. St. Gregory Palamas is calling this aspect “mode”. After the fall of Adam the whole Universe also suffered a catastrophic fall, and after that, a lot of the *tropoi* or modes have been changed. St. Simeon the New Theologian gives a very suggestive image of this: “...*The Sun refused to shine; the Moon refused to show up. The stars refused to twinkle, the springs declined to gush, rivers declined to flow, the air collapsed in itself to stop the man to breathe, beasts and animals seeing the man naked of his glory, despised him, and all were enraged against him. The sky moved to fall on the man, and the Earth refused to bear him.*”<sup>17</sup>

As we can see, the effect of the original sin was the reaction of nature and not the punishment of God<sup>18</sup>. Also, as an outcome of the fall, in nature appeared new *tropoi*, through which the Universe, becomes blind, characterized only by its elements and not obeying to spiritual control. Adam and Eve changed the gift of the wholeness and dignity of life with the state of survival (controlled by the divine providence) in a hostile world. In the Genesis is also mentioned that God gave garments of skin and clothed humans. The Greek theologian Panayotis Nellas in his book<sup>19</sup> explains (quoting St. Gregory of Nyssa) that these *garments of skin* are nothing but the mortal human body. Not only that, but St. Gregory of Nazianz explains there are three major differences between Adam before the Fall and Adam after the Fall. He states that Adam after the Fall is under the 1) irrational seduction of passions, 2) subjected to the rationality of crafts imposed by the survival instinct and 3) dissipated

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<sup>17</sup> St. Simeon New Theologian, in: *Filocalia vol. VI* (translated in romanian by Rev. D. Staniloae, Bucharest: EIBMO, 1977), pp. 128-129.

<sup>18</sup> Panayotis Nellas, *Omul, animal indumnezeit*, (The Man, deificated animal: perspectives for an orthodox anthropology, Bucharest: Ed. Deisis, 1994), pp. 24-33.

<sup>19</sup> *Ibidem*.

among the reasons of natural things, also imposed by the necessity of knowledge. St. Maximus is saying that before the Fall, Adam had an Edenic body, free from the struggle of opposites which make it corruptible and mortal. So, we can conclude that the struggle of opposites is a new *tropos* which entered in the world after the Fall. Since the struggle of opposites is present practically at any level of natural principles and laws, one can realize how different was nature and the whole Universe in the pre-Fall period.

In this corrupted world, a new law enters, namely the law of death, which is a direct result of the sin in general. Moreover, God would give eventually a new Law (the Ten Commandments and all Judaic law) to protect the humanity from the destruction caused by sin's proliferation. We can wonder if this divine action is present in the material universe itself (at the very physical level). The answer is yes and the following passage from St. Simeon the New Theologian confirms this..." *What does God do? Knowing before the Creation of the world Adam will break the law and preordain his life and redemption through the birth of His Son, bridles all with His power, mercy, and goodness and stops the creatures subjecting them to the man as before*"<sup>20</sup>. Accordingly, this passage shows that God gave a kind of "Judaic Law" to the whole material Universe to protect the humanity. We shall show in the next chapters that this is nothing but the principles and laws of physics and are reflected in the Ten Commandments.

### **3 General principles of physical world**

Before entering into the analysis of the deep spiritual meaning of the of physical principles, it is instructive to underline an idea which, although well known, it is often neglected mainly in the scientific community, namely the theological base of any

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<sup>20</sup> St. Simeon the New Theologian, in *Filocalia vol. VI*, p. 129.



science. This fact will strengthen the theological considerations about natural dynamics presented in the previous section. As it is evident, any science is based on principles - assertions which are not proved in a rigorous sense but are *taken for granted provided they be supported by experimental facts*. This event is valid even in the case of mathematics which is based on axioms (mathematical principles) which are not proved but accepted as a result of some observations/conventions. Accordingly, everybody *believes* in the scientific principles because there are experimental *facts behind them*, exactly as in theology where a theological lore is preached, and people believe it based on deeds/works of preachers ("*Faith without works is dead*")<sup>21</sup>. Moreover, now, let us see what the basic principles of the physical world we consider to be relevant are.

- The principle of rationality of the world
- The principle of universality of natural laws and principles
- The transcendence of (any kind) of divinity
- The principle of causality
- The principle of minimal action (or optimization principles in general)
- The principles of conservation
- The principles of limitation
- The principle of growth (or maximum entropy)
- The principles of individuation and exclusion
- The principles of struggling the opposites (action-reaction type ones)

This list is by no means general and exhaustive. It contains just basic principles on which the macroscopic world dynamic is relying. We are considering here neither the quantum and cosmic levels which contains many more principles, nor the biological or bio-molecular ones which again are much richer.

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<sup>21</sup> James 2, 26.

