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Editorial Board

CONTENTS *(СОДЕРЖАНИЕ)*

EDITORIAL (РЕДАКТОРСКАЯ СТАТЬЯ)…… 4

ARTICLES (*НАУЧНЫЕ СТАТЬИ*)

Marianna BENETATOU…… 6
• Does Plato outline a mathematical-reductionist model of the physical world? The creation of the world in the *Timaeus* and Aristotle's criticism in *De Anima*

Discussion: Responses to M. Benetatou's article

Milan TASIC…… 20
• On the margins of M. Benetatou's paper: Several notes

Konstantin S. KHROUTSKI…… 28
• In defense of Aristotle's Biocosmology as the comprehensive supersystem of knowledge: Eight critical comments on the article of M. Benetatou

Виктор Б. КУДРИН…… 51
• Целевая причина подобий организмов и событий в свете философии А.Ф. Лосева

Kiyokazu NAKATOMI…… 65
• Philosophy of nothingness and love

Xiuhua ZHANG and Jingyuan LIU …… 91
• The mind in process: Meaning of Chinese philosophy of mind on mind ecology studies

Makoto OZAKI…… 103
• The relationship between the historical Buddha Sakyamuni and the anticipatory Bodhisattva Visishtacaritra (supreme conduct)

Abdul Wahab SURI…… 110
• Is liberty possible? The trajectory of liberal institutionalization of liberty in post-colonial societies

Li RUNHU…… 126
• Traditional Chinese medicine's holistic thoughts

CRITICISM AND BIBLIOGRAPHY

Anna MAKOLKIN…… 131
• Subverting Aristotle or cultural history of Europe?
Review of Craig Martin's "*Subverting Aristotle: Religion, History and Philosophy in Early Modern Science*"

CONTRIBUTORS (*АВТОРЫ*)…… 134
Notes for Contributors (*Правила для авторов*)…… 135

Editorial

The Fifth volume of the journal "Biocosmology – neo-Aristotelism" opens with an article of the author from Greece – Marianna BENETATOU, entitled "Does Plato outline a mathematical-reductionist model of the physical world? The creation of the world in the *Timaeus* and Aristotle's criticism in *De Anima*". This work is really important for the scope of Biocosmological Association (BCA), inasmuch as it conducts a comparative study of the two fundamental philosophical and scientific – Aristotle's and Plato's – (super)systems knowledge. In the BCA, we appreciate these supersystems as "cosmologies" – i.e. the comprehensive (all-encompassing) Types of rationality (rational perception of the world-cosmos – mentalities), which are foundational for the modern rational knowledge, and which are polar with respect to each other. Greek author's article immediately aroused interest among the BCA members and caused the appearance of critical reviews. In this issue we publish two papers: Milan TASIC's "On the margins of M. Benetatou's paper: Several notes"; and Konstantin KHROUTSKI's "In defense of Aristotle's Biocosmology as the comprehensive supersystem of knowledge: Eight critical comments on the article of M. Benetatou" (the latter also includes a critical view of George CHAPOUTHIER). Now, we expect that other members of the BCA will likewise take part in the critical discussion of Benetatou's contribution.

Another important topic that has arisen for consideration and critical discussion is the rational study of the issue of "Nothing". We are lucky that two appreciable articles were submitted to the Journal (and are published in this Issue): the conceptual work of Professor Kiyokazu NAKATOMI, titled "Philosophy of nothingness and love"; and another (the third one in the Journal) study of Professor Makoto OZAKI, which heading is "The relationship between the historical Buddha Sakyamuni and the anticipatory Bodhisattva Visishtacaritra (supreme conduct)".

No less important are other published works (in their regard, we equally count on their interested critical review and discussion): they include the Russian-speaking work of Victor B. KUDRIN, "Telic cause of uniformities of organisms and events, in the light of the philosophy of A.F. Losev"; the article of Xiuhua ZHANG (co-authored with Jingyuan LIU), "The mind in process: Meaning of Chinese philosophy of mind on mind ecology studies"; Abdul Wahab SURI's "Is liberty possible? The trajectory of liberal institutionalization of liberty in post-colonial societies"; and Li RUNHU's "Traditional Chinese medicine's holistic thoughts".

In the Criticism section, a review of Anna MAKOLKIN is published, its title "Subverting Aristotle or cultural history of Europe?" The reviewed book is titled «*Subverting Aristotle: Religion, History and Philosophy in Early Modern Science*», the author is Craig Martin, the output data – Baltimore: Johns Hopkins University Press, 2014.

April 14, 2015

Konstantin S. Khroutski, Editor

Редакторская статья

Пятый том журнала “Biocosmology – neo-Aristotelism” открывает статья автора из Греции – Marianna BENETATOU, с названием «Does Plato outline a mathematical-reductionist model of the physical world? The creation of the world in the *Timaeus* and Aristotle’s criticism in *De Anima*». Эта работа имеет действительно важное значение для области исследований Биокосмологической ассоциации (БКА), поскольку проводит сравнительное изучение двух фундаментальных философских и научных – Аристотеля и Платона – (супер)систем знания. В БКА мы оцениваем эти суперсистемы как «космологии» – т.е. всеобъемлющие Типы рациональности (рационального мировосприятия), служащие основаниями для современного рационального знания – причем являющиеся полярными по отношению друг к другу. Статья греческого автора сразу вызвала живой интерес и появление критических отзывов. В данном выпуске публикуются две работы: Milan TASIC’s «On the margins of M. Benetatou’s paper: Several notes»; и Konstantin KHROUTSKI’s «In defense of Aristotle’s Biocosmology as the comprehensive supersystem of knowledge: Eight critical comments on the article of M. Benetatou» (последняя содержит также критическое мнение Джорджа Чапоутьера). Теперь, мы очень рассчитываем, что другие члены БКА также примут участие в критической дискуссии.

Еще одна возникшая важная тема для рассмотрения и критического обсуждения – это рациональное исследование вопроса «Ничто». Нам повезло, что в адрес Журнала поступили (и публикуются в данном выпуске) две статьи: концептуальная работа профессора Kiyokazu NAKATOMI, с названием «Philosophy of nothingness and love»; и очередная (третья по счету) исследование профессора Makoto OZAKI, озаглавленное «The relationship between the historical Buddha Sakyamuni and the anticipatory Bodhisattva Visishtacaritra (supreme conduct)».

Не менее существенны и другие публикуемые работы (где мы в равной мере рассчитываем на их заинтересованное критическое рассмотрение и обсуждение): русскоязычная работа Виктора Борисовича КУДРИНА, «Целевая причина подобий организмов и событий в свете философии А.Ф. Лосева»; и статьи Xiuhua ZHANG (в соавторстве с Jingyuan LIU), «The mind in process: Meaning of Chinese philosophy of mind on mind ecology studies»; Abdul Wahab SURI’s «Is liberty possible? The trajectory of liberal institutionalization of liberty in post-colonial societies»; и Li RUNHU’s «Traditional Chinese medicine’s holistic thoughts».

В разделе Критики публикуется отзыв Анны Маколкин, с названием «Subverting Aristotle or cultural history of Europe?» на книгу «*Subverting Aristotle: Religion, History and Philosophy in Early Modern Science*», ее автор Craig Martin, выходные данные – Baltimore: Johns Hopkins University Press, 2014.

14 апреля 2015г.

К.С. Хруцкий, Редактор

DOES PLATO OUTLINE A MATHEMATICAL-REDUCTIONIST MODEL OF THE PHYSICAL WORLD? THE CREATION OF THE WORLD IN THE *TIMAEUS* AND ARISTOTLE'S CRITICISM IN *DE ANIMA*

Marianna BENETATOU[1]

ABSTRACT. *Aristotelian organicism as advanced by Biocosmology invariably treats Platonism and Aristotelism as thesis and antithesis. Plato figures as the forefather of the mathematical-reductionist model of scientific knowledge and Aristotle as the pioneer of the organicist model based on the four cause theory. In the paper I go back to the Platonic texts in order to find out whether they express the thesis ascribed to them by Biocosmology, which ultimately takes its origin in the Aristotelian corpus. In De Anima Aristotle compares his theory of physical beings with the Platonic theory of the cosmic and individual souls embodied in physical bodies, the cosmos and individual beings respectively. In the Timaeus, it is evident that far from being oblivious to the four cause theory, Plato has recourse to all of them in order to present his creation myth. Their function may be different from the Aristotelian theory, but their overall cognitive importance cannot be underestimated. On inquiry, Aristotle's criticism presents inconsistencies with Plato's theory as it has come down to us.*

Therefore it may be more appropriate to address the Enlightenment thinkers and foremost Descartes for the beginnings of a strictly mathematical-reductionist model of scientific knowledge.

KEYWORDS*: Biocosmology, the differences between Platonism and Aristotelism, the organicist model based on the four cause theory, the Enlightenment thinkers, the mathematical-reductionist model of scientific knowledge*

Contents

Introduction

1. The Platonic Theory of the Union of Soul and Body in *De Anima*
2. The Platonic Theory of the Union of Soul and Body in the *Timaeus*
3. Aristotle's Criticism Revisited
4. A Brief Summary of the Cartesian Theory of Material Bodies

Conclusion

[1] Free-lance researcher, Athens, GREECE.

Introduction

Aristotelian organicism as advanced by Biocosmology develops a bipolar line of argument. Positively, it goes back to the Aristotelian original texts in order to determine an evolutionary, organicist pattern of knowledge/scientific research in tune with Aristotle's initial project based on the four cause theory. Negatively, it contests the current mathematical-reductionist scientific model. Plato figures as the founder or the father of this model. Invariably, organicism treats Platonism and Aristotelism as opposed, i.e. as if they were thesis and antithesis (Khroutski, 2013; Makolkin, 2013). The sincerity of seeking truth and reaffirming Aristotle's initial purpose – independently of his philosophy's avatars throughout Western scholasticism and the Enlightenment- needs to be counterbalanced by the same care to go back to the Platonic texts in order to find out whether they express the thesis ascribed to them by Biocosmology. The most urgent task is, therefore, to go back to Aristotle in order to find out the points of criticism or divergence from his teacher's theory.

The paper comports the following sections:

1. The Platonic Theory of the Union of Soul and Body in De Anima

In this section, I take up Aristotle's criticism of the Platonic theory as it is exposed in *De Anima*. Aristotle surveys his predecessors' views on the soul before proceeding to expose his own theory. The text is foundational to the organicist model insofar as it defines organicism and explains the relevance of the four causes in respect to animated, physical beings.

Significantly, Aristotle does not compare his theory with the Platonic theory of ideas, but with the Platonic theory of the cosmic and individual souls embodied in physical bodies, the cosmos and individual beings respectively (*Timaeus*). Aristotle refutes the Platonic theory in respect to its inability to explain concrete beings in their various modalities. He argues that the theory cannot provide a satisfactory explanation of differentiation among beings.

2. The Platonic Theory of the Union of Soul and Body in the Timaeus

Plato exposes his theory of the body-soul complex in the creation myth of the *Timaeus*. He makes subtle but crucial distinctions of vocabulary in order to express inalterable being in contrast to incessant becoming. The account of the creation first of the soul and then of the cosmic body by the creator sheds light to the theory of participation as it is illustrated in physical bodies. Further, the soul is made up of eternal essences, whilst the body is made up of the proportionate mixture of the four elements. Epistemologically, Plato gives a coherent account of cognitive phenomena. He stresses the finality and intrinsic perfection, beauty and goodness of the universe created in order to produce constant harmony at all levels.

3. Aristotle's Criticism Revisited

Aristotle's refutation is based on an inexact interpretation of the Platonic theory, insofar as it presents the Platonic soul as material, made up of the four elements. Far

from being oblivious to the four cause theory, Plato has recourse to all of them in order to present his creation myth. Their function and importance may be different from the Aristotelian theory, but their overall cognitive importance cannot be underestimated.

4. A Brief Summary of the Cartesian Theory of Material Bodies

A strictly mathematical-reductionist model of scientific research is first developed in the Enlightenment rationalism. Descartes reduces material bodies to extension, breadth and volume. The human body is like a clock or some other mechanical artifact created by God. The impenetrability of God's providence reduces the scope of human intelligibility to the production of natural things, whilst their finality pertains to divine transcendence. The metaphysical theory and point of view of the Enlightenment thinkers conditions their epistemology by limiting human intelligence to explore and intervene in the chain of productivity, either natural or artificial. This view still dominates our mode of thinking.

Conclusions

I have translated all relevant texts from ancient Greek to English by taking care to convey as much as possible the structure and phrasing of the original. This is necessary in order to understand the inner logic of Platonic and Aristotelian writing. In fact, we read a rigorous deductive or inferential reasoning – depending on the passage- implemented by abundant recourse to pronouns and participles. When the translation favors clarity – conspicuously ignored by our philosophers – by using short, disjoined sentences, the rationality of the texts is bound to suffer. Given the necessary editorial restrictions and the philosophical nature of the endeavor, I have skipped alternative translations and philological annotations.

1. The Platonic Theory of the Union of Soul and Body in *De Anima*

In *De Anima* Aristotle surveys his predecessors' views on the soul before proceeding to expose his own theory. The text is foundational to the organicist model insofar as it defines organicism and explains the relevance of the four causes in respect to animated, physical beings.

Aristotle surveys the views of the Atomists, Democritus and Leucippus, of the Pythagoreans and of Anaxagoras (*De Anima I 404a*). A lengthy refutation of Plato's theory prepares the ground for the exposition of his own ideas. In his criticism of Plato's theory, Aristotle has recourse to the *Timaeus*. His analysis is so thorough that we can easily find the relevant texts. Significantly, Aristotle does not compare his theory with the Platonic theory of ideas, but with the Platonic theory of the cosmic and individual souls as they are embodied in physical bodies, the cosmos and individual beings respectively.

The translation of the relevant text runs as follows[2]:

> *In the same manner and the Timaeus reasons in the line of the Naturalists [by advancing the naturalist explanation] that the soul moves the body; that is, by moving, she also moves the body, for she has been interlaced with it. After constituting her from the elements and dividing her according to the harmonious numbers, in order to possess the sense of harmony together with her nature and in order for the all to move in coordinated courses [conducive to concord], he [the creator] bent the straight line into a circle. And after dividing the one [circle] into two circles, attached together at two points, he again divided the one [of these circles] in seven circles, inasmuch as the celestial courses are the soul's movements.*
>
> *So first it is not correct to say that the soul is a magnitude. It is evident that he [Plato] wishes to think that the all's soul is of the sort which is called intelligence, not of the sort which is the sensitive or the desiderative soul, for their movement does not follow a circular course.*
>
> *Then intelligence, in the same manner as thinking, is one and continuous. Thinking then is the thoughts. Following each other in a sequence, the thoughts form thus a unity which resembles the unity attributed to a number, but not the one attributed to a magnitude. For this reason, intelligence cannot be continuous like some magnitude; it is either without parts, or it is continuous, but not in the manner of a magnitude. For how will it think if it is a magnitude? [In this case] one of two things will happen: either it will think by itself [as a whole], or it will think with some part. A part is defined either as a magnitude or as a point – if a point can be called a part. – If then the part is understood as a point – which points are infinite in number, – it is obvious that intelligence will never go through all of them. If again the part is understood as a magnitude, intelligence will think the same thing many or infinite times. However, it is obvious that it may think something only once. If again intelligence is able to touch things with any of its parts, why should it move in a circle or have magnitude at all? If again it must think by touching with the whole circle, what is [the point of advancing the explanation of] the touch with the parts? Further, how will it think the divisible by the undivided and the indivisible by the divided? It is necessary for this circle to be intelligence, for the movement of intelligence is thinking and of the circle is rotation. So if thinking is rotation, then intelligence would be the circle, whose rotation is thinking. Then it must think something for ever. It must, for rotation is eternal. Now, of practical thinking processes there are limits (because they all take place for the sake of something else), and the theoretical ones get their limits from reasoning as well. All reasoning is either definition or demonstration. So the demonstration starts from a beginning and has somehow for end the syllogism or the conclusion. If demonstrations do not come to an end [they are not conclusive], neither do they ever return to their beginning; by*

[2] All translations are made by the author. Given the editorial restrictions, alternative translations as well as philological annotations are omitted.

> *getting always a middle and an extreme they proceed in a straight line. On the other part, rotation returns to the beginning. Besides, definitions are all finite.*
> *Further, if the same rotation occurs many times, it will be necessary to think the same thing many times. Further, thinking resembles more some kind of tranquility and attentive examination than movement; and the same holds true for reasoning. Although, of course, whatever is both not easy and violent cannot be blissful. If the movement of the soul is not essence, then she would move against nature. Moreover, if, as it is usually said and many are of the same opinion, it is better for intelligence to be without a body, it must be painful and most avoidable to be intermingled with it without possibility of release.*
> *The cause why heaven moves in circle is not evident. The essence of the soul is not the cause of heaven's circular movement, for it moves so by accident; neither can its cause be the body, but rather the soul in it. And it is not said that it moves in this way because this is the best movement. However, it should be said that god created the soul to move circularly for this, i. e. because it is better for her to move than to stay [immobile] and to move in this than in some other way.*
> *As this reasoning is closer to other studies, let's let it aside for the present. The following absurdity occurs at this reasoning and at most reasonings about the soul, for they conjoin and place the soul in a body without determining at all for what cause and how the body is disposed. But it is evident that this is necessary; due to the communion, the one acts and the other is acted upon, the one is moved and the other moves. To accidental things nothing of these happens to each other.*
> *They [the philosophers] only endeavor to say what the soul is without determining anything about the recipient body, as if it were possible, according to the Pythagorean myths, for any soul to invest any body; however, it seems that each body has its own species and form. They say almost the same as the person who would maintain that carpentry invests the flutes; for every art needs to use its instruments and the soul its body.* (*De Anima I 406b30-407b30*)

Aristotle's main objection to Plato's and, by that matter, to all naturalist accounts, concerns the abstraction of reasoning. According to Aristotle's concrete, situational philosophy, Plato thinks of two separate essences, body and soul, as intermingling and interacting by virtue of their nature at an ideal indeterminate space and time. The mathematical treatment of natural substances creates a series of distortions insofar as it does not take into account their various modalities. First, it posits without further inquiry that the soul moves the body by virtue of its essence, but it does not explain why the soul is moving. In Aristotle's opinion, the soul may move or be moved by itself only by accident. "*As we said, it is by accident that the soul is moved and moves as, for instance, it is possible to be moved in that in which she is [the body], and this to be moved by her; there is no other way for her to move in respect to location*" (*I 408a 35-38*). Emotions and affections, such as joy and

sorrow, may give the impression that the soul moves. This is not necessary, inasmuch as the movement is caused by the soul to the complex body-soul; for instance, feeling anger or fear means that the heart is moved in such and such a way (*I 408b 5-9*). In sum, it is not the soul which feels, thinks, learns, etc., but man, the concrete person, by means of the soul (*I 408b 16*).

Then, the Platonic theory does not take into account the physical condition of the body, namely, whether it is inanimate or animate, human or animal, etc. By so doing, Plato cannot distinguish genera, species or simple genders. His account cannot determine how the appropriate form intermingles with the right body. The soul-body complex seems to result by chance without internal necessity.

Aristotle refutes point by point the Platonic thesis in order to clear up the ground for the exposition of his own theory. The cardinal point remains the ground upon which Aristotle chooses to refute Plato. His conception of concrete beings made up of matter and species or form, as exposed in *De Anima*, transposes the discussion from the *prima philosophia*, i.e. metaphysics, to natural philosophy and particularly to anthropology, or more precisely to organology, the science of organic beings. If Aristotle chooses this ground in order to expose the organicist theory against previous theories, it is evident that he does not consider the ontological status of things as directly relevant to organicism. Whether the visible world is created in the image of the perfect, immobile and inalterable transcendent world of ideas or it is as real as reality can be, it is of little consequence to the organicist project. Aristotle adopts the point of view of a scientist, of a physician or of an anthropologist. In his view, *prima philosophia* may exhaust the question of what is, but in the physical world ruled by its own laws, what matters the most is the compound of body and soul, the concrete being.

It is obvious that, notwithstanding a pronounced idealism, Plato exposes in the *Timaeus* a detailed sketch of all cosmological and anthropological preoccupations of his time. By its very nature and the popularity it has enjoyed throughout the ages, *Timaeus* is a foundational text in Platonic philosophy. It is therefore necessary to let aside the conventional assumption that Plato is mostly interested in the intelligible world of ideas and examine his theory of the world and of concrete beings.

Plato and Aristotle have held divergent views on metaphysics. However, they both rely on the soul-body component in order to explain the macrocosmic and microcosmic level, or, as they both appropriately name it, the visible world.

2. The Platonic Theory of the Union of Soul and Body in the *Timaeus*

In the *Timaeus*, Plato addresses these issues by having recourse to the myth of the creator. The creator is first of all a geometrician, building the world by drawing triangles and circles and mixing elements in fixed proportions. After the initial inspiration to create the visible in the image of the intelligible world, he proceeds to serious work without sparing efforts or means. Notwithstanding its creation according to a model, the visible world is regulated by its own laws with universal and compelling validity. Without ambiguity, Plato clearly states that this world is perfect, entirely good and therefore worth living and exploring (*Timaeus, 29e-30a*). By

describing the successive creational steps, he provides us with the necessary clues in order to understand our surroundings. Physical laws clearly differentiate physical phenomena from the *paradeigmata* by regulating their specific modes of determination. Therefore, it is important to describe the different steps of the creation.

The first remark concerns the originality and uniqueness of the created universe. The creator thinks carefully every step and proceeds ingenuously to reproduce some constant characteristics of the prototype. The eternity of forms is rendered in the physical universe by the constancy of movement, which is time (*37e*). Humans are further an entirely original creation, shaped by the gods in a later stage. Other physical specificities include sensible objects and foremost the embodiment of the souls in concrete bodies. The souls are also a creation out of a scientific mixture of eternal and perishable essences. Therefore, in no account are we entitled to close the discussion by simply affirming that the physical world is a copy or a "holotype" of the intelligible model. Besides, the theory of participation points to an original and complex process. Physical objects and, by that matter, living beings may ontologically be defined as copies, but in physical terms they are far from being simple copies of their celestial counterpart. The creation myth brings significant precisions in respect to Plato's idea of what a copy may be.

Plato argues at length about the ontological status and the mutual relation of essence and becoming. If this is the best possible world, then the creator made it in the image of an inalterable, eternal and unchangeable exemplar (*29a*). The relation between generation or becoming and essence is the same as between belief and truth (*29c*). The first is changeable and impermanent, whilst the second is certain, permanent and unchangeable. Besides, Plato draws a line between "*what is the eternally being which has no birth and what is the eternally becoming which is never a being*" (*27d*).

Plato's discussion of the difference between becoming and essence invites us to focus our attention on vocabulary. If we translate *to on* by *the being*, we cannot translate the *gignomenon* also by *the being*. *Gignomenon*, becoming, *symvan*, accident, *genesis*, generation are the Platonic terms designating the status of physical objects.

A few lines further Plato describes the nature of the physical world by using the different forms of the same verb *gignomai*. He says: "*[The physical world] was generated; for it is visible and tangible and it has a body and all such things are sensibles, and the sensibles are comprehended by opinion with the senses and it has been obvious that [all such things] become and are born. Again we said that for a generated [thing] it is necessary to be born by a cause*" (*28b, c*). The verb *gignomai*, one of the commonest in Greek language, means to become, to be born, to take place, to be produced. The contextual and pervasive significance reports to the different stages of the generational process: to generate, to be generated, and to be on the process of being generated or simply of generating. The fact that the root verb is alternately translated in English by a variety of heterogeneous terms produces a confusing effect which clearly obscures the Platonic purpose. If we retain the term of becoming, we need to keep in mind that it covers generative phenomena originating

ultimately in a cause. Plato further remarks that physical objects become and perish (lit. are lost, an appropriate verb in the Platonic perspective of the soul investing the body like a cloth) (*28a 3*), for they have a body and thus they can never be. In fact, the Platonic *gignomenon* corresponds to the Aristotelian *on*, inasmuch as it is composed of body and soul, of matter and form. Both philosophers use with clarity and precision, an unambiguous terminology which, in both cases, reflects precisely the ontological status of things. The Platonic becoming is a copy of the being and the Aristotelian being is the real physical object.

Plato turns next to the world of becoming. The first question to answer is why he explains it in a creational myth. First, becoming does not remain in a continuous state as such, but is always changing; therefore it has to be grasped in the changing process. Then, the creation myth represents the way humans understand and explore the world. Out of the cosmic "soup" sensory perception and bodily consciousness distinguish forms, objects within the vast reality canvas. The myth underlines the fact that our basic relation to the world is never solely rational. It is based on our physical presence; therefore it is a making, a construction as much as perception. It may further be argued that perception is fundamentally a creational process, a construction of things out of undifferentiated elements. Aristotle seems to understand the Platonic teaching in the same sense. At the lengthy aforementioned citation, he argues thus: "*Always then it [intelligence] needs to think something. This is necessary because the circular movement is eternal.*" Now, if, according to Aristotle, Plato thinks that intelligence is always thinking something, in the manner of the eternal circular movement, there is no consciousness apart from the thinking and perceiving process. The fundamental condition of consciousness is creating, putting order, finding laws along with arranging, shaping and constructing. These directions are not really separate, but form a continuous and permanent process of being and acting in the world. They are subject to universal and constant laws, exemplified by the creative activity of the mathematician demiurge. The creator has recourse to triangles, mixtures and building techniques in order to create the all, as well as particular beings. He proceeds in the manner of an ancient Greek scientist. At times he employs geometry, at times chemistry, at times mechanics and at times pottery.

More significant is the experimental aspect of the creation. Faced with multiple problems caused by the mixture of different materials, the creator thinks, ponders, calculates and proceeds with the solution he thinks best. In fact, creation is a vast experiment and perhaps the *Timaeus* describes explicitly for the first time in history the scientific method which in broad lines holds true even to our days.

Now, let's turn to Aristotle's refutation of the Platonic theory of the soul. Aristotle focuses on three points: The soul consists of the elements divided according to the harmonious numbers in order to create harmony. Then, the soul is moving and by so doing she moves the body. The soul follows a circular course produced by bending the linear course to a circular one. Last, she is a magnitude.

In the *Timaeus*, Plato makes the distinction between the creations of the cosmic body and the cosmic soul. The body is produced by the proportional mixture of the four elements (*31b-32d*), fire, water, air and earth. The proportion is necessary in

order to bind the elements together and avoid their dissolution. They are mixed in equal proportions, i.e. the ratio between fire and air is the same as the ratio between air and water and this is the same as the ratio between water and earth. "*For these reasons and from these such elements, four in number, the body of the world was born rationally accorded by proportion and it got from these attractive coherence (philia) and came to be one and self same by itself in order to become indissoluble by anyone except its binder*" (*32c 1-5*).

The cosmic body is "*smooth and even and equidistant from all points to the center, entire and perfect and [made] of perfect bodies*" (*34b*). It is spherical, without limbs, made up of the entire mass of the four elements. Nothing is left outside and understandably it is the unique universe. Its construction pertains more of a technological miracle. However, and perhaps for this reason, Plato does not think that the cosmic body is the world. Before its fabrication, the creator created its soul. If we learn about it after the production of the body, it is due to our comprehension, which first explores the visible and then ascends to the invisible.

The soul is placed at the center of the body, extended to all its parts and covers all around its outer surface. So the world is circular, one and alone, turning in a circular movement (*Ibid.*).

The creation of the soul proceeds in an entirely different way from that of the body. It is also made up of primary somethings, but these somethings are not physical elements, but intelligible essences. The creator took the indivisible and eternally inalterable essence and the divisible essence which exists/comes to be (*gignomenês*) around the bodies and by mixing them together he fabricated a third one pertaining of the nature of both indivisible and divisible or eternally sameness and becoming. By proportionally mixing and dividing, he created a new mixture, cut it in two in the sense of longitude and pasted these parts so as to form an X. He bent each extremity so as to join the one facing it, forming thus two circles turning in circular direction. The outer course was appointed to the nature of the eternally the same and the inner one to the changeable. The changeable was further cut in seven forming seven inner circles and moving circularly (*35b-36d*). These are the orbits of the seven planets.

After creating the soul, the creator proceeded to create the body within the soul and adjusted their middles in a tight union. "*From the center, the soul encircled heaven to the edges and covered it up all around and herself turning in herself, she began a divine beginning of an incessant and wise life in all time. And the body of heaven became visible, but the soul remained invisible, although participating to rational thinking and harmony, soul [participating to] the intelligible and eternal beings, the most excellent of generated things made by the most excellent*" (*36e*).

In virtue of its heterogeneous composition and during its eternal circular course, the soul comes in contact with all kinds of things, both eternal beings and transient existents. The contact is described in the following lines: "… *when she* [*the soul*] *touches upon something possessing a divisible or an indivisible essence, moved through her entire self, she reasons to which thing this essence is the same and from which it is different and, mostly, concerning the generated things, in relation to what and where and how and when each one happens to be and be affected in respect to*

everything and in respect to the eternally same. Self same and true reason, exercised about the other or about the same, heads without voice or sound towards the self moving [the soul]. When it [*reason*] *is exercised about a sensible thing, the circle of the other reports it directly to the whole soul and certain and true opinions and beliefs are born. When again reason is exercised about something rational and the swift circle of the same reports it, then intelligence and science are necessarily brought to their ultimate end*" (*37a-c*). Plato concludes that both opinion and science are born in the soul.

3. Aristotle's Criticism Revisited

Now, if Aristotle argues against Plato, it is certain that he misunderstands his teacher's most explicit positions. It is difficult to believe that Aristotle was not thoroughly familiar with the above mentioned Platonic theory. However, in the *De Anima*, he underlines that Plato conceives the soul as made up of the four elements, i.e. material, because, he argues, Plato thinks that "*the similar is known by the similar and things exist from causes*" (*De Anima, 404a 18-20*). The first remark concerns the validity of Aristotle's criticism. Although he reports the theory accurately in respect to the soul's movement and sensible knowledge, he ignores the entire section of the Platonic theory on the essential nature of the soul. The soul is made up of essences, so it belongs to the world of intelligible essences. The body is made up of the four elements, so it is perceived by reason and the senses. However, for Plato, the world is the mixture of the two. It is a living animal, endowed with reason and movement.

This major distortion makes the refutation of the Platonic theory a piece of cake. Aristotle has no difficulty in convincingly refuting a number of conclusions implicated by the four element soul theory. First he refutes the thesis that by moving, the soul moves the body. Here the argument is twofold: If there is something that comports self movement, then why this something must be the soul and not the body as well? A material soul as the principle of movement of the material body is arbitrary and cannot be substantiated by any reasoning. Further, the body may well include self movement. Aristotle sustains that movement is not always initiated by an external cause – as Plato does – but may be self moving without external cause.

The second objection concerns the (inaccurate) thesis that the soul consists in the elements and is divided according to the harmonious numbers. For Aristotle harmony cannot be the final cause explaining the division of the soul. In the organicist perspective, the three kinds of soul, namely vegetative, nutrient and rational share among them the different functions pertaining to organic beings. However, their modality depends on the animated corporeal substance.

Aristotle further criticizes the circular course of the soul. Why should we think – he argues – this direction superior to other ones, as, for instance, to movement on straight line?

Finally, he contests the idea that the soul is a magnitude. This conclusion follows the four element soul theory. If the soul were a magnitude, we should determine where it meets the visible objects, at what point and how many times. All this becomes absurd if we strain the argument to its logical consequences. Then we

should conclude either that the soul thinks always the same thing in virtue of its circular eternal course, or it randomly meets an object only once. In this case, repetition and memory are impossible.

The refutation is based on the small sentence cited above. According to Plato, "*the similar is known by the similar and things are born by causes*." However, Plato makes an important distinction. The soul is intelligible and in virtue of the above rule, it cannot know visible and tangible things. Therefore, according to Aristotle, in order to have knowledge of bodies, the soul must be material and he concludes that it is made of the four elements. Plato thinks that bodies have no capacity of knowledge. Only intelligibles can be objects of knowledge. His soul, as exposed in the *Timaeus*, is made up of eternal and transient essences. Transient or not, they are all essences. During her permanent rotation, the soul meets not bodies but other essences, either transient or eternal. Her separate circles in their rotations meet and determine their similar essences: the transient essence other transient essences and the eternal one other eternal essences. It is all too evident, that for Plato everything pertaining to the world belongs to one of these categories. The soul's consistence is such that it has the capacity to perceive not only transience or permanence, but all determinations of an external object in its relation to all else as well. This is an entirely different theory from the one presented by Aristotle as the Platonic theory.

The Platonic model may be based on geometry, but it cannot be taxed as reductionist. Plato affirms that the world is a living and rational being. It is created in order to achieve harmony as a whole as well as in its parts. Harmony results from proportion inasmuch as different things or again different essences are mixed or divided according to the harmonious numbers, as defined by the Pythagoreans[3]. Sensible objects, empirical things and material bodies in general are far from being neutral outer covers of immortal souls. They reveal the soul through their successive modes of being as the *Symposium* makes amply clear. Empirical bodies are the first step to the ascending intuition of transcendent ideas. First means necessary and standing at the beginning of dialectics. In this sense it is a cause and this status acquires a particular value in Platonic epistemology. Therefore, the body is never an entity *per se*. Nevertheless it acquires a pivotal status. It is the outer envelope of a transcendent essence. It is mortal and compared to a prison, but such prison also holds the key to escape. Therefore, the Platonic epistemological model is complicated and tortuous, inasmuch as it seeks to make room for the sense data as significant ground causes in our quest of their transcendent essence. For Plato the world is sacred, beautiful, the best and entirely good. It is impossible to read in the lines of the *Timaeus* or of the *Symposium* a mechanistic explanation of phenomena. Becoming is defined by generation and change. The world's primary movement is spinning around itself. Other types of movement are appropriate to different bodies.

[3] The Platonic theory of numbers constitutes another fascinating field of inquiry. Numbers are conceived as rational essences endowed with structuring functions. In this perspective, the Platonic model of science usually taxed as mathematical, abstract and reductionist, acquires a profoundly metaphysical significance.

4. A Brief Summary of the Cartesian Theory of Material Bodies

Turning to Enlightenment, we face an altogether different view of the body, its status and its relation to the soul. The Platonic becoming defined by birth and change is replaced by a mechanistic concept of the body defined in terms of extension, figure and depth. Descartes has exposed in clear and unequivocal reasoning the Enlightenment model of bodily reality. After explaining the nature of the soul and its union with the body, he proceeds to explore the material bodies. In the *Principia* he sharply rejects all finalism.

> *We shall not stop either to examine the ends which God has given to himself by creating the world and we shall entirely reject from our philosophy the search for final causes, because we should not presume on ourselves so much as to believe that God shared with us his plan: but, considering him the maker of everything, we shall only endeavor to find by the faculty of reasoning which he placed in us, how these [things] which we perceive by means of our senses could be produced* (*Principia, I. 28*).