In the last chapter, we shall comment on them. Also, one can see immediately that the first principles refer only to the “background” of any possible scientific approach and the next ones are effective.

Let us discuss shortly and non-technically each one of them to understand exactly what they mean from the scientific point of view<sup>22</sup>.

1) *The principle of the rationality of the world* is taken for granted practically by any scientist, no matter is atheist or religious. It represents the fact that the whole universe is intelligible and can be studied scientifically. Nature has a logic construction, and from observation and logical reasoning it can be understood and thus it is knowable and predictable. Accordingly, the cognoscibility of the world is hidden in this principle.

2) *The universality of natural laws*; in other words, one can say that physics here on earth is the same as physics on any other distant galaxy. The same is valid for chemistry and biology. So, this principle asserts that the whole universe has a unique fabric of itself. So far there is no experimental evidence that this principle is wrong.

3) *The transcendence of divinity*: to have a unique and non-contradictory scientific description of the basic concepts like space, time and matter the whole Universe must be free from any “animistic” regions. In other words, if some parts of the universe is “sacred” then in that region the scientific description is not possible since the isotropy and homogeneity of space are broken (since they are sacred/divine). Accordingly,

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<sup>22</sup> These principles can be found in any textbook of theoretical physics, except the first three which are essentially philosophical axioms. So the principle 4 is discussed in A. Hristev, *Mechanics and Acoustics (in romanian)*, (Bucharest: EDP, 1980), p. 10.

a coherent, and unique scientific description of the world is possible only if the divinity essence is out of this world. Of course, manifestations of divine energies are allowed since these manifestations are natural, but the divinity itself must be transcendent.

4) *The principle of causality*; it is again a basic principle in the physical world. It is this principle which made the whole science to have predictive power because any process, to be predicted must be subjected to the chain of cause and effect. This principle has a limitation when one discusses about free will and person. Also, another crucial aspect is related to the so-called bottom-up causation and top-down causation which refers to complex systems and prevalence of material forces or spiritual forces (we intend to discuss this in a future publication).

5) *The principle of minimal action*<sup>23</sup>; it is again a vital principle on which relies the whole physics from classical mechanics to elementary particles and M-theory (which is a kind of unification of all fundamental interactions into the mathematical formalism of superstring theory). It states that the evolution of a physical system goes on a path on which a specific quantity (called action) is minimal. So in some sense, nature itself chooses a specific trajectory in the “space of states” in the same way as the light chooses the shortest path when propagates in a given medium. It was intuitively foreseen by the German philosopher G. W. Leibniz, and then two mathematicians, Leonhard Euler and Pierre Maupertuis gave the rigorous formulation around 1744. Furthermore, Pierre Maupertuis was so impressed that he said this principle convinced him about the existence of God in the strong sense.

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<sup>23</sup> L. Burlacu, I. Merches, *Analytical Mechanics and Deformable Media* (in romanian), (Bucharest: EDP, 1983), p. 34; also p. 55 for the principle 6 and p. 44 for principle 10.

6) *The principles of conservation*; states that in any process nothing is lost and nothing is gained. This is valid not only when we discuss about matter but also about information. There are many deep problems in the quantum world since the conservation of information would imply the existence of many universes. However, we will discuss quantum aspects in the conclusions.

7) *The principles of limitation*; are represented by a kind of a frontier of nature itself. For instance, it is impossible to reach the zero Kelvin temperature (-273 Celsius, known as the third principle of thermodynamics)). This is a principle of limitation. Moreover, it is in the very heart of nature; it is not something about our limited technological power. The same with the postulate that the speed of light is the same in every reference system, and accordingly is the maximum possible speed for any object in the world. Nobody knows if we are aware today of all principles of limitations, but their existence shows clearly that nature itself is limited.

8) *The principle of growth (maximization of entropy)*<sup>24</sup>: This is a very special principle since in the whole physics there is only one quantity which cannot decrease. Its about entropy which is a concept defined for complex systems and it is roughly speaking related to the probability of the system to be in the state in which it is. Accordingly, the more organized is the state, the smaller entropy it has. This principle is a special one since it shows a law of irreversible evolution or a kind of vectorization of time because for isolated and homogeneous systems they evolve to states which have bigger and bigger entropy (so the degree of self-organisation is smaller and

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<sup>24</sup> See for instance I. Prigogine, *From Being to Becoming*, (San Francisco: Freeman and Co. 1980), p. 24 and for principle 9, p. 38.

smaller). The only way to have self-organized systems which can sustain life is to have open and non-homogeneous systems.

9) *The principle of individuation and exclusion.* It states that two different systems or physical bodies cannot be at the same time in the same localization and the same physical state. It is a clear principle which however at the quantum level is no longer valid. Some field particles can violate this principle.