The rejection of any attempt to look for finality comes from the sense of being a finite creature incapable of comprehending God's providence. The final cause becomes a mystery which testifies to the finitude of human mind and to the humility of human will to penetrate divine plans. To Plato's harmonious world, made in order to produce harmony at all levels, an obvious mark of perfection, Descartes opposes the impenetrability of divine will and man's incompetence to explore it. The world becomes a mystery. It may have a purpose but this purpose remains out of reach of human intelligence. The only field compatible with our finite faculties is to find out and examine how things come to be produced. This corresponds to the material cause of ancient philosophy and leaves out of the scientific agenda the formal, efficient and final causes. It is true that Descartes believes that he safeguards for man's intellect the formal cause. Besides, "formula" means "small form." The mathematical formulas are supposed to explain the formal causes. However, both Plato and Aristotle, each in his own way, have seen things as an organic whole and particularly as a constantly changeable entity in reaction and relation with other equally changing entities. Plato has integrated the final cause in both material and formal cause: The four elements are mixed according to the harmonious numbers and so are the essences composing the soul.

Descartes defines the nature of bodily substance as "the expanse in length, breadth and depth" whilst that of the soul is thinking (*Principia, I. 53*). In the *Treaty on Man* he introduces the subject matter by announcing that in order to describe man he will first describe his composing parts, namely body and soul and then will proceed to show how these two parts are joined together and united. The description of the body begins in the following words:

> *I suppose that the body is nothing else than a statue or a machine made of earth, which God forms on purpose, in order to make it as resembling as possible to us: so as not only to give it externally the color and figure of all*

> *our members, but also to place inside all pieces necessary to make it walk, eat, breathe and imitate all those of our functions which can be imagined to come from matter and depend solely upon the disposition of organs* (*Traité de l'homme. Oeuvres, p. 807*).

And Descartes goes on to make a comparison between the different movements of clocks and human artifacts with the variety of movements which God has placed in the human body.

The Cartesian project is clear. It assimilates the human body to a divine artifact, constructed and working as clocks and mills do in the human scale of production.

Another important difference with the Platonic and Aristotelian model is the first movement. To the self movement of the soul (Plato) or of physical beings (Aristotle), Descartes prefers inertia defined as the first law of nature: every body remains in the state it is in so long as nothing changes it (*Principia, II. 37*). Self movement does not exist except in the case of God. He is the first mover.

Conclusions

It is clear from this brief survey that the reductionist model of scientific inquiry attributed by Biocosmologists to Plato in reality originates in Cartesian rationalism and the Enlightenment perception of reality. Plato envisaged the world as an organic living and intelligent whole defined by generation and change. It is an inventive copy of the intelligible world. However, a copy has to solve a number of problems in order to imitate the original in the best possible way. Such "technical" problems include how to transpose eternal sameness and this is solved by permanent change in endless time. Visibility poses its own challenges, such as mixing the elements and dividing according to the harmonious numbers. Construction of the whole further depends on applying geometry to solids. Finally the whole is made of two basic materials, perishable body and eternal soul. The model of scientific exploration takes into account the twofold nature of the world and focuses on generation and change. Generation concerns birth and how things come to be produced and change concerns their incessant becoming. Mathematics are of course a means to get certain knowledge but, as the last part of *Timaeus* makes clear, knowledge of the physical world far exceeds mathematical formulas. It is definitely not a rational method of explaining phenomena as if they were mechanical artifacts. Their relations are not ruled by action and reaction inasmuch as the soul is endowed with self movement. Therefore, all generated things possess a certain degree of initiative and self determination. If Plato has not developed the stages of growth and decay from the initial nature of generated things, final cause is confusedly (yet) contained within form. Things and the world as such tend to create harmony. By their very nature they constitute and tend to realize the best, most perfect and entirely good world.

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ON THE MARGINS OF M. BENETATOU'S PAPER[1]: SEVERAL NOTES

Milan TASIĆ[2]

ABSTRACT. *We find that both learnings (of Plato and Aristotle) about ideas, beyond the existing differences (knowledge as memory, etc.), have abundantly testified about the possibility of knowledge the world in logos (in number, form, etc.), it as an objective reality, while emphasizing final causes and the understanding that form (he morphe) instigates substance (he hyle) to convert potentialities it contains into actualities, Aristotle has insofar complemented learning about knowledge, in general, by that about a subjective experience of things and beings that are learned. Giving in a sense right to Sophists too (Protagoras: "Man is the measure of all things"), and not only to Socrates: "Knowledge as necessary and general", and what in the last century has been anew reconfirmed in philosophy (phenomenology, existentialism), psychology (psychoanalysis), literature and others.*

We believe after that programming languages and programs in informatics now could largely be used for it, but that one reaches up to true (ethical) problems when we have to rethink as individual, as group (global) objectives, in a world governing rather by the laws of evolution: the struggle for survival, adaptation of individual to conditions of environment and the like.

KEYWORDS: *eidos, one, many, for what, subjective, program*

1. *Plato:* Timaeus

When Biocosmology claims to be "the world view as ideology and science" [9], in our opinion, such a thoughtful viewpoint can find basic elements for its founding in Plato's *Timaeus* (*Critias*, *Laws*, *Republic*), as in Aristotle's work *On the soul* – and not only in them. The point is to be fruitful in the balance, from one end to the other of the mind, and especially - is there at all a method of investigation as conducive to such an (universal) purpose?

The basis for it is of course, according to Plato, that what is rational (*he noeton*) there is forever, although visible (*ta horata*) and sensory things (*ta aestheta*) are perishable. For like eternal, mental movement is by nature cyclical (circular, spiral), and as such can be recognized in all creations of the mind: starting from dialogue, through tragedy, to Socratic idea of an ideal state, of Critias myth of Atlantis and ancient Athens, or Timaeus learning on the nature of cosmos and man [*Timaeus* 38 *a*]. And since the Hellenistic world view is to be a living organism – at its micro and

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macro level – the body and the soul that make it are now subordinated to the mentioned cosmic mind. Further by following the myth of the origin of the world in *Timaeus*, the mind, as a demiurge, having created a "work by nature fairest and best" [*Timaeus* 38 *b*], did by it the matter of the universe so far dispersed to be organized and chaotic motion to be transformed in harmonious one, the creator should put after the "intelligence in soul, and soul in body" [*ibid*]. The cosmic soul is therefore an expedient organization of the matter of universe, and what would be the case too with "all life processes on all levels of organization (biological, ecological, anthropological ...)" [9]

Otherwise, Socrates in *Philebus* [91 *d*] argues that the soul must be something more than harmony of body parts, as it would be more reasonable an image of the world as a living organism, conceiving and developing from seed and differentiating from it. Plato explains it in *Timaeus* too [*Timaeus* 35 *a*], when he takes as seeds of cosmic life *the same* (*to tauton*) and *the different* (*to heteron*), as germs in the soul, and whose second name is *the one* (*to hen*) and *many* (*ta polla*) [*Philebus* 14 *c*], otherwise, opposed to each other. Now those principles should provide a series of (particular) properties of real things: like identity of individual souls, their diversity, and recognition on the basis of these differences, etc. The very differentiation of the world soul to an overall diversity in the real world, takes place also "lawfully", for the demiurge had separated first large parts of being out of it, according to a geometric progression, and the middle parts – by the arithmetic and harmonic progression afterwards.

Both times it is, therefore, a view of the world as an arranged whole, made in the image of living organisms, that know the highest interdependence of their parts and a lawful development. As what Timaeus says further in his story, goes in favor of the same. For instance, the center of the soul is on the Earth, which is, in turn, in the center of the universe, the soul corresponds to the number one, which is of a round form (as the universe) and principle of other numbers, etc., so that the creator would finally "bring the two together, and unite them centre to centre." [*Timaeus* 36 *d* - *e*] Hence, all that is visible and material in the world will bring on itself the ideal too (*to eidon*, *he idea*), as virtual one, what could be discovered by the effort of the mind, by following Empedocles' principle: "The same (similar) is reached by the same (similar)". The same ideal makes also the whole architectonics of the world – as an arithmetic, geometric, or anatomical structure – and which all is "shown" in the visible world, making it intelligible. Since it is a single, uniform and perceptually observable world, while the intellectual order is present in it as far as it serves as a paradigm, pattern and model of it. By those words Timaeus ends his story too in this work: "We may now say that our discourse about the nature of the universe has an end. The world has received animals, mortal and immortal, and is fulfilled with them, and has become a visible animal containing the visible – the sensible God who is the image of the intellectual, the greatest, best, fairest, most perfect – the one only-begotten heaven." [*Timaeus* 92 c]

It remains, however, that the "same" ideas bring now both (inanimate) things and (living) beings, since they do one (and the same) geometric-arithmetic skeleton

of being, although the inanimate matter is separated by a qualitative leap from a living one – things of living beings. For the world of living beings is always different and new one, while the ideal skeleton is given once and for all, as sterile and the same, so Plato, in *Timaeus*, the creation of all other leaves to gods lower than the supreme creator, etc. At that important place, as it is known, Aristotle will (essentially) diverge from his teacher too, earmarking this time to ideas of the mind to instigate things and beings in which they are contained consecutively to attain all forms given potentially in them. And what is, of course, closer to the diversity of earthly life and so on.

Let us say something about the matter, as a mother "recipient" of things and beings, from this work of Plato, to point out in so far to those "atoms" of everything, as the smallest number of them. It is, precisely, on the right triangles (isosceles and unequal), to which he is brought by an analysis of planar, as well as of spatial bodies and forms – and not to points without dimensions – so that in the macro-world he would stop on five (forms) of polyhedra, also composed of right triangles. These are: tetrahedron, octahedron, icosahedron, hexahedron (cube) and dodecahedron, which are, as tiny, invisible (except the dodecahedron), and which, as such, allow forms to each of four ancient praelementa: earth, water, fire and air too. The earth is namely in the form of a cube, water in the form of icosahedron, fire – of the tetrahedron, and the air – of octahedron etc.

But by completing the creation of the world, as a regulated order of things and beings, as mortal, and immortal, the creator, says Timaeus, did not shape by the end the mortal beings, men. It was done by titans, lower gods, so that human nature has in itself as immortal, intellectual soul, as mortal, sensual. The latter is being loaded by instincts, passions, what is the path to evil, but it remains that (the cosmic) intellectual soul can to bring into human nature the order and harmony.

2. *Aristotle:* On the soul

Aristotle brought the knowledge on the soul to a closest relationship with the somatic knowledge (those on the body), denying that the soul moves, that it moves by itself, or by a circular motion[3]. Because, he says, it would be said that "the soul is grieved, rejoices, is confident and afraid, and again is angry, perceives, and thinks", and "one might conclude from this that the soul itself is moved", although it can be said "that such a motion is only caused by the soul (e.g. that being angry and being afraid consist in the heart's being moved in a particular way; ...)". And instead of saying: "soul pities", "soul learns", "soul thinks", ... it would be surely better to say: "the man does these with his soul". [*On the soul*, I 4, 408].

Then, when it denies the view of auto-mobility of the soul (Xenocrates), or of its materiality (Democritus), Aristotle will say, in the first case, if the soul were "the number putting in motion itself", then it would be part of the space etc., and if it were tangible, in the second case, then two bodies would be in the same place, what can not be allowed. Finally, when trying to refute the view that soul follows in knowing

[3] Nor, say, it enters living creatures, driven by the wind, as in the orphic poems and the like.

the principle according to which "similar is learned by similar", he concludes that if the soul is composed of the same elements as body, it would not be able to embrace in the knowledge all their properties and mutual relations too, which are of a different nature and far beyond their number. For instance: the being appears to us as substance, as quantity, as quality ... and if the soul contains only elements of substance, how it learns other genera of beings, who are not substance, etc.

Similarly, Aristotle speaks on the mind too, which is, in itself, something divine, and equally depends on the condition of the body – when it weakens, it perish too, and when the body fails, it disappears too – so what it reaches in conclusion is that "the soul is *the entelechy* of the body", as that *for what* the body is. Because, according to him, otherwise, everything that exists in the nature: body, plants, animals ... exists "for something". So the living bodies acquire their essence by the soul, as well as all movements (changes) of bodies are conceived *in* it, and realized *for* it, while it occurs as mentioned "purpose" of a body too, as its "final cause".

Otherwise, when he wanted to compare four types of causes by relevance, Aristotle has found that the highest place belongs just to the final cause, because it appears as a *cause* of overall changes, and their *purpose*. It illustrates, for instance, the citation: "So also no hand of bronze or wood or constituted in any but the appropriate way can possibly be a hand in more than name. For like a physician in a painting, or like a flute in a sculpture, in spite of its name it will be unable to do the office which that name implies". [*Parts of animals* 640 *a*] And in the same way, the formal cause of a thing is "higher" than the material one etc. Besides by performing our mental states from motions (changes) in the body, Aristotle has attributed to the doctrine of the soul (psychology) the character of a science, although too complex phenomenon of the soul (life) eluded to a more accurate determination. As, after all, the learning of hylomorphism has brought an amalgam of substance (*he hyle*) and form (*he morphe*), of materials and ideas, as well as, implicitly, one speaks about the relation of correspondence – of originals and copies – of two worlds in Plato's teaching about ideas.

Differently, say, from Descartes' dualism of substances, where nothing in the sphere of thought is of the order of extension and *vice versa*. So, if in Plato, and in Aristotle, do fail a precise definition of concepts as: the idea, the soul, a living being, essence and the like – they have remained to be it until today! – or if both Plato and Aristotle, along the length of their works, somehow differed from their earlier views about the same, as, after all, nor their teachings were fully complete and consistent systems et al., there is no doubt that they both bring fruitful incarnations of those basic principles, from the very beginning of philosophical thought: "The world is one" (Thales), or "One and all" (Xenophon) etc.

Both Plato and Aristotle, therefore – and not only they – explain the image of an – to the maximum extent – ordered world, which allows (equally rational) approaches to the knowledge and where from the same perspective one looks at the generation and corruption of the living and inanimate nature etc., so that it would fit them rather any holistic (this time: Biocosmological) standpoint, than any reductionist (objective, empirical, physical, mathematical, etc.) representation. For instance, the objective

knowledge of some tree is "lower" than an image about it supplemented with a subjective experience of the landscape to which it belongs, etc. Insofar Aristotle's words "for what", from his formulation of *causa finalis*, delve deeper and more truly into being of the world, as well as into us, the individuals which learn it. Giving somewhat the right to Sophists (Protagoras: "Man is the measure of all things"), and what in the last century has been anew reconfirmed in philosophy (phenomenology, existentialism), psychology (psychoanalysis), literature and others.

Then, when the idea of Biocosmology takes this very moment in Aristotle as the essential one, it is certainly because it comprehensively and convincingly expresses one point of view, albeit its "traces" can be found in Plato, in Thales[4], in Anaximenes[5] etc. In addition, here is offered a triadic model (with a fourfold causality) [8], which – explicitly – we do not meet either in Plato or in Aristotle, etc., so that, in general, Plato's "mathematism" does not resist to Aristotle's "organicism", but more than anything it could help it. And we have seen that both learnings are essentially intertwined, so that the two aforementioned marks, are rather conditional. And as the "theory of ideas" (Plato) historically preceded the learning of "hylemorfism" (Aristotle), it can be said that the first learning is in the lobby of the second one, in so far, in our opinion, both times, "arithmetic", "geometric", "logical", ... still have great power to go down into the phenomenon of the living and to bring on the truth about it. Even if a deep gulf separates the living from inanimate matter, especially living things from those governed by consciousness, as we have said.

3. The cases of set theory, of Turing's machines and programming languages

First, when it is about the ancient principles of "Love and Hate" (Heraclitus), "the same and different" (Plato), "one and many" (Parmenides), etc., as otherwise opposites, irreducible to each other, they are, in a formal way, by mathematics and informatics abundantly "upgraded" till today. We have in mind the concepts of "element" (one) and "set" (many) in set theory, or the state "0" (same) and "1" (different), in informatics. Namely, the concepts of elements, of sets and of operations over them, have proved to be appropriate in those terms to be reconstructed all existing mathematical theories, and one finds that the same-similar structure reveals all inanimate and living nature too [Chapouthier, 2009], and not only mathematical entities. Moreover, one of them – category theory – has the power to "replace" all others, while a particular variant of it – topos theory – meets application in most different "intuitive" domains [Caramello, 2010]. Let us add that the founder of the theory of set Georg Cantor succeeded, in the manner of transfinite numbers, (precisely) to define the notion itself of (actual) infinity, which now gives a way of a relief structure, made up of different levels of them and so on. All this certainly influenced French philosopher Alain Badiou to declare that "mathematics is ontology".

[4] "The world is animated ..." (D. Laertius 11 a 3).

[5] "Just as our soul, being air, holds us together, so do breath and air encompass the whole world." (Diels B 2).

In the second case, from the very beginning in the mathematics-philosophy – doing it for centuries until today – a few concepts, such as: number (Pythagoras), logos (Heraclitus), idea (Plato), entelechy (Aristotle), intuition, evidence (Euclid), etc..., "alternatively" emphasized their own advantage in the founding of sciences, as the last and irresolvable entities. But, for example, the intuition proved elusive in the case of the fifth postulate of Euclid, as well as nor the number (the formal, logical) succeeded to "reach" (all) true propositions in the (intuitive) mathematics (Gödel), nor to do to be consistent, etc. Thus failed the ability mathematics to be reduced to logic, the intuitive to the formal-logic, and what was the impossibility, in general, number, logic, formal, ... to express the whole truth about the reality.

However, in the last century comes Turing, who finds that what evades numbers, axioms, formalism is by character, just geometrical – like place, position, status, etc. – and what he brings into his definition of "Turing machine". It will thus allow, precisely, an acurate definition of the notion of computability, now expressed in such terms as: moves, stops, right, left, stamps, ... and in this concept mathematics (as science of idealities) and physics (as science of space) anew obtain the starting unity. (As it is known, physics, which was based in so far on Euclidean geometry, when it is shown that the fifth postulate is independent of other axioms, has "resorted" to the geometry of Lobachevsky, which in turn will properly express Einstein's theory of curved space-time.) Turing machines are most directly reflected, precisely, in the construction of programming languages and of compiling of *programs* (software and hardware) in the informatcics today, which otherwise testify on enormous possibilities of applications in different areas. The notion of "program" has included, therefore, both arithmetic and geometric, logical, formal, ... that we have mentioned, expressing a special advantage in processing of a large amount of data. In the basis of the so-called "artificial intelligence" (Turing) are also included programs and so on.

So, in short, achieved an overall idea of "computability" so far, to which was tending throughout history, when thousands of languages were grammaticized (modeled after the Greek original) and where the natural sciences postulated legality, determinism, mechanicism, ... There is no doubt, however, that programming languages and programs can be of a supreme benefit in the sciences, equally in those humanitarian, and that they can contribute to the clarification itself of the concept of life, of living being, of consciousness. Because, even if they are extremely complex phenomena (with hundreds of definitions so far), it is interesting, say, that there are such programs [Ray, 1991], which generate artifacts ("digital beings") able to replicate and mutate in an arbitrary way, mimicking, therefore, the laws of evolution. Here we recognize their generation and corruption (life and death), as well as some properties of organic life we know, and moreover "parasites" who survive at the expense of other beings. Or the attempts such "beings" to create "immunity" and to protect themselves, and even to parasite themselves on parasites, ... while isolated, they try to work together and to complete each other, what is a form of relation between the sexes, or relationship in the community of people and so on.

No doubt, all it tels primarily about the unity of the world, of its inorganic and organic "part", which obey to the same, or similar – and certainly "readable" *for us*, if not *in itself*" – laws of nature, even if it is about different degrees of their complexity.

So mathematism along with expirience, experiments, ... has the power to express to a higher degree the truth about the organic world (artificial intelligence projects, the construction of human brain etc.), such as those of inorganic one, so there is no principal difference between the learning subject, on the one hand, and an (inorganic) thing in itself and an organism, on the other. Because they are both – the object and the living entity – unknowable to the end, just as any natural law is not absolutely undeniable truth, forever, and what can be said about any truth of the organic world.

It remains, finally, that a (large) area of man's subjective relationship with the world, things and beings that surround him, which – even if it is unique – when it has to be expressed, it may be "constructed", at least at the schematic level, of (possible) real elements that make it. Whatever they would be by nature: unconscious ("The unconscious is structured like a language", Lacan would say), educational, social, and so on. Programs, softwares, therefore, have the power to go behind the area of "taste" and to expres the optimal "solutions" for the individual, and the objectives he/she chooses, and what he/she could not realize through any formula, analysis, forecast, ... until now.

Thus it is possible to "populate" the world, from its micro to macro-level, by both personal, particular, and general objectives – of individuals, social groups, nations – and which do offer optimum chance to be realized, but to true problems leads "disagreement" of the nature, of the world which follow the laws of evolution in the development and any of "ethical matrices", which, otherwise, are always based on the principles of reason. And since the imperatives of the "struggle for survival", of the "adaptation to the environment", etc., at least in principle are opposed to a harmonious survival of people within the natural and social environment. Therefore, the biocosmological project would acquire the more sense, if more optimal possibilities of living would be rethought in as much as wider areas: local, social, geographic, ... – in accordance with the pristine principles of humanity.

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IN DEFENSE OF ARISTOTLE'S BIOCOSMOLOGY AS THE COMPREHENSIVE SUPERSYSTEM OF KNOWLEDGE: EIGHT CRITICAL COMMENTS ON THE ARTICLE OF M. BENETATOU

Konstantin S. KHROUTSKI[1]

Eight comments

1. Aristotle's and Plato's indispensable contributions to the world culture
2. Plato as a philosopher of science
3. Integral type of the "Classical Greece" cultural period
4. The essential metaphor of Sleep (aimless) processes and Awake (purposeful) activity
5. *Entelecheia*, *energeia*, *topos* – Aristotle's crucial notions that are not included into the reviewed article
6. Aristotle's Biocosmological teleology (Organicism) vs Plato's biocosmological teleology (organicism)
7. Plato's foundations for modern European scholars' contributions and the current scientific revolution
8. George Chapouthier's comments

Abbreviations:

BCA – Biocosmological Association

T_SCSS – the ***t***ype of a ***s***ocio***c***ultural ***s***uper***s***ystem

This is an incredible moment in the world cultural history that two (Greek) thinkers of genius – Plato and Aristotle, founders of the modern types of rationality – appeared in the same place (Athens), time (4th century BC, in the cultural period of Classical Greece), and even cooperated with each other (one is a teacher of another). The incredibility of the moment is that these two greatest thinkers have created the two (polar to each other) supersystems of knowledge that are precisely of cosmological character, for they realize the comprehensive (all-embracing) knowledge with respect to the surrounding tangible (visible) world (cosmos or Kosmos). Significantly, besides the specific contents of their cosmologies, they indeed are the founders of the main modern types of mentality and scholarly

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endeavors – the Types of rationality. Further on, essentially, in applying these both polar types of rationality – mankind has at its disposal the truly all-encompassing mightiness regarding the rational cognition of the world.

Biocosmological Association (BCA) mainly focuses on the cultural heritage of Aristotle (this is the main scope of the BCA, together with the study of Integralist forms of knowledge). Paradoxically, however, Aristotle's (Father of Science) supersystem of knowledge – Biocosmology, taken as a whole (as the Type of rationality) – has been lost to the modern scientific community. Naturally, therefore, BCA strives to reveal (rehabilitate) Aristotle's true (Bio)cosmology – the comprehensive (super)system and Type of science and philosophy taken as a whole. A cornerstone is that we treat Aristotle's approach as an autonomic comprehensive Type of knowledge (independent from Plato's cosmology, which is polar to Aristotle's supersystem and Type of knowledge, but equally has the comprehensive quality). In this light, Marianna Benetatou's work is a really valuable piece of research, for it presents a fresh outlook and profound comparative analysis of both approaches – Aristotle's and Plato's. Therefore, her endeavors form a right perspective in developing BCA's main issues and approximation to fruitful results. Hopefully, BCA members will participate and develop this serious spirited open discussion, thus contributing to the true development of Biocosmology (neo-Aristotelism).

1. Aristotle's and Plato's indispensable contributions to the world culture

Aristotle created the cosmology (supersystem of knowledge and Type of rationality) that is essentially Biocosmist and based on the Four-causal immanent aetiology, Integral[2] gnoseology, Functionalist (organicist, inherent ends-driven – teleological) methodology, bio-socio-Kosmist anthropology and socioculturology, Virtual ethics, and the derived Bio-sciences (of all classes) and Bio-metaphysics. Substantially, Aristotle created the first rational (super)system of knowledge (ready for use) that (foundationally) made possible the development of scholarly endeavors in the Current (Christian) era. Aristotle is rightfully called the Father of Science, whereas Plato – Father of Philosophy.

Ayn Rand (1963) wrote: "If there is a philosophical Atlas who carries the whole of Western civilization on his shoulders, it is Aristotle. He has been opposed, misrepresented, and – like an axiom – used by his enemies in the very act of denying him. Whatever intellectual progress men have achieved rests on his achievements." We likewise have attempted to define four cycles of Aristotle's naturalist Type of rationality rehabilitation (on a scale of the world cultural evolution), emphasizing that 'Aristotle 4.0'-age[3] has much to do with the Russian cultural (scientific) tradition.

Equally, Plato has generated the (Type of) knowledge equally of the cosmological (comprehensive, all-embracing) level. Following the conclusion of

[2] Which integrates empirical, intuitive, and logical cognitive approaches.

[3] *See*: Khroutski KS, "Rehabilitating Pitirim Sorokin's grand Triadologic concept: A Biocosmological approach", 2014.

Raphael Demos, "Plato has exerted a greater influence over human thought than any other individual with the possible exception of Aristotle" (1927).This is certainly Plato who formed the foundations for the modern (mathematical-reductionist) science and, in general, for the currently dominating Sensate (and, for the present – long expected – Integral[4]) Types of SocioCultural SuperSystems (T_SCSS), or, synonymic – Types of rationality, or Types of mentality. Raphael Demos states:

> A philosopher in our day is considered a specialist in a field of knowledge distinct from that of science. Plato was a philosopher in a totally different sense. For him, philosophy was insight into the whole of truth, the study of reality in all its aspects; he was unaware of any barriers between this or that field of inquiry such as we erect today. Common sense ran into physics, physics into mathematics, mathematics into metaphysics; metaphysics, in its turn, led into ethics, politics, and religion. In reading the dialogues of Plato, we find abstruse discussions of ultimate principles joined to detailed descriptions of the parts of the human body, and investigations into the properties of geometrical figures along with inquiries as to the nature of the good life. (1927)

As it is well known, Plato indeed is the unique incredible thinker who for the first time (in the world cultural history, at the rational level) has generated the new (and which significantly throw light into the future of global development) cosmological foundational senses (basic principles). Thus, Plato is the first cultural luminary who introduced into the global cultural thought (mainly in the *Timaeus*) the following foundational concepts:

1. The concept of monotheism – of the existence of an invisible and supreme spiritual Being – the concept that was radically different from the prevalent polytheism of other Greek philosophers (including Aristotle) and that had a revolutionary significance for the further global history.

2. His other great discovery is the proposition of the idea of Trinity that was later adopted by the Christian Church. In fact, the doctrine of the Trinity owes far less to the Bible than it does to the metaphysical speculations of Plato. Not surprisingly, Church Fathers called Plato the "Divine Plato" and likewise as a "Christian before Christ". In fact, while in Middle Ages and Modern era Aristotelism was (is) used as a Means – Platonism is precisely the End and placed at the heart of the Western mind. As Costica Bradatan states, "Platonism helped the Christian faith acquire its doctrinal, theological identity, rooting it in an old and venerated school of philosophical thought, and subterraneously connecting it to the mystical traditions of ancient Greece, ancient Egypt, the Middle East, and beyond"[5].

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[4] In the terms of Pitirim Sorokin's dynamic cyclic sociocultural theory (substantiated in his phenomenal four-volume "Social and cultural dynamics", 1937–1941).

[5] *See*: Bradatan, Costica. (2006). *The Other Bishop Berkeley: An Exercise in Reenchantment*. Fordham University Press. P. 21.

3. Plato's third innovative foundational contribution to the global culture is the substantiation of his anthropological Dualist principle – of the human being composition of two parts: an immortal soul housed inside a mortal body.

There is one more (the fourth "for the first time") foundational contribution of Plato to the global culture (which is much less known in the modern scholarly milieu). This point is well noticed by M.Benetatou, "In fact, creation is a vast experiment and perhaps the *Timaeus* describes explicitly for the first time in history the scientific method which in broad lines holds true even to our days." (p.13) This statement is fully consistent with the judgment of Raphael Demos:

> His ideas affect the intellectual climate of our day in two important ways: first, by entering into our Christian theology and contributing especially to its doctrine of the opposition between the spirit and the flesh; secondly, by entering into our scientific mentality. The fundamental assumption of modern science is the importance of the mathematical method in the understanding of things, and this was Plato's cherished doctrine. (1927)

2. Plato as a philosopher of science

In his "Introduction and analysis" to Plato's *Timaeus*, Benjamin Jowett states that "Plato probably did more for physical science by asserting the supremacy of mathematics than Aristotle or his disciples by their collections of facts." (2009, p.51)[6] In characterizing Plato as a philosopher of science, worthy conclusions are made by Andrew Gregory, author of the "Plato's philosophy of science" (2000). In the "Conclusion" of his book, A.Gregory states that "the anti-empirical charges against Plato's conception of science are ill-founded"; Plato is a "scientific (proto-)realist" who believed that "the investigation of nature will produce worthwhile results". In turn, in the Introduction, author notes that "while Plato was clearly not an empirical scientist himself, that is not a bar to his being a theoretical scientist or philosopher of science." (Gregory 2000, p.2) Likewise, Gregory claims: "If there is no demarcation for investigation between the two worlds, then this serves to undermine the notion that Plato's science deals solely with intelligible objects and so eschews observation, and the view that it deals solely with physical entities and so can aim no higher than opinion." (p. 11) Appreciably, he determines (in the Conclusion):

> If we look for affinities to modern science with Plato, then most strongly of all there is the use of mathematics wherever possible. What is less often recognized is that the Timaeus offers a significant reductionist programme, based on the geometrical properties of the atoms. While this is undoubtedly crude, it is more sophisticated than the atomists. Plato's alleged anti-empirical attitude and pessimism about the results of the investigation of nature are often cited as significant differences with modern science, but we have seen that these allegations are groundless. (p. 273)

[6] *See*: Jowett, Benjamin. *Plato's Timaeus* (Rockville: Maryland, Serenity Publishers, 2009).

In her abstract, M.Benetatou notes that BCA negatively "contests the current mathematical-reductionist model" (p.7). This is certainly not the case. "Mathematical-reductionist model" (modern "scientific method") is factually the basis for the current tremendous scientific and technical (technological) progress, without which many social and cultural achievements would have been impossible. Another thing is that all this cannot be a basis for cancellation of the opposite (Aristotelian) Biocosmology and the appropriate scientific method (of scientific Organicism). We consider this issue in the concluding parts of the paper.

3. Integral type of the "Classical Greece" cultural period

Andrew Gregory also concludes that "a main area of criticism of Plato has been his use of teleology" (p. 5). To some extent, Marianna Benetatou echoes this thesis, arguing that although Plato and Aristotle have held divergent views on metaphysics, however, "they both rely on the soul-body component in order to explain the macrocosmic and microcosmic level, or, as they both appropriately name it, the visible world." (p.11)

In viewing this moment, we do need to refer to Pitirim Sorokin's dynamic cyclic (triadologic) sociocultural theory. Due to his (well substantiated) periodization of the cultural epochs of Western civilization – Classical Greece refers to the Integral cultural type. For instance, this periodization is noted in the paper of John Uebersax (2012), entitled "Culture in Crisis: The Visionary Theories of Pitirim Sorokin"[7]. Therein, author emphasizes that Sorokin was especially interested in the process by which societies change cultural orientations. In this perspective, Sorokin "opposed the view, held by communists, that social change must be imposed externally, such as by a revolution." The author stresses Sorokin's main principle of *immanent causality* that acts *from within*, and which states that "external forces are not necessary: societies change because it is in their nature to change." Therefore, although sensate or ideational tendencies may dominate at any given time, "every culture contains both mentalities in a tension of opposites."

Thus, the period of Classical Greece (550 DC – 320 BC) is naturally Integral, and, therefore (as Pitirim Sorokin has shown in his theory) – a key moment is that this epoch imports "the third – intermediary or integral" sociocultural order (including the rational scholarly achievements), and which is "the result of the combined external and internal forces." (Sorokin 2010, p. 634). Moreover, in this period, Greek organicism was the essential feature of dominating cultural forms. Due to the cultural background of this epoch, therefore, it would be very strange if Plato rejected organicism in favour of an alternative worldview (such as mechanicism). As Hamilton and Cairns stated in the Introduction to Plato's works[8],

[7] This is the web-published paper, URL: https://satyagraha.wordpress.com/

[8] *See*: Hamilton, Edith and Cairns, Huntington, ed. (1961). *The Collected Dialogues of Plato*. Princeton: Princeton University Press.

> Plato was the culmination of several centuries of Greek speculation and he took full advantage of the insight which his predecessors had developed. But speculation assumes intelligibility. The insight that the world is system, is organic, therefore both orderly and alive, is the Greek view as far back as we have records. (1961, p. xvii)

Therefore, naturally, Aristotle's and Plato's conceptual frameworks (scientific systems) have the points of overlapping and sometimes sound in a similar way, especially in the areas of ethics, aesthetics and politics. However, from the outset, we should ideate (conceive) that their knowledge systems (taken as a whole) have radically polar bases (in P.Sorokin's terms, polar "basic premises" or "ultimate principles") and the derived conceptual constructions. First of all, Plato accepts as a basic principle the Dualist essence of the world and the separation of "eternal patterns" ("perfect ideas") from the physical (material, imperfect and corruptible) world (although primarily created by the Demiurge and which matter is harmonised with the eternal Ideas). Essentially, Plato has substantiated and proposed the 'external' aetiology and epistemology, wherein a scholar acts '*from without*' the objects of study and, thus, relying basically on the Idealist (mathematical) approach to the empirically evident (physicalist) world.

On the contrary, Aristotle introduced to the world culture the opposite (polar) approach that basically placed the scholar's activity '*from within*' the naturally organic world governed by the inherent telic causes. Herein, opposite to Plato's Dualist mathematical physicalism – we have the foundationally polar aetiology, gnoseology and methodology, based on Biocosmism, Hylomorphism and inherent (immanent teleological) forces.

In this light, the Biocosmological Association precisely endeavors to rehabilitate Aristotle's Biocosmology and, in this perspective – Pitirim A. Sorokin's Triadologic approach to civilizational and sociocultural studies. Sorokin's Triadology means the discovery and substantiation of the Three natural **t**ypes of **s**ocio**c**ultural (**s**uper)**s**ystems (we use the abbreviation – T-SCSS). Each T-SCSS is essentially autonomic, in its whole and all-embracing organization, but heterogeneous (and reducible to its own foundational principles or "ultimate true realities", in Sorokin's term). All the Three T-SCSS (called by Sorokin as "Sensate", "Ideational" and "Integral") are always synchronously active, but dynamic and cyclic (taking the dominance by turns) in their interrelations. The nature of life (and well-being of the world) is impossible without this natural dynamic (evolutionary) cyclicity.

4. The essential metaphor of Sleep (aimless) processes and Awake (purposeful) activity

Naturally, a person who is involved directly in the current social life (especially in her/his professional activity) will inevitably be subordinated to the expedient (purposeful) interrelations and activities within the social circle of the individual's belongingness and beyond (of the entire sociocultural order of her/his living). On the contrary, any cell (structure, body – analogy of the 'social agent') of a sleeping

organism (taken as a whole), although pursuing its/her/his own rehabilitation and development goals – all are set in the space that (in principle) is fully separated[9] from the surrounding world (cosmos) – viz. in a naturally Dualist situation. Thus, although harmoniously organized (within the whole Organism), they cannot be treated (in the case of Sleep processes) from the naturalist teleological positions (especially, that their activity is reduced to, or focused at subjects' potentials restoration and development), but can be precisely characterized as aimless, and, from the position of external observer – exclusively treated as chaotic (driven by chance).

We do need the essential metaphorical approach aiming at the understanding of Bipolar and dynamic cyclic (Triadic) essence of life processes, including the realms of cognitive activities. In fact, it is not easy to understand the existence and essential foundations and matrix of the two polar types of life macro-orders in respect to bio-processes, sociocultural supersystems and types of mentalities (rationalities). Moreover, modern man (with her/his school and student days) is strongly taught regular habits (up to the level of subconscious attitudes) exclusively to the unipolar (one-dimensional, univariate, immutable) type of mentality (at present, this is precisely Plato's – Dualist and Anthropocentric – type of rationality). Therefore, in fact, it is not easy for a modern scholar (due to her/his already subconscious dispositions) to grasp the Bipolar essence of the real (actual) world and the Triadologic natural (synchronous, but dynamic and cyclic) existence of life and cognitive processes. Basically, in a result, modern scientist cannot grasp the essence of Aristotle's teleological (Hylomorphic, Functionalist) Biocosmology – his (super)system of knowledge and Type of rationality (taken as a whole).

In turn, the real situation is, as Anna Makolkin concludes, "The post-Christian man had turned the Aristotelian world upside down, having adjusted it to the politically correct Belief" (2008, p. 6). Since the High Middle ages and Scholasticism, Aristotle's crucial conceptions (although he is the recognized Father of Science) were either deleted, or badly misinterpreted in the contemporary curriculum. Joe Sachs states that from the Middle Ages to modern times, commentators disagreed on the interpretation of Aristotle's account of motion. He notices that an accurate rendering of Aristotle's definition of motion must include that "a potentiality, which must be, if anything, a privation of actuality, is at the same time that actuality of which it is the lack."[10] and that Saint Thomas of Aquinas resolves this 'contradiction' between potentiality and actuality (in Aristotle's definition of motion) "by arguing that in every motion actuality and potentiality are mixed or blended." (Ibid.) Sachs concludes that "the most serious defect in Saint Thomas' interpretation of Aristotle's definition is that, like Ross' interpretation, it broadens, dilutes, cheapens, and trivializes the meaning of the word *entelecheia*." (Ibid.)

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[9] Sensory denervation (i.e. separation of the sentient body from the surrounding world-cosmos) is the main feature of physiological Sleep processes.

[10] *See*: Sachs, Joe. *Aristotle: Motion and its Place in Nature*. URL: http://www.iep.utm.edu/aris-mot/ (retrieved 28.03.2015)

In general, Western (Medieval) Christianity, relying on the philosophy of St Thomas Aquinas (and, in contradistinction to Eastern Orthodox theology) – eventually defined God as *actus purus*, actuality unmixed with potentiality. This is precisely the mechanism of establishing the modern unipolar type of thinking – that energies (actualities) and essences are the same substances (that they were always created), and that there are no natural inherent essences, i.e. natural intrinsic telic potentials. Not surprisingly, in modern translations of Aristotle – his cornerstone notion of *entelecheia* (we likewise will discuss this point below) is not used by contemporary commentators at all. Obviously, therefore, we nowadays cannot value the existing translations of Aristotle as a sufficient basis for the true perception of his works – aiming at the understanding of his whole system of knowledge – his teleological (Functionalist) Type of mentality and rationality.

In the same (metaphorical, of comparing Sleep processes and Awake activity) example – it can be clearly shown that the application of scientific knowledge to the realm of Sleep processes (with its general reign of Chaos and the major significance of Chance) – is much more complicated than the study of purposeful processes within an active wakefulness. Naturally, therefore, science could emerge primarily – in its bases and conceptual frameworks – precisely relating to the study of a real teleodriven (Hylomorphic Functionalist) – RealKosmist – world. In turn, scholarly study of Sleep processes, i.e. the emergence and flowering of modern (mathematical-reductionist) science actually could occur later, after 2000 years (as it is) – in modern times (by virtue of modern European scholars' efforts, including Descartes) – when conditions (Time) ripened; but, naturally, on the already existing (Aristotle's) basis of principles and conceptual constructs (matrix), although now used as building blocks – for constructing the cosmologically polar frameworks.

5. *Entelecheia, energeia, topos* – Aristotle's crucial notions that are not included into the reviewed article

There is a special moment in Benetatou's discourse, which immediately catches the eye – this is the lack in her analysis of the key concepts for the Aristotelian type of knowledge – which are *entelecheia* (entelechy), *energeia* (energy) and *topos* (place). Essentially, they were originated by Aristotle and without their use a full assessment of Aristotle's system of knowledge is impossible for understanding in principle. In general, Aristotle's foundational theory of potentiality (*dunamis* – δύναμις) and actuality (*energeia* – ενέργεια), which are the principles of an important dichotomy that is essential for the Bipolar, dynamic and cyclic existence of each real natural (evident, tangible) thing – is beyond the critical analysis conducted by M.Benetatou.

Dunamis is the Greek word that is translated as capability, potency, potential, ability, power, strength, force. *Energeia* is a word based upon *ergon* that means "work". In turn, *kinesis* is translated as movement (motion, change), used by Aristotle as a particular kind of *energeia*. Finally, *entelecheia* (both the terms *energeia* and *entelecheia* are the neologisms introduced by Aristotle) is the word that is constructed

of several semantic units. Following the conclusions of Mikko Telaranta[11], they include: a) the prefix "in" (Greek èn-), which is indicated with "internal functioning", that is "the functioning of the organism according to its own nature"; and which is "crucial for all Aristotelian teleological thinking"; b) the process of internal functioning which leads to the end that is also internal, thus "having the *telos* within". Thus, studying the laws of nature, Aristotle discovered and kept in mind the purposive unity of living things.

Indeed, the term "organic" has the polar meanings for both thinkers. Plato used the term "organic" in the meaning of living body; and this is also the modern sense of this term. In cosmological aspect, for Plato "organic" meant harmonious (coherent) whole that was (and is) created/constructed through intervention '*from without*' (by external divine – Transcendent – forces). However, as commonly cited, the term "organic" was first used by Aristotle who originally applied this term in the sense that is fundamentally different from modern meaning. Aristotle's "organic" basically corresponds to the word *organon* that means in Greek "instrument" ("tool"). Thus, Aristotle's "organic" essentially has the Functionalist – of inherently (predetermined) purposeful, operational, effective (aimed at the effective products and results) – significance. In his work, M.Telaranta stresses that "Aristotle emphasizes the function as an end, an outcome of an activity, which thus reveals what a thing is potentially."

Returning to the etymology of the term *entelecheia*, we are to note that this word was invented by Aristotle and (in its scholarly significance) became a cornerstone of his scientific approach. Joe Sachs translates entelecheia as "being-at-work-staying-itself" [12]. In his book on Aristotle's Physics, Sachs gives a detailed description of entelechy and gives his critical opinion on the present use of this term:

> Aristotle invents the word by combining *enteles* (complete, full-grown) with *echein* (= *hexis*, to be a certain way by the continuing effort of holding on in that condition, while at the same time punning on *entelecheia* (persistence) by inserting *telos* (completion). This is a three-ring circus of a word, at the heart of everything in Aristotle's thinking, including the definition of motion. Its power to carry meaning depends on the working together of all the things Aristotle has packed into it. Some commentators explain it as being-at-an-end, which misses the point entirely, and it is usually translated as "actuality," a word that refers to anything, however trivial, incidental, transient, or static, that happens to be the case, so that everything is lost in translation just at the spot where understanding could begin. (Sachs, 2004, p.245)

[11] See the web-publication: Telaranta, Mikko. (2012). Aristotelian Elements: In the Thinking of Ibn al-'Arabi and the Young Martin Heidegger. URL: https://helda.helsinki.fi/bitstream/handle/10138/32903/aristote.pdf?sequence=1 (retrieved 28.03.2015)

[12] *See*: Sachs, Joe. *Aristotle: Motion and its Place in Nature*. URL: http://www.iep.utm.edu/aris-mot/ (retrieved 28.03.2015)

An essential point is, as it clearly follows from the significance of *entelecheia* (introduced into science by Aristotle) – entelechy (as the notion in its original essence) is hardly applicable nowadays, i.e. Aristotle's *entelecheia* is basically inacceptable in the (post)modern systems of knowledge based on Plato's cosmology (Plato's type of rationality), viz. which have the Dualist foundation and mathematical-physicalist (mechanistic-constructive) approach to the study (of) and impact on the surrounding world (objects under study). In this, in Plato's approach, an essential moment is that all pre-existing materials – for a divine (Transcendent), or anthropocentric (Transcendental) creative and constructive activities – are characterized as "chaos"; and that all the constructive efforts are realized on the basis of knowing (likewise pre-existing) "eternal patterns" ("immortal forms"), approaching to which is possible exclusively on the basis of mathematical achievements. At the same time, essentially, exactly as it is noticed by Richard McDonough[13]: "By 'chaos' Plato does not mean the complete absence of order, but a kind of order, perhaps even a mechanical order, opposed to Reason". Substantially, this primordial "chaotic order" survives the imposition of Form and is "always threatening to break out and undermine the rational order of the world." (Ibid.)

In general, during the long history of Western civilization, Aristotle's notion *entelecheia* (in its genuine sense) was factually deleted from the domain of modern scholarly endeavors. This is not surprising, for, substantially, Western civilization is basically enrooted in Platonic type of mentality (rationality). "The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato" (Whitehead 1967, p.39)[14]. Due to this foundation, it is typical that the notion entelechy (*entelecheia*) is not used, for, in principle, it is inacceptable and cannot be used in the Western mind-set wherein the world (cosmos) is the space filled with material bodies that are (primordially) subdued to a mechanistic chaotic order and are the objects to divine (of a Demiurge) or anthropocentric (of a human mind, analogy to divine Demiurge's) active intervention ('*from without*', following an '*external*' epistemology) and constructive (due to mathematical abstract laws) reorganization and shaping of the physical world.

Therefore, it is not surprising that M.Benetatou does not mention *entelecheia* (or *energeia*, or *topos*) in her analysis, for she is (as we all are) the products of the existing (Western, globalized) type of education and institutional setting of (modern) scientific activity that are foundationally set exclusively on the Platonic (Dualist) type of mentality[15]. Equally, in the result, it is not surprising that modern translators and commentators of Aristotle do not use *entelecheia* (and other cornerstone notions of

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[13] *See*: McDonough, Richard. *Plato: Organicism*. URL: http://www.iep.utm.edu/platoorg/ (retrieved: 28.03.2015)

[14] *See*: Whitehead, Alfred N. (1978). *Process and Reality*. New York: Free Press.

[15] Notably, Plato himself realized his conceptual constructions in the Integralist realm (of his sociocultural epoch), but having substantially formed the rational bases and general vector (of global significance) precisely of (to) the Dualist pole and type of knowledge. Significantly, this direction (in its full meaning) nowadays is completely realized and has the total characteristics of P.Sorokin's Sensate T_SCSS.

Aristotle's type of rationality) as the inconceivable and unacceptable notions. We can note that this practice grows to a greater extent, over the time.

In this light, hereafter, two translations (excerpts) of Aristotle's *De Anima* (412a21-412a28) are exemplified: the first is made by Robert Drew Hicks, from his monumental edition of Aristotle's *De Anima* (1907); editor of the second translation and commentaries is the distinguished scholar Jonathan Barnes (1984). Both translations are placed below. The original term *entelecheia* is returned into the text (and marked in bold) in those places where it was replaced by translators onto "actuality" (significantly, in this passage of *De Anima* Aristotle speaks about the polar Sleeping and Waking cycles of life activity):

> Such substance is actuality [**entelecheia**]. The soul, therefore, is the actuality [**entelecheia**] of the body above described. But the term 'actuality' [**entelecheia**] is used in two senses; in the one it answers to knowledge, in the other to *the exercise of knowledge*. Clearly in this case it is analogous to knowledge: for sleep, as well as waking, implies the *presence of soul*; and, whilst waking is analogous to the exercise of knowledge, sleep is analogous to the possession of knowledge without its exercise; and *in the same individual the possession of knowledge comes in order of time before its exercise* (*all italics are mine*. – **K.K**.). Hence soul is the first actuality [**entelecheia**] of a natural body having in it the capacity of life. And a body which is possessed of organs answers to this description. (Hicks, 1907)
>
> But substance is actuality [**entelecheia**], and thus soul is the actuality [**entelecheia**] of a body as above characterized. Now there are two kinds of actuality [**entelecheia**] corresponding to knowledge and to reflecting. It is obvious that the soul is an actuality [**entelecheia**] like knowledge; for both sleeping and waking presuppose the existence of soul, and of these waking corresponds to reflecting, sleeping to knowledge possessed but not employed, and knowledge of something is temporally prior.
>
> That is why the soul is an actuality [**entelecheia**] of the first kind of a natural body having life potentially in it. The body so described is a body which is organized. (Barnes, 1984)

We see that both commentators do not use the original term *entelecheia* in the main text (replacing it with "actuality")[16]. At the same time, in 1907, Hicks used "entelechy" (in its proper sense) in the Introduction and Notes. Likewise, we can argue that Hick's expressions (in the passage that is exemplified and which are emphasized in *italics*) are more close to the true sense of Aristotle's writings than the translations of J.Barnes. These are Hick's "to exercise knowledge"; "presence of soul" and, importantly, the link to "the same individual" wherein "the possession of knowledge comes in order of time before its exercise." – in contradistinction to Barnes's "existence of soul"; "waking corresponds to reflecting," and "sleeping to

[16] Notably, in the Russian four-volume edition of Aristotle's works edited by Valentin Ferdinandovich Asmus (1976), the original notion *entelecheia* is essentially used.

knowledge possessed". In other words, Hick's translation (in the beginning of the 20th century) is evidently closer to Aristotle's theory of motion (*kinesis*) and his foundational principles, including potentiality and actuality theory.

In his Notes, Hicks discloses the essential features of *entelecheia* (soul, formal cause) referring to their Bipolarity. In other words, we can admit that (in Aristotle's sense) *soul*, *causa formalis* and *entelecheia* are very close in their meaning and essentially Bipolar. Hicks states: "Of whatever exists potentially the entelechy is the notion, essence or formal cause»." (p.342) Another noteworthy statement is made in the Introduction:

> In other words, the soul is the power which the living body possesses and the lifeless body lacks. This is first actualization or first entelechy. Again, the actual possession of faculties unused still stands to the exercise of these faculties in the relation of potency to act. Life itself, the use of actual power, is the second stage, energy. The actual use must be preceded by actual power. (Introduction, p.xliv)

In this place Hicks draws the conclusions: "In Aristotle the body is the natural instrument of the soul," while "In Plato body is opposed to soul." (Ibid.) We can add, herein, that Aristotle's soul (*entelecheia*, *causa formalis*) itself is the natural function (instrument, *organon*) of the comprising Kosmic organic world. However, an evident contradiction in Hicks' reasoning can be noted: If potentiality and actuality of the thing are equally essential and interrelated within the same function – "life itself" is both potential power and actual energy, not only "the use of actual power". Another valuable conclusion that is made by R.D. Hicks (in his Notes), "This being so, the first entelechy, whether it is or not operant, equally gives form to matter, and is soul in both cases alike." (p.313)

In general, from above stated, we clearly see that *first entelechy* refers to *dunamis* (viz, which formation takes place purely within the realm of Potency), while the *second entelechy* – to *energeia* (i.e. which is put into operative activity), which thus is manifested in the realm of Actuality.

Paul Fearne uses the definition to entelechy (taken in the Oxford English Dictionary) that it is "a move from potentiality to actuality" (Fearne, p.26). Fearne also notes that, in *De Anima*, Aristotle propounds a conceptual framework which commentators (on the work) have called 'entelechism'. Hugh Lawson-Tancred (translator of *De Anima*, 1986) is one of them. The first part of his Introduction to *De Anima* is titled *Entelechism*[17]. In the part four (of this Introduction), "The Development and Scope of Entelechism", H.Lawson-Tancred argues that "the theory of the soul advanced by Aristotle in the *De Anima* is an exercise in what might be called Meta-biology." This special character of Aristotle's masterpiece means that "it seeks to give a coherent conceptual framework within which the phenomena of life can be most comprehensively, economically and adequately explained." (Ibid.) In

[17] See the Introduction in: Aristotle. *De Anima* (*On the Soul*), trans. Hugh LawsonTancred, London: Penguin,1986.

respect to this work, P.Fearne adds that the author "employs the notion of entelechism to help explain how Bionoesis comes to be nascent." (p.26)

Normally, Aristotle's principles of potentiality and actuality are understood as opposed and separated to each other. However, as it is stated above, Aristotle basically unites (within the thing's whole living activity) the opposite poles of Potentiality and Actuality, for that end introducing the notion (neologism) of Entelecheia. In turn, if Aristotle's *entelecheia* naturally integrates both poles of Potentiality and Actuality (respective to the thing's given *organon*-function), then the *entelecheia* of the whole individual naturally has the hierarchical ontogenetic essence (substance and structure), and the dynamic cyclic process of its/her/his self-actualization, in this consistently implementing the stages-cycles of the *first entelecheia* (with the result of forming the potential abilities) and *second entelecheia* (with the result of self-realizing the actual activity).

In an obvious way, in the light of aforesaid, and without the detailed consideration of *entelecheia* (a cornerstone notion for the principles of Potentiality and Actuality, and their organic dynamic interrelation) – an adequate understanding and application of Aristotle's supersystem of knowledge (Biocosmology) is impossible in principle. Likewise, besides *entelechism* – it is impossible to characterize in full (and, further, to analyse) Aristotle's conceptual frameworks without taking into consideration his cornerstone principle of *hylomorphism* and the essential notion of *place* (τόπος, an innermost – individual, first – position in the world, which is inherently used by the thing). Substantially, Aristotle's Kosmos (Biocosmos and Biocosmology) is finite, (primarily) qualitative, and hierarchically differentiated. In this Kosmos there is no space (as in Plato's biocosmology) but only *place*, and everything is ever the combination of matter and form (*hylomorphism*), while any change (movement and development in Kosmos) is based on the Four Causes (material, formal, efficient, final) and the dynamic (organic) interrelation of the synchronous but polar and autonomic (independent in their organization) realms of Potentiality and Actuality. On the contrary, Plato's (bio)cosmology is essentially Static, basically dealing with a created (*from without*) world – within the space (with its dimensions of height, depth, and width within which all things chaotically exist and move), but not in relation to the inherent *place*. While the principle of *hylomorphism* reflects the unity (of form and matter) of each thing and living being; the notions of *entelecheia* and *place* points to the unity of the thing and its/her/his surroundings (environment), and the organic unity of the thing and Kosmos on the whole.

6. Aristotle's Biocosmological teleology (Organicism) vs Plato's biocosmological teleology (organicism)

Indeed, as Marianna Benetatou states, for Plato, the world is a "living animal, endowed with reason and movement." (p.15) In turn, the main feature of a living body is its/her/his purposeful life activity. Therefore, inevitably, Plato and Aristotle are representatives of their own (original) organicistic and teleological approaches. In this perspective, Plato's *Timaeus* and Aristotle's *De Anima* are certainly the main

sources on this issue. First of all, the teleology of the *Timaeus* (of Transcendent essence) ought to be usefully compared to that of Aristotle's (Immanent) philosophy of Nature. In respect to Plato's approach, an immediately striking moment (in comparison with Aristotle's naturalist philosophy) is the full absence of a telic, goal-driven causality that is substantially immanent (intrinsic, inherent) to the natural things. Contrary to Plato's approach, Aristotle's teleodriven causes (all Four) are the originative factors in the formation of all things, especially of organisms (and their organs) – *organon* (*οργάνων*) – ultimately for their inherent and effective – Functionalist – activity in the one whole Kosmic (Biocosmist) dynamic whole. This is fully opposite (polar) to Plato's approach wherein the organic order (with the single – *for everyone* – divine *Righteousness* and *Goodness)* is implanted by a Demiurge *(from without)* into the *elemental (chaotic, mechanistic) space*, and is based on the *transcendent "eternal patterns" ("immortal forms").*

The current misinterpretation of Aristotle (the dissolution of his realistic Hylomorphist supersystem of knowledge in Plato's Dualist realm; we call it the contemporary 'cosmological insufficiency') – caused the misunderstanding of Aristotle's teleology and organicism. Helen S. Lang (in her "The Order of Nature in Aristotle's Physics", 1998) emphasizes that Aristotle's teleology deals with an "immediate active orientation in the moved, the element, for its actuality, to which it is moved – its natural place." (p.192); and that Aristotle's teleology is, properly speaking, "nothing other than this immediate intrinsic relation of moved to mover." (Ibid.)

We likewise fully agree with the author that while Plato's approach realizes divine (Transcendent) and anthropocentric (Transcendental) interventions (into) and constructive shaping of the global (or local) world, which is elementally chaotic (mechanistic) – "Aristotle's teleology is incompatible with any form of mechanical explanation." (p.57); and that "Aristotle's physics is not proto-mechanistic physics with teleology added on." (p.146) H.S. Lang stresses an important thing that "although the term «teleology» is regularly applied to Aristotle, it is a modern one, and is quite definitely fixed in meaning by contemporary use." (p.36) Thus, due to this misinterpretation, "Aristotle's teleology is often identified with his account of «final causes» as if, apart from them, the rest of his physics (or philosophy more generally) were not teleological." (p.274). Indeed, all the Four causes of Aristotle's aetiology (*c.formalis, c.finalis, c.efficiens, c.materialis*) are equally teleodriven and subdued to the inherent telic forces. As Richard MacDonough determines,[18] "Aristotle holds that what is real are substances, roughly, individual packages of formed matter."

In Helen Lang's conclusion, in Aristotle's teleology, indeed, "there is no difference between the order of nature and teleology of nature." (p.274) In respect to Aristotle's central notion of an intrinsic force, she adds that "in natural things, matter is never neutral to form, and form never needs to impress itself or be impressed (by

[18] *See*: McDonough, Richard. *Plato: Organicism*. URL: http://www.iep.utm.edu/platoorg/ (retrieved: 28.03.2015)

another) upon matter." (p.53) This order presents "the teleology of nature: all natural things (and artifacts insofar as they are made of natural things) are oriented toward its proper place, and hence activity, by an intrinsic relation that never fails (but can be hindered from the outside)." (p.278) Essentially, the author refers to Aristotle's theory of potentiality and actuality. She stresses "the active orientation of potency toward actuality", and that it is crucial to the account of "things that are by nature." (p.47) This is a cornerstone for Aristotle's teleology of nature being "everywhere a cause of order," (p.47) including "his account of elemental motion." (Ibid)

Therefore, in Aristotle's theory, "what is potential is not thereby passive: in natural things what is potential is caused by its proper actuality because it is actively oriented toward it." (p.64) H.Lang concludes that "this active orientation of the potential for the actuality that completes it lies at the heart of the order and teleology of nature." (Ibid.) Likewise, the author argues that "this position stands in sharp contrast not only to Plato but also to later philosophy, including the Stoics and Philoponus." (Lang, 1998, p.64)

At large, we do not have opportunities, in this critical review, to go deeper into this (extremely important and extensive) issue – of comparing the organicist and teleological systems of Plato and Aristotle. However, we definitely cannot agree with M.Benetatou who has found an "inexact interpretation of the Platonic theory" by Aristotle in his *De Anima*, and, on this ground (of finding this "major distortion") – her making a serious conclusion that Aristotle's criticism and his whole "refutation of the Platonic theory is a piece of cake." (p.15) To our mind, certainly, this is an interesting finding but which is not of 'cosmological' significance; i.e. this is not a reason to unite both teleological (organicistic) systems (of Plato and Aristotle) which are categorically (cosmologically) distinct, precisely polar to each other.

Author critically argues that "Aristotle does not compare his theory with the Platonic theory of ideas" (Benetatou, p.7) With regard to the insolvency of Aristotle's criticism, perhaps, there is a simple reason. Indeed, it is really difficult (or impossible) for a thinker (even a great thinker) to evaluate his contemporary (another great thinker, and, moreover, his teacher) from the position of philosophy (foundations) of science. This is precisely a matter for the later generations of scholars – from a distant future outlook when the properties and manifestations of the two great systems became evident. However, paradoxically, nowadays, in the 21st century, nearly 25 centuries later and at the peak of technological progress – we still have a difficult situation – the extreme dominance (rather, dictate) of Plato's type of mentality (Plato's transcendent biocosmology) and the erasure (silence) as concerns Aristotle's (equally essential) supersystem of naturalist knowledge (Biocosmology).

Therefore, making a general conclusion, a statement is that Plato's Dualist and Transcendent (Idealist, theological) Static biocosmology, including his organicism and teleology – all this is radically (fully) distinct (polar) to Aristotle's Biocosmology that is naturally Hylomorphist and Immanent (Functionalist), and essentially Dynamic – Bipolar and cyclic (regarding the alternation of the cycles of Potentiality and Actuality, united by the thing's *entelecheia*), and thus naturally Hierarchic and Heterogeneous. In this order, we (in BCA) introduce the notion of dynamic Triadicity

(and Triadologic approach) – in reflecting and studying the natural interrelation between the Three realms of life processes (of all levels): two Polar (AntiKosmist and RealKosmist); and the third intermediate and basal (axial) – Integralist (AKosmist)[19].

7. Plato's foundations for modern European scholars' contributions and the current scientific revolution

"Does Plato outline a mathematical-reductionist model of the physical world?" – this is the main author's inquiry (and the part of article's title). M.Benetatou definitely considers and substantiates that the answer is "No" – Plato's philosophy and science is not the foundation for the currently dominating (or, rather dictating) mathematical-reductionist (mathematical-physicalist) approach in modern science (so-called "scientific method"). She concludes that "a strictly mathematical-reductionist model of scientific research is first developed in the Enlightenment rationalism." (p.8) In achieving this conclusion, as M.Benetatou explains – she was focused on understanding "the inner logic of Platonic and Aristotelian writing" and, in this, applied her own translation of the texts wherein avoided the use of "short, disjoined sentences," aiming at clarifying the rationality of the text.

Despite the obvious value of such an approach, our overall conclusion (as a result of studying the issue from a cosmological standpoint) is completely the opposite – we are firmly convinced that the answer (to the main question of Benetatou's article) is definitely "Yes" – exactly Plato's (bio)cosmology is the foundation for the modern scientific method (mathematical-reductionist approach) and the current amazing scientific revolution.

Similarly, in the scope of this article (critical response) – we cannot delve into this (very broad) subject-matter. We can only note that Descartes is the bright representative (one of the founders) of the Enlightment era in global culture, and, therefore – he naturally is the representative of the Integralist T_SCSS (type of cultural activity), and thus naturally applied conceptual constructs from both supersystems of knowledge – Aristotle's and Plato's. John Herman Randall Jr., renowned specialist in Aristotle, asserts that modern scholars "have come at Aristotle from the standpoint of the later medieval developments and problems" (Randall 1960, p.iv); and that the early modern scientists (including Bacon, Descartes, and Kant) had discarded Aristotle in rebellion against his religious interpreters." (Ibid.) In a similar vein, David Charles (in his "*Aristotle on Meaning and Essence*", 2000) argues that Aristotle's actual account is distinct from the one often described and attacked as "the Aristotelian essentialism." He states: "Aristotle's account of essentialism is, I argue, distinct from that offered by its major competitors (whether conventionalists or Platonists, as these are characterized in Chapter 1), and is immune to some of criticisms developed by (for example) Descartes, Locke, and Quine. (p. 3) He concludes, "Aristotle is not, in my view, the type of Aristotelian essentialist they attack. Indeed, the form of essentialism he defends is preferable (in certain major respects) to the alternatives currently available." (Ibid.) In the same way, Alexander

[19] More broadly, these issues are studied in the previous works, Khroutski 2013, 2014.

Herzen, in the 1845, said about the "revolt against Aristotle" because of the "originality of the new thinking" and that "one must not forget that Aristotle of the Middle Ages was not the true Aristotle, but the one transcribed to Catholic morals, ... Descartes and Bacon, alike, denied him as the canonized pagan" (Herzen A.I., 1946).

In our opinion, as already mentioned above, we cannot insist (in respect to early modern scientists) solely on the 'revolution against Aristotle' but, likewise and chiefly – on the fact that the historical time (cycle, age) has come (cultural conditions became ripe – *from within*) for the implementation of the foundations of Plato's (bio)cosmology in the scientific and practical sphere of life of modern man and society. Significantly, Plato's Dualist (bio)cosmology (in which address we use the metaphor of "Sleep processes") – is the cosmological foundation for modern constructive applications of mathematics – *from without* – upon the primarily chaotic mechanical world. In fact, this is certainly a more complex approach than the Aristotelian Biocosmological (natural and effective) – Functionalist, *from within* – active self-realization and active participation in (effective contribution to) the Kosmic whole (and, accordingly, scholars' naturalist grasping of these processes). Therefore, this historical process (of scientific development as the realization of Plato's cosmology) took 2000 years to turn into reality the shift from Transcendent level – of understanding the divine Integral Good Kosmos, realized by Demiurge, on the basis of "eternal patterns" and by shaping the chaotic (mechanical) space of material things – into the Transcendental (Anthropocentric) level and the application of mathematical-reductionist approach, thus tackling the topical problems in the given field, viz selecting the objects for scientific – *from without* (now, by a human being her/himself) – intervention and the further practical reconstruction of the natural world (bringing it into order). Basically, however, all this (long) process has one the same – Platonic – essence.

At this point, Descartes is a direct follower of Plato's cosmology and scientific approach. Plato is the founder of the Dualist (bio)cosmology – Type of rationality. On this basis (within this cosmology), 2000 years later, Descartes advanced the foundational ideas of the modern – mathematical-reductionist – method (principles of which likewise are founded by Plato). Thus, based on the unshakable belief in the Dualist essence of the world (cosmos) and the availability of developed mathematical methods and the means of experimental research – Descartes and other early modern and Enlightment geniuses have successfully (and successively) advanced and developed the modern forms of scholarly endeavors and scientific-and-technological advance. In this way, issues of the conventional adoption of necessary requirements for contemporary research activity is rather a technical procedure, but, of course, a revolution (in the results of technological progress) as well. However, the main revolution (on the rational intellectual level) was realized precisely in the 4th century BC when Plato had substantiated the Dualist cosmology and the essence of Abstract (Idealist – mathematical) approach to cognizing and constructive reshaping of the outward things (the outside world-nature-cosmos). Indeed, nearly all the founders of modern science (16–21 centuries), including Newton, Galileo, Copernicus, Kepler, Bacon, Descartes, Faraday, Maxwell, Leibniz, Haeckel, Pasteur, Darwin, Kant,

Rousseau, Voltaire, Hume, Spinoza, Bruno, Berkeley, Mill, and many others were the deep believers in God.[20]

Indeed, as M.Benetatou concludes herself (in studying Plato's *Timaeus*): "The fundamental condition of consciousness is creating, putting order, finding laws along with arranging, shaping and constructing." (p.13) Likewise, it is useful to reiterate the aforementioned conclusions a) of R.McDonough: "By 'chaos' Plato does not mean the complete absence of order, but a kind of order, perhaps even a mechanical order, opposed to Reason"; and b) of A.Gregory: "What is less often recognized is that the *Timaeus* offers a significant reductionist programme, based on the geometrical properties of the atoms." Also, we cannot ignore the remarkable citation of Descartes (his *Principia*), that is included into Benetatou's article, and which precisely points to the modern shift (of Plato's method) from Transcendent to Transcendental level (also called the establishment of sciences upon a secure metaphysical foundation): "*We shall not stop either to examine the ends which God has given to himself by creating the world and we shall entirely reject from our philosophy the search for final causes, because we should not presume on ourselves so much as to believe that God shared with us his plan: but, considering him the maker of everything, we shall only endeavor to find by the faculty of reasoning which he placed in us, how these [things] which we perceive by means of our senses could be produced*" (*Principia, I. 28*).

Again we see the truth of Alfred North Whitehead's statement: "The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato". In general, a cornerstone moment is that the current mathematical-reductionist approach (modern scientific method, with its huge constructive abilities) is the absolutely essential asset of modern global culture, especially in the areas of medicine, food, energy, housing, economic achievements, breakthroughs in the fields of transport and communications, etc. All this is the current superb technological revolution (realized on the bases of Plato's foundational principles), which actually gave mankind the new opportunities in a constructive transformation of the world. For instance, God created the horse, and man (in the same way) – motor vehicles with a capacity of thousands of horsepower.

However, on the one hand, while modern scholars have realized the full (or over-full) potential of Plato's (bio)cosmology – on the other hand (in their unintentional immense passion), modern science organizers and scholars did erase (cancel, delete – from the sphere of scientific activity, in institutional aspect) the real potential of Aristotle's Biocosmology. This unfavorable process started yet in the Middle Ages (with a huge negative contribution of St Thomas Aquinas). In the present, an idea to focus on the exceptional importance of Descartes (or any other modern European scholar) and their contributions to the emergence of modern foundations of science is hardly appropriate. We really should go back to the original texts of both Greek geniuses, and thus to set the record straight – to rehabilitate the

[20] In more detail, see the article byTihomir Dimitrov, 2010, entitled "Founders of Modern Science Who Believe in GOD".

initial existence of the two independent (opposite to each other) cosmologies – Aristotle's and Plato's.

Indeed, we have nowadays (in medical term) the '*cosmological insufficiency*' and a really dangerous state of affairs in respect to sociocultural development. In fact, Aristotle's Biocosmology is the polar, but essentially equal (to Plato's) supersystem of knowledge – polar Type of Rationality (polar T_SCSS, hence – the autonomic type of scholarly endeavors). Without the true understanding and (equal) use of Aristotle's Biocosmology (as the Type of rationality) – contemporary cultural figures (including men of science) cannot, in principle, effectively respond to development issues and crises challenges (while they possess only the knowledge of Plato's method). Indeed, due to Plato's approach – they need every time (as a starting point) the situation of a "primary chaos" (mechanical order) – for their further studying the case and the eventual (re)constructive activities (using mathematical laws and bringing the situation into a sought-for organic order). Therefore, if they face a natural order (and, for sociocultural and civilizational development – this is a natural normal state of things) – modern scholars (public men), however, first need to deconstruct the given organic situation into mechanical chaos (thus, every time, 'reinstating chaos', for they do not know any other cosmological disposition and methodological approach), and, only afterwards – to start building the desired order. It is not surprising, in this light, that we have already two world wars in the 20th century and the coming third world war in the 21st century.

Indeed, in the modern situation of existing 'cosmological insufficiency' (when only Plato's Dualist approach is accepted, while Aristotle's Biocosmology is not allowed within the scope of scientific and philosophical activity) – modern cultural (public, scientific) professionals have no other choice! Therefore, we do need to overcome the existing *cosmological insufficiency* – to decisively rehabilitate Aristotle's naturalism and the Biocosmological Functionalist approach, and to reinstate generally the natural status of Aristotle's Biocosmology as the equal pole and Type of contemporary cultural activity that is essential in resolution the topical issues of current sociocultural development. In this perspective, special importance is laid to the development of Integralist (system, holistic) methodologies – which are intermediate and posed *in-between* two poles, although cosmologically are autonomic, and which apply the means from both poles: Aristotle's and Plato's.

8. George Chapouthier's comments

Prof. Chapouthier[21] expressed the following critical opinion about the article of Marianna Benetatou:

> It emphasizes that, contrary to some of Aristotle's objections, Plato's theory is not so far from his (Aristotle's). By an in depth analysis of Plato's texts, Marianna Benetatou provides evidence for the use of the four causes by Plato. Since "Aristotle does not compare his theory with the Platonic theory of ideas" (p.7),

[21] The National Center for Scientific Research, Paris, France.

> "Aristotle's refutation is, according to Benetatou, based on an inexact interpretation of the Platonic theory" (p.7). Thus, according to her, the mathematical reductionist approach of the universe, clear in the philosophy of Descartes and his followers, should not be attributed to Plato.
>
> This convincing and intelligent analysis, very clearly written, should be taken seriously and, to a given extent, rehabilitate Plato in the light of the neo-Aristotelian thinkers. But Benetatou's article does not, in my opinion, refute the Aristotelian roots of the Neo-Aristotelian movement. It only suggests that Plato is not so far away from it and that Aristotle should not be so critical of his master. The fruitful philosophical consequences of the Biocosmological explanation and of the Neo-Aristotelian stance could not be changed by this interesting study. If, as claimed by Benetatou: "Plato envisaged the world as an organic living and intelligent whole" (p.18), it is however clear that his emphasis on animals, living beings and "biological" processes, cannot match the studies and the discoveries of Aristotle in this field. Biocosmology should thus remain an Aristotelian view.

We both have a biological (medical) background[22] and, therefore, use to exercise metaphorical examples from physiology. Giving an example, it is well known that any human (mammal) organism is the subject to the principle of homeostasis. In the aspect of nervous regulation, homeostasis is the constant balance (and which is an evident Triadologic example) – of the three regulating systems: two polar – sympathetic nervous system (SNS) and parasympathetic nervous system (PNS); and intermediate Integral (basal) – metasympathetic nervous system (MNS). Thus, for instance, the normal (healthy) parameters of heart rate is 60–90 (beats per minute); while normal blood pressure is 100–140/70–90 (mm Hg). In all cases, it means the balanced (harmoniously cooperated, but synchronous and autonomic) activity of all the Three systems (two polar – SNS and PNS; and one intermediate – Integral – MNS). However, if we have the hard domination (dictate) of one of the two polar systems (either MNS or PNS) – we inevitably face a disastrous state of the organism (its hemodynamics): heart rate either 150 or 20; blood pressure either 300/150 or 60/0; in both cases – the severe (life-threatening) hemodynamic instability.

We can easily transfer this example into the vital – permanently balanced – interrelation of polar systems of mentality and cultural activity (polar Types of rationality – Aristotle's and Plato's), which is equally essential for a normal sociocultural development, including the institutions of science and philosophy (wherein we mention the balance of the two polar T_SCSS and the third – intermediate – Integral T_SCSS). Therefore, the fundamental principle for a well-being sociocultural development is the permanent autonomic and synchronous

[22] To the point, as Aristotle himself is; his medical background and that biology was a natural pursuit for him are well known.

existence and well-coordinated dynamic interrelation of the Three T_SCSS (with its polar Types of rationality – Aristotle's and Plato's).

Concluding remarks

Foremost, we are deeply grateful to Marianna Benetatou for her presenting a really profound, original, interesting, appreciable and thought-provoking research aimed at the comparative analysis of the Platonic and Aristotelian philosophical systems. Firstly, M.Benetatou's research unveils an evident truth that both thinkers, equally, built their great systems of rational knowledge aiming at the universal (thus all-embracing and universalizing – cosmological) substantiation and understanding of the real world. Essentially, these are the polar cosmologies: Plato's supersystem is ultimately reduced to the Transcendent Static world of idealistic prototypes (exemplars, patterns); Aristotle's supersystem – to the natural inherent Dynamic Functionalist essences of the particular things. Conceptually, both great thinkers achieved brilliant (phenomenal) results having created effective (foundational for the world culture) rational cosmologies (supersystems of comprehensive knowledge) but which are essentially polar (opposite) to each other. Essentially, in their mutual polarity, as a natural result, these two supersystems-cosmologies (Types of rationality) – form the foundation(s) of really all-encompassing (scholarly) knowledge. In general, this is the reflection of the natural Bipolarity of the real world (Kosmos), and, following Aristotle's Biocosmology and its principles of natural Dynamicity, Cyclicity, Hierarchical order and Functionalist heterogeneity – of the (natural) Kosmos' real Triadic (Triadologic) essence, which is especially significant in the Integralist realm, both in studying as Integralist forms of life, as Integralist forms of cognition.

First of all, Marianna Benetatou reminds us of (points to) the essential (indefeasible) significance of Plato's (bio)cosmology. Indeed, in our diligence to develop the neo-Aristotelian (Biocosmological) issues, and, in this, emphasizing the Dualist Idealistic Static essence of Plato's cosmology and the derived forms of Transcendent and/or Anthropocentric (Transcendental) organicism and teleology – we sometimes lose sight of the generally great and indispensable significance of Plato's contribution to the global culture. At the same, the evidence of today's cultural (crisis) situation leads us to urgently accelerate and achieve the clear understanding and permanent right balance of interaction between the two polar cosmologies (Aristotle's and Plato's). In this way, naturally, our first aim is to rehabilitate the vital significance of Aristotle's Biocosmology, thus overcoming the existing 'cosmological insufficiency'. In a predictable manner, only further (on) we could count on finding out the optimal variants of harmonious (local and global) sociocultural evolution (chiefly, developing the Integralist forms), i.e. adequately applying Aristotle's Hylomorphic Functionalist Dynamic (Bipolar) Organicism and Teleology as well.

We are to agree with Anna Makolkin: "Aristotle is more than relevant to the current reality – he is urgently needed to lead us away from the pathway of our own destruction." (2013, p.686) The point is that Plato's Dualist 'external'

(bio)cosmology has its essential imperative (in the case of facing a living body with the inherent organic order) – always to restore the 'primary' chaos (for the subsequent constructive intervention *from without*) and its eventual (re)construction of achievement of the desired order. Therefore, if we persist (in keeping on and developing the modern tradition and general disposition) of rendering exclusively Plato's Dualist cosmology and the derived mathematical-reductionist ('scientific') method – we then, on the one hand, will continue the celebration of technological progress; but, on the other hand (bringing forward the complete dominance or dictate of Plato's Dualist (bio)cosmology; and as it is metaphorically shown above) – we shall inevitably achieve the disastrous disruption of natural harmonic ('homeostatic') existence and evolution, with (instead) induction of crises, wars and catastrophes into the global sociocultural realm (among them, invariably, in series, the third world war). Certainly, we are to do our best to avoid this disastrous self-destructive way of global wars and catastrophes (although with concurrent technological progress), which reasons lie in our current *cosmological insufficiency*.

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ЦЕЛЕВАЯ ПРИЧИНА ПОДОБИЙ ОРГАНИЗМОВ И СОБЫТИЙ В СВЕТЕ ФИЛОСОФИИ А.Ф. ЛОСЕВА

Виктор Борисович КУДРИН[1]

TELIC CAUSE OF UNIFORMITIES OF ORGANISMS AND EVENTS, IN THE LIGHT OF THE PHILOSOPHY OF A.F. LOSEV

Victor B. KUDRIN

РЕЗЮМЕ. *В статье рассматривается актуальность введённого Аристотелем понятия энтелехии. Утверждается необходимость возвращения этого понятия в научный обиход в свете философии математики А.Ф. Лосева и создания принципиально новой информационной технологии.*

КЛЮЧЕВЫЕ СЛОВА: *энтелехия, память, время, причинность, полное число, пространство, основания математики, проскопическая информация*

ABSTRACT. *The article deals with the actuality of the concept of entelechy, introduced by Aristotle. The article establishes the need for return of this concept to common scientific use in view of the philosophy of A.F. Losev and development on the basis of this concept of a principally new information technology.*

KEYWORDS: *entelechy, memory, time, causality, total number, space, foundations of mathematics, precognitive information*

Содержание статьи

1. Закон неуничтожимости информации
2. Причинности действующая и телеологическая
3. Задача создания новой математики, модулирующей процессы взаимодействия действующих и целевых причин
   3.1. Гилетика и гилетическое число
4. Математика А.Ф. Лосева
5. К достижению корреляционных информационных технологий и Вселенской информационной системы

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Теперь мы видим как бы сквозь тусклое стекло, гадательно, тогда же лицом к лицу; теперь знаю я отчасти, а тогда познаю, подобно как я познан.

1 Кор. 13: 12

Введение

Как совершенно справедливо замечают К.С. Хруцкий и А.В. Карпов, "2400 лет спустя появления феноменальных научных свершений греческого гения – научный подход к изучению реального мира приобрел противоположное значение (по отношению к научному Органицизму Аристотеля), причем эти противоположные установки имеют в настоящем доминирующее (скорее диктующее, не допускающее существование других форм знания) значение" [1]. В настоящей статье мы постараемся наметить пути возвращения к научному Органицизму.

Прежде всего, следует прояснить понятия памяти, времени и причинности, например, в суждении А.Ф. Лосева:

> Вспоминая некогда воспринятое, мы взаимодействуем не с неким туманным и удаляющимся от нас "прошлым", а с данным нам "здесь и сейчас" фрагментом вечно пребывающего в настоящем континуума памяти. По замечательному выражению А.Ф. Лосева, "Прошедшее – не погибло. Оно стоит незабываемой вечностью и родиной… В чуде вдруг возникает это воспоминание, возрождается память веков и обнажается вечность прошедшего, неизбывная и всегдашняя. Умной тишиной и покоем вечности веет от чуда. Это – возвращение из далеких странствий и водворение на родину [2].

В континууме памяти нет ни пространственных, ни временных расстояний, а есть сосуществование всех совершившихся событий. Память – не есть нечто внешнее (добавочное) по отношению к жизни, а само содержание жизни.

1. Закон неуничтожимости информации

Будучи однажды созданной, информация уже никогда не исчезает. Она навечно сохраняется в невидимом мире. Этот процесс необратим, и именно он определяет понижение энтропии во Вселенной вопреки ее видимому возрастанию в трёхмерной "оболочке" физического мира.

Финальное состояние мира так не является целью и смыслом его существования, как не являются целью и смыслом существования музыкального произведения его последний такт или последняя нота. Смыслом существования мира во времени можно считать "послезвучание", то есть, – и после окончания физического существования мира он будет продолжать жить в Вечности, в памяти Божией, подобно тому, как музыкальное произведение продолжает жить в памяти слушателя после того, как "отзвучал последний аккорд".

В книге "Кибернетика" Норберт Винер приводит следующее рассуждение о двух противоположно направленных потоках времени:

> Очень интересный мысленный опыт – вообразить разумное существо, время которого течет в обратном направлении по отношению к нашему времени. Для такого существа никакая связь с нами не была бы возможна. Сигнал, который оно послало бы нам, дошел бы к нам в логическом потоке следствий – с его точки зрения, и причин – с нашей точки зрения. Эти причины уже содержались в нашем опыте и служили бы нам естественным объяснением его сигнала без предположения о том, что разумное существо послало сигнал. Если бы оно нарисовало квадрат, остатки квадрата представились бы нам предвестниками последнего и квадрат представился бы нам любопытной кристаллизацией этих остатков, всегда вполне объяснимой. Его значение казалось бы нам столь же случайным, как те лица, которые представляются нам при созерцании гор и утесов. Рисование квадрата показалось бы нам катастрофической гибелью квадрата – внезапной, но объяснимой естественными законами. У этого существа были бы такие же представления о нас. Мы можем сообщаться только с мирами, имеющими такое же направление"[3].

Но вывод Винера о невозможности связи между разнонаправленными мирами справедлив лишь в том случае, если не принимать во внимание телеологическую причинность. Можно представить все происходящие в мире события как результат взаимопроникновения и взаимодействия двух противоположно направленных потоков времени. С этой точки зрения, будущее мы видим в потоке "встречного времени" – телеологической причинности.

В этом смысле лица, "которые представляются нам при созерцании гор и утёсов" (а также облаков, переплетений ветвей деревьев, трещин на старых стенах, прожилок в мраморе), приведенные Винером в качестве примеров случайности – тоже не случайны, а вестники грядущей встречи с их прообразами в будущем.

Мир "встречного времени" не следует представлять себе как мир, который представляется нам при просмотре киноленты в обратном направлении, так как это был бы мир убывающей информации, что противоречило бы Закону неуничтожимости информации. Именно взаимодействие "прямого" и "встречного" времен производит сохранение и наращивание памяти обо всех совершившихся событиях, и это справедливо для обоих направлений времени.

Привычная максима о времени гласит: "Прошлое мы знаем, но не можем влиять на него, на Будущее мы влияем, но не можем его знать". Но корреляционное исчисление даст возможность и знать Будущее (благодаря включению в рассмотрение телеологической причинности), и влиять на Происшедшее – не "делать бывшее небывшим" – а создавать новые "временные

ответвления" от любого заданного момента в Происшедшем, при полном сохранении уже существующего "ствола времени". Никакого "пересмотра" уже совершившихся событий, никакой потери информации о них, – при этом не будет, а возникнут "параллельные" пространственно-временные структуры, имеющие общее Происшедшее, но разные варианты Будущего. Вспоминающий не просто получает полную информацию обо всех происшедших к определенному моменту событиях, но и взаимодействует с этой информацией. В результате этого взаимодействия родится совершенно новая реальность – новый поток событий, ответвившийся от основного ствола событий.

2. Причинности действующая и телеологическая

Как известно, В.И. Вернадский доказал извечность живого вещества в течение геологического времени [4]. Этот факт нельзя объяснить лишь действующей причинностью, не прибегая к причинности телеологической.

Лишь наличием, наряду с действующей причинностью, причинности телеологической можно объяснить и такие, необъяснимые в нынешней научной парадигме явления, как параллелизм между объектами совершенно различных масштабных уровней, например – между живыми и космическими объектами.

А.С. Пресман отмечает:

> …Если биосистемы делят на «организменные» и «популяционные», то, по классификации В.И. Васильева [5], подобное разделение можно применить и к космическим объектам – это *целостные структуры*, такие как планеты, звезды и галактики, и *суммативные структуры*, такие как планетные системы, скопления звезд и скопления галактик. Наконец, параллелизм обнаруживается и в десимметризации форм организмов по мере их эволюции (от сферической до неправильной) и подобного рода десимметризации в эволюционном ряду галактик [6].

А вот пример из географии. Даже при беглом, но внимательном взгляде на глобус обнаруживается любопытный факт: привычные географические объекты распределены по всей поверхности Земли не только неравномерно, но и неслучайно, – они подчиняются какой-то закономерности, природа которой "не лежит на поверхности", и в прямом, и в переносном смыслах этого выражения. Прежде всего, обращает на себя внимание изоморфизм крупных географических "частей суши" (островов и полуостровов) в Азии и соответствующих им географических объектов в Европе.

Согласно Н.Я. Данилевскому [7], народы, подобно биологическим организмам, проходят стадии зарождения, роста, зрелости и увядания, причём иногда повторяются даже, казалось бы, мелкие и "случайные" эпизоды этих стадий, то есть проявляется изоморфизм культурно-исторических типов во времени. Ярким примером такого изоморфизма является трижды повторенная на протяжении истории реформа календаря, причины которой никем пока убедительно не объяснены.

Древний Израиль начинал год с первого весеннего месяца, согласно предписанию Торы: "И сказал Господь Моисею и Аарону в земле Египетской, говоря: месяц сей (да будет) у вас началом месяцев, первым (да будет) он у вас между месяцами года". (Исход.12: 1 – 2).

Впоследствии, уже в Вавилонском плену, этот первый месяц получил название нисан, а начало года (по неизвестной мне причине) было перенесено на седьмой месяц, то есть первый осенний месяц тишрей.

Совершенно не сговариваясь с израильтянами, древние римляне также начинали год с первого весеннего месяца, которым для них был март. Хотя потом (уже в Восточном Риме = Константинополе) начало года было перенесено на 1 сентября, названия месяцев, с сентября по декабрь, сохранили следы римских числительных, от "седьмого" до "десятого".

Как мы видим из Торы, дата начала года связана с Исходом народа Израиля из Египта, поэтому она и должна была бы называться не эрой от Сотворения мира, а эрой Исхода – ведь к дате Сотворения мира она никакого отношения не имеет.

Если причины переноса даты Нового года в Вавилонском плену с 1 Нисана на 1 Тишрея – неизвестны, то по поводу причин переноса этой даты в Византии с 1 марта на 1 сентября – существует, по меньшей мере, две версии.

По одной из них, первый христианский император Константин Великий ввёл в 312 году дату 1 сентября, чтобы максимально дистанцироваться от языческого Рима, а котором началом нового года было 1 марта – дата основания Рима Ромулом и Ремом в 753 году до н. э. (хотя большинство историков датой основания Рима считает не 1 марта, а 21 апреля 753 года). В любом случае, дата основания Рима тоже никак не связана с датой Сотворения мира.

Как мы видим из Священного писания, дата начала года связана с Исходом народа Израиля из Египта, поэтому она и должна была бы называться не эрой от Сотворения мира, а эрой Исхода – ведь к дате Сотворения мира она никакого отношения не имеет.

Другая версия, более "приземлённая", объясняет перенос даты хозяйственными соображениями – в этот день, в связи с окончанием основных земледельческих работ, производилась ежегодная оценка имений и определялись размеры налогов.

Хотя Русь приняла христианство именно из Византии, вместе с юлианским календарём, новый год, вплоть до 1492 года, то есть без малого пять столетий, продолжал отмечаться на Руси 1 марта, и этой верности древнему календарю не мешало даже то обстоятельство, что Русская Церковь не была тогда автокефальной, а была частью Константинопольской (Патриаршество было впервые установлено на Руси лишь в 1589 году).

Но в 1492 году Великий князь Иван III решил, по примеру Византии, перенести начало нового года с 1 марта на 1 сентября, причём, как и в Византии, новолетие было совмещено с "праздником сбора урожая и сроком сбора податей и оброка". В этот же день Иван III повелел всем жалобщикам

являться в Москву. 1 сентября продолжало оставаться первым днём года чуть более двух столетий. Новолетие Руси повторило судьбу новолетий Древнего Израиля и Второго Рима.

По определению А.Ф. Лосева, "Цель – специфическая категория, ни на что другое не сводимая" [8].

На наш взгляд, именно отвержение научным сообществом Нового времени целевой причины, названной Аристотелем энтелехией [9], завело в тупик современную науку.

Возвращение в научный оборот и научную терминологию понятия энтелехии позволит увидеть в стохастических процессах, происходящих в звездах и живом веществе, мировом историческом процессе, жизненных судьбах людей, их душевном и духовном мирах, – не "хаос", а закономерные процессы, не определяемые лишь прошлыми событиями, но подверженные и телеологической причинности, при полном сохранении свободы выбора пути к цели. Свобода – не мера хаотичности, а мера конкретности событий, не выводимых дедуктивно из событий, уже состоявшихся ("прошлых"), а являющихся результатом взаимодействия действующей и телеологической причин.

3. Задача создания новой математики, модулирующей процессы взаимодействия действующих и целевых причин

В так называемом "научном мировоззрении" Нового времени роль науки сводится к изучению закономерностей явлений, происходящих в видимом мире (то есть на трёхмерной поверхности физического пространства). Можно сказать, что научное мировоззрение поверхностно не в переносном, а в самом прямом смысле слова. Необходимо покаяние ("изменение ума") не только в этике, но и в мировоззрении, в частности – в понимании задач науки. Должна быть создана совершенно новая математика, моделирующая процессы взаимодействия действующих и целевых причин. Можно ли, не пытаясь редуцировать эти процессы к господствующим ныне математическим методам, – наоборот, поднять математику до возможности моделировать эти процессы?

Согласно Пифагору, "числовые отношения лежат в основе как природных процессов, так и жизни человеческой души" [10].

Пифагорейцы, а вслед за ними – и Аристотель, понимали под математикой (от греческого μάθημα "изучение через размышление"), не отдельную предметную область знаний, а "точное выражение чего-либо, достигнутое путём размышления". При этом математика оставалась для них неотъемлемой частью философии. Выделение математики в отдельную от философии предметную область привело, сначала – к превращению её в изощрённую игру по придуманной игроками правилам (подобным шахматным или шашечным), причём вопрос о соответствии математических объектов объектам реального мира даже не принято стало ставить, а затем, уже в Новое время, – к изменению смысла этого понятия на прямо противоположный когда математика стала

ассоциироваться даже не с опытной наукой, а с экспериментальной технологией – "допрашиванием" природы путём эксперимента.

Но именно выход за пределы чувственного опыта, как это ни парадоксально, даёт возможность приобретения точного знания о реальном мире.

Конструируемые математиками числовые пространства должны отражать свойства реально существующего физического пространства, иметь, подобно ему, "измерение памяти", а сами числа – обладать свойствами реальных физических объектов.

3.1. Гилетика и гилетическое число

В работе 1928 года "Критике платонизма у Аристотеля" А.Ф. Лосев назвал числа, в состав которых входит "некая сплошная качественность, которая невыразима никакими количественными переходами и рядами", идеальными числами [9].

Затем Лосев вводит понятие гилетического числа (от греческого слова ὑλή = hyle = вещество). По формулировке Лосева, "гилетическое число выражает момент иного, меонального размыва и подвижности, смысловой текучести и жизненности эйдоса, т.е. самого предмета" [11].

Различие между существованием и бытием постулировано еще Парменидом. По мысли Лосева, идеальное число – это число существующее, но не получившее еще бытия. Тогда гилетическое число можно понимать как идеальное число, обладающее не только существованием, но и бытием.

Термин "гилетика" впервые был применен Эдмундом Гуссерлем в работе "Идеи к чистой феноменологии и феноменологической философии":

> Естественно, что чистая гилетика подчинена феноменологии трансцендентального сознания. Кстати говоря, эта чистая гилетика обладает характером замкнутой в себе дисциплины, как таковая, имеет свою внутреннюю ценность, а, с точки зрения функциональной, и значение – благодаря тому, что она вплетает возможные нити в интенциональную паутину, поставляет возможный материал для интенциональных формований" [12].

Из приведенной цитаты видно, что для Гуссерля слово "гилетический" было синонимом слова "чувственный" или "материальный" (имелся в виду материал переживаний), но Лосев различает эти понятия, в смысле их различения в греческой и латинской культурах. Греческое понятие ὑλή, в отличие от латинского materia, включает в себя и материю умопостигаемого мира, сакральную материю, или, выражаясь словами Гуссерля, "материю переживаний", тогда как materia – это вещество лишь физической оболочки мира, видимого мира.

4. Математика А.Ф. Лосева

По определению Лосева, "вся математика есть не что иное, как развитое и детализированное понятие числа" [13]. В своём фундаментальном труде "Диалектические основы математики" Лосев окончательно формулирует понятие числа: *"Число есть* прежде всего *отвлеченная сфера чистого смысла, а не выразительная…* Число есть самый акт смыслового полагания, а не содержание этого полагания… *Число есть ставший результат энергии самосозидания акта смыслового полагания*" [13].

Если мыслить выражение "ставший результат" не как остановку во времени "акта смыслового полагания", а как непрекращающийся процесс, то это определение вполне приложимо именно к гилетическому числу, хотя сам этот термин Лосевым больше не используется. Теперь он "по умолчанию" понимает под числом "полное" число, включающее понятие континуума в качестве инобытия "общепринятого" числа:

> Число и время – оба суть животрепещущий пульс бытия; и обе стихии – раньше и первичнее самого бытия, ибо это и есть то, что порождает саму сферу бытия, откуда вечно льются животворные и одушевляющие потоки мировой жизни, откуда творится и сама судьба бытия и мира. Число есть смысл времени, а время есть жизнь чисел [13].

Пересмотр "классического" представления о времени сопровождается у Лосева и пересмотром представления о пространстве. В главе "Переход к специальной теории числа" он утверждает реальность четырехмерного пространства:

> Четырехмерное пространство является первым полным пространством с точки зрения диалектики… *Вовсе не обязательно мыслить четырехмерное пространство как некую особую метафизическую действительность, не имеющую ничего общего с обычным четырехмерным пространством…* Гиперкомплексное число есть наивысшая форма арифметического числа, диалектически включившая в себя и алгебраическое, и трансцендентное число. Вместе с тем гиперкомплексное число есть энергийно-эманативное выражение вообще арифметического числа [13].

А что же тогда представляют собой другие числа – иррациональные, комплексные и "обычные" (то есть лишённые "временного измерения") кватернионы? Это – "предельные случаи" гилетических чисел, которые в "чистом виде" никогда в природе не встречаются, как не встречаются "мгновения времени" – лишённые длительности временные интервалы. Записью конечного числа является конечный ряд цифр. Записью иррационального числа – алгоритм его вычисления.

Сама логика приводит Лосева к осознанию необходимости новой научной парадигмы, основанной на понимании принципиальной неполноты рационального сознания. Квантовая теория и теорема Гёделя представляются поверхностному взору никак не связанными друг с другом интеллектуальными построениями, относящимися к различным областям знания. На самом деле они говорят об одном и том же – о невозможности понять мир, ограничиваясь рассмотрением лишь "сиюминутных" событий, происходящих в трехмерном срезе континуума Минковского, считая все остальные события либо "уже отошедшими в прошлое", либо "еще не наступившими". Это подобно тому, как если бы изучение реального исторического события подменялось изучением кинопленки, на которую это событие было заснято, а смена кадров этой кинопленки выдавалась бы за реальное течение этого события.

Согласно Лосеву, становление сущности числа происходит именно в процессе операции с этим числом. Во введении к "Диалектическим основам математики" он показывает различное понимание сущности математической операции математиком и философом:

> … достаточно взять простой математический факт: 2x2=4. В этой простейшей операции арифметического умножения функционирует целый ряд логических категорий, о которых умножающий не имеет ровно никакого представления, как бы хорошо и быстро он ни умножал. Если я скажу, например, что умножение так же отличается от возведения в степень, как понятие механизма от понятия организма, что возведение в степень и извлечение корня в логическом смысле есть аналогия органического роста (в отличие от внешнемеханического сопряжения), то это будет всякому математику без предварительного разъяснения по меньшей мере непонятно. А тем не менее *логический* (а не просто числовой) анализ простых арифметических действий приводит именно к такому заключению… Философия числа должна знать не только логическую картину математики как науки, но она должна понять также и историческую природу этой науки, т. е. понять ее как определенный ряд некоторых историко-культурных типов, так чтобы на самых этих типах математики была видна печать породившей их эпохи и стиль данного исторического типа. При таком своем построении философия числа обладает не только смысловой интимностью, неведомой в прочих науках и подсматривающей самые затаенные логические связи, но этой интимностью проникнута тут сама социальная действительность, и делаются видными благодаря ей самые тайные, самые глубокие корни культуры, порождающей те или другие числовые представления. Такова философия числа, синтезирующая самое ценное достояние и субъективного и объективного хода духовной культуры… Философия числа все же есть пока еще только *теоретическая* наука. Она теоретична в той же мере, в какой теоретичны и те две области, синтезом которых она является, то

> есть психо-биологии и социологии". Вся эта основная триада: 1) чистая математика, 2) математическое естествознание и 3) философия числа (возникающая как диалектический синтез двух только что упомянутых дисциплин) – суть *общая теория числа*, построенная в значительной части на историческом материале, но сама отнюдь не является историей. Нужно, чтобы вся эта триада перешла в свое инобытие, чтобы она была вовлечена в инобытийный процесс становления; и только тогда мы достигнем последней и окончательной конкретности – *истории*... Число как перво-принцип поэтому в самом подлинном и в самом буквальном смысле слова находится *и везде, и нигде* в отдельных числах и числовых операциях; и оно целиком и присутствует, и отсутствует в каждом математическом суждении, в каждой числовой структуре [13].

Лосевские параллели: механизм=умножение и организм=возведение в степень – представляются нам чрезвычайно перспективными и перекликающимися с одним из новейших направлений математики, известным как исследование "сверхстепени" и следующих за ней "сверхопераций", составляющих счётное множество.

Общеизвестные элементарные арифметические операции (сложение, умножение, возведение в степень и обратные к ним) далеко не исчерпывают всего богатства возможных операций. Детализация полного числа не сводится лишь к элементарным операциям. Ни на каком этапе детализации его невозможно адекватно выразить конечной последовательностью натуральных чисел, но можно аппроксимировать с достаточной степенью точности. В отличие от аппроксимации "обычного" иррационального числа, сводящейся к десятичному разложению числа, аппроксимация гилетического числа не предполагает обязательного уменьшения "удельного веса" последующих знаков по отношению к предыдущим. Каждый новый знак в данном случае знаменует собой не уточнение заранее данного количества, а дальнейшее становление гилетического числа, то есть обогащение его новой информацией при сохранении его индивидуальности. Здесь удобно провести аналогию с музыкальным произведением: в музыкальном произведении последующие элементы музыкального текста не менее значимы, чем ранние. Участие гилетического числа в арифметических операциях порождает новые числа. Но "исходное" полное число при этом никуда не пропадает – все этапы истории полного числа сохраняются в Вечности – это и является основой Закона неуничтожимости информации.

Согласно Лосеву, каузальной зависимости противостоит не статистическая зависимость (которая может быть приближенным представлением все той же каузальной зависимости), а зависимость корреляционная. Если функциональная зависимость определяется общей действующей причиной, то корреляционную зависимость можно объяснить лишь единством цели. Таким образом, формирование полного числа завершается лишь с наступлением события,

являющегося целевой причиной существования этих чисел. Для любых полных чисел такой причиной является полное объединение множеств их предикатов с полным сохранением порядка расположения элементов этих множеств. Поэтому мерой взаимодействия полных чисел можно считать не функцию (меру каузальной зависимости), а корреляцию. Классическая теория вероятности дает возможность интерпретировать любое ненулевое значение корреляции в качестве меры информации, передаваемой и принимаемой полным числом. Именно математика корреляций (в обоих смыслах этого слова – и математическом, и физическом) призвана стать важным дополнением к стандартному математическому аппарату квантовой физики, опирающемуся на гильбертовы пространства. Её предметом станет корреляционное взаимодействие чисел. Такого рода "корреляционное исчисление" не может быть сведено к применяемому в математической статистике корреляционному анализу.

Любое событие можно рассматривать как сохранение информации в несепарабельном (нелокализованном) состоянии гилетического числа, то есть в его памяти. Информация о каждом событии присутствует в любой точке пространственно-временного континуума. В классической теории информации, базирующейся на классической математике и "доквантовой" физике, рассматривается передача информации "из точки А в точку В", но не локализация. Но воспроизведение информации ("вспоминание") – это новая локализация, придание ей геометрической формы, реализованной в пространстве (предмет изобразительного искусства, письменный текст) или во времени (музыка, устная речь).

От Вернера Гейзенберга и Макса Борна берёт начало идея представления физических величин операторами, не обладающими свойством коммутативного умножения; собственные значения этих операторов названы "квантовыми числами". При этом мало кто заметил, что эта замена с самого начала упразднила возможность однозначного представления численного результата реального измерения физической величины в виде произведения простых чисел, так как существенное значение имеет не только величина сомножителей, но и их порядок. Процессы запоминания, мышления и воспроизведения информации не могут быть полностью сведены к элементарным арифметическим операциям: мощность несводимых операций неизмеримо превосходит счётное множество сводимых, до сих пор являющихся базой современной информатики.

Неоднократно делались попытки построить математическую модель мышления, представляя память и содержание сознания в виде счетных множеств.

Но, в отличие от цифровой микросхемы, использующей "классическую" дихотомию нулей и единиц, человеческое мышление построено по совершенно иному принципу.

Архиепископ Лука Войно-Ясенецкий, в книге "Дух, душа и тело", приводит следующие наблюдения из своей врачебной практики:

> У молодого раненого я вскрыл огромный абсцесс (около 50 кубич. см. гноя), который несомненно разрушил всю левую лобную долю, и решительно никаких дефектов психики после этой операции я не наблюдал.
> То же самое я могу сказать о другом больном, оперированном по поводу огромной кисты мозговых оболочек. При широком вскрытии черепа я с удивлением увидел, что почти вся правая половина его пуста, а все правое полушарие мозга сдавлено почти до невозможности его различить [14].

Запись информации в памяти обычного компьютера *позиционна,* то есть осуществляется путем преобразования последовательности событий во времени в последовательность локализованных в пространстве участков носителя. В отличие от нее, память живого существа *ассоциативна*. Она организована в виде многомерной голограммы, упорядоченной вдоль временной оси. Мозг можно уподобить трехмерному "срезу" этой голограммы, локализованному в четырехмерном пространстве. Основной функцией мозга можно считать переработку информации с ее последующим *усвоением* живым существом, – трансляцией информации из пространственно оформленного мира в непротяженный мир сознания.

5. К достижению корреляционных информационных технологий и Вселенской информационной системы

По мнению большинства ученых, работающих над созданием квантового компьютера, это изобретение вступит в фазу применения лишь к 2020 году. Но есть основания предполагать, что природный квантовый компьютер изначально реализован в головном мозге человека, но локализован он не на видимой трехмерной поверхности гиперсферы, а внутри гиперсферы, в пространстве более чем трех измерений.

Всем памятны нашумевшие в 60-х годах XX столетия опыты Уайлдера Пенфилда, актуализировавшего давние воспоминания пациентов путем активизации открытого мозга электродом. Пенфилд интерпретировал результаты своих опытов как извлечение информации из "участков памяти" мозга пациента, соответствующих определённым отрезкам его жизни. Но мало кто знает, что были случаи актуализации впечатлений о будущих событиях в жизни испытуемого, к моменту эксперимента – ещё не наступивших, но впоследствии – полностью подтвердившихся, то есть получаемая информация была проскопической!

В опытах Пенфилда активизация была спонтанной, а не направленной. Реализованный на основе корреляционного исчисления квантовый компьютер позволит осуществлять направленное воспроизведение не только искусственно "записанной", но и естественно воспринятой информации, так как активизироваться будут не "участки памяти", а "универсальные ключи", связывающие мозг с нелокальным хранилищем информации, не ограниченным трехмерным объемом мозга. Такой квантовый компьютер можно было бы

назвать