10) *The principle of struggling the opposites.* It is ubiquitous in nature. In the case of physical interaction (classical and quantum mechanics of particles and fields) is called the principle of action and reaction. In the case of chemical equilibrium is known as the principle of Le Chatelier-Brown and in biology is called the “homeostasis regulation” etc. The struggling of the opposites is crucial in complex systems since it produces the self-organized states and as we said in the previous chapter, it entered as a new tropos in the world.

To be more complete we should add here the main principles of the quantum world and the principles of space-time dynamics from Einstein's theory of relativity. However, these principles seem to come from a deeper meaning of laws which is peculiar to the Sermon on the Mount in Matthew's Gospel. We will discuss these aspects in the final chapter.

#### **4     Deduction of the physical principles from the Ten Commandments**

Let us start with the presentation of the essence of the Ten Commandments. They are the following<sup>25</sup>:

- I am the LORD thy God; thou shalt have no other gods.

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<sup>25</sup> The full form of the Ten Commandments can be seen in: *Biblia, (The Bible)*, Exod 20, 2, 3, 4, 7, 8, 12, 13, 14, 15, 16, pp. 89-90, (Bucharest: EIBMBOR, 1988).

- No graven images or likenesses
- Not take the LORD's name in vain
- Remember the sabbath day
- Honor your father and your mother
- Thou shalt not kill
- Thou shalt not commit adultery
- Thou shalt not steal
- Thou shalt not bear false witness
- Thou shalt not covet

One can see immediately that the first three commandments are related to God and indeed it is true since the number three reflects the Trinity. Next seven ones are human. Here the number 7 is reflecting the cyclic temporality (as St. Maximus stated in *Ambigua*<sup>26</sup>) and moreover these 7 are formed by 2+5 where 2 represents the commandments about honoring relation to God and parents, and the last five are the “prohibitive” ones (the number five reflecting the 5 senses, which are the main entrance gates of the sin in the human soul). However the Decalogue is not the most important part of the Judaic Law, but just the basic part (most important part was given later in the Levitic and Deuteronomous and are evoked in the Gospel of Matthew by Jesus Christ “Love the Lord your God with all your heart and with all your soul and with all your mind” and “Love your neighbor as yourself”<sup>27</sup> ). However, it is enough for our analysis

Moreover, now let us show how can one see the physical principles from the commandments.

1) *I am the LORD thy God (which freed you from Egypt)*. In other words, God created the world, freed from the domination of sin and chaos and gave laws for its finality (the final existence of

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<sup>26</sup> St. Maximus the Confessor, *Ambigua*, 138, PSB, vol. 80, (Bucharest: EIBMBOR, 1984), p. 321.

<sup>27</sup> Matthew 22:37, Deut. 6:5, Matthew 22:30, Lev. 19:18.

God<sup>28</sup>). Applying this to nature itself one can see that this is precisely the first *principle of the rationality of the world*. The reverse reasoning shows the rationality of the world points to God as the Almighty Maker of the whole universe.

2) *No graven images or likeness!* This means that no worship of creation is allowed. Moreover, why is this? Because God is beyond any created or conceived entity. However, this is precisely our second principle. Namely the *divinity is transcendent*. Moreover, only if the divinity is transcendent the science can be done.

3) *Not take the LORD's name in vain.* This law says in a way that the man must not relativize the God's word. However, on the other hand, we have seen that the universality of natural laws is a principle which shows exactly that, namely nature is not contradicting itself. The laws are the same everywhere because the God is the One.

4) *Remember the Sabbath day.* The meaning of this law is that there must be a day when any material or earthly activity must cease, and every man should dedicate himself to a spiritual relation with God. The seventh day is a symbol of the end of time (and materiality) and the border to everlastingness. Accordingly, the materiality is limited, and everything has a limit. However, this is precisely what we said about *principles of limitation* which can be seen in light speed invariance postulate or third principle of thermodynamics, etc.

5) *Honor your father and your mother.* This law shows that every human being also have a material cause of its existence

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<sup>28</sup> St. Maximus the Confessor says that the whole evolution of the Universe together with humanity is a kind of a cyclic one starting from non-existence then to existence and finally to happy existence and this chain comes from God and ends in God as well.

and it must be honored. Accordingly, this law teaches us about the *principle of causality* in the universe.

6) *Thou shall not kill.* The life and the whole existence must be preserved. Indeed it shows that in the universe nothing is lost and nothing is gain, and this represents nothing but the *conservation principles*.

7) *Thou shall not commit adultery.* Here the problem is more complicated. The adultery (and lust in general) is a sin which appeared after Adam's fall and is implicitly linked to death. It shows that there is a natural tendency in every human being to procreate, and this is indeed crucial for maintaining of life. On the other hand, this law prevents this trend to go beyond certain limits (usually imposed by marriage) to avoid destruction of human spirituality. More precisely, by sexual relation, the life is sustained, and on the other hand, its dissipation kills in a spiritual sense as a sin. Accordingly, every human being is called to keep the equilibrium.

Now in nature, there is one such tendency which is tantamount to lust. It is precisely the entropy growth in complex systems which are isolated and homogeneous. However for open and non-homogeneous ones this trend is counterbalanced (by interaction with the external media, exchange of energy, etc.) and in some regions the entropy increases and in other decreases, giving rise to self-organized structures and patterns. Accordingly, we can say that the seventh commandment has as a correspondent in the physical world, the natural ways to stop the *principle of entropy growth*. What is really interesting is that the entropy finally wins since the "death" is present in every object, but on the other hand rationality (seen in symmetries, self-organized structures, patterns, life, etc.) is also present.



8) *Thou shall not steal.* So the instinct of property must not be extended to other things. Immediately we can recognize in this law the *principle of individuation and exclusion*.

9) *Thou shall not bear false witness.* Here we reach the most important fact which is the problem of truth. This law forbids lies. In the Scripture, the devil is a liar and father of lies. In many parts of the Bible, the devil is symbolized by the snake since it moves in a twisting, curving and coiling way. This reflects in generally the mind of a liar which is not “straight”.

Now, going back to the physical world, we have seen in the previous chapter that the dynamics of every physical system is governed by the *minimum action principle*. This principle asserts that the evolution in the space of states is on a *straight line* (geodesic line) minimizing the action. So nature “is not lying” and indeed the “forbidden of lying” corresponds to the principle of minimal action (or any other principle regarding optimization of natural dynamics).

10) *Thou shall not covet.* This law is a spiritual fulfilling of the eighth one (thou shall not steal). It means that any acting on the other has repercussions (even at the spiritual and mental level). Accordingly, this law teaches us about the *principle of struggling the opposites*.

## 5     **Discussions and Conclusions**

So, we have completed the physical and natural correspondence of the Ten Commandments. One question which is arising naturally is why we have chosen precisely ten principles as describing physical universe. We did not choose on purpose, but rather we started from the Decalogue and found what are the corresponding principles in nature. Of course, they are not exhaustive and there are many other principles (for instance at the quantum level of the universe or

other principles regarding the biochemical and biological phenomena or in sociology etc.) to be studied. On the other hand there are many other laws in Exodus and Deuteronom and of course the Supreme fulfilling of any biblical law which are laws given in the Gospels. We believe that the laws given by our Lord Jesus Christ in the Gospels can teach us something related to deeper levels in nature like the quantum or biomolecular one. Let us illustrate the perfect parallel between the creation of things from “substantiated logoi” developed by St. Maximus and the process of genetic transcription-translation (a basic and vital process in every living cell). It is well known that in every living cell there is the so-called genome (in the DNA) which represents the totality of genes encoding the full information. The genes are coded regions of the DNA molecule. In the process of genetic transcription these coded regions are “read” (like in a tape-recorder) by a molecular enzyme called RNA-polymerase producing a *molecular copy* of the code (called RNA messenger) and, in turn this RNA-messenger goes to ribosomal machine where proteins are assembled according to the code (this last step is called translation). Proteins are chains of aminoacids, and any amino acid is related to specific *three letters* (nucleotides) in the code (these triplets are called codons). Accordingly, the production of proteins (which are basic bricks of any living being) is a kind of substantialization of some information (encoded in the genes). The parallel with the St. Maximus conception of substantial logoi is clear. The information in the genes are a kind of “logoi” of the living cell, and all the proteins are nothing but substantial logoi (using trinitarian bricks – codons) produced in the process of transcription-translation.

Another important aspect which must be clarified is about the changing of scientific paradigms (paradigms which are reflected somehow in principles) and the absolute (non-changing) character of spiritual laws. Accordingly, it seems to be an incompatibility between them since one cannot deduce something contingent from something which is absolute.

Indeed, any scientific paradigm is changing in time and is characteristic for a given period. However, on the other hand, anybody can see that nature reveals itself to be rational in any historical period no matter what scientific paradigm is used for its description. As Rev. Prof. D. Staniloae pointed out, these rational aspects of nature show that behind it exists something which is “super-rational” and unique to the reality of persons and relying on freedom<sup>29</sup>. Accordingly, all the rational descriptions of nature (the various scientific paradigms) are somehow “mirrored” in this spiritual, super-rational aspect and can be seen or deduced in some sense from it. That is why we strongly believe that also principles of quantum world which allow non-localization, indiscernibility and the fundamental role played by the observer, can be seen as mirroring the precepts given in the spiritual laws, more precisely in Gospels. We intend to discuss these aspects in a future publication.

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<sup>29</sup> D. Staniloae, *Reflectii despre spiritualitatea poporului roman* (Reflections about spirituality of romanian people, in romanian, Bucharest: Ed. Elion, 2002), p. 76-77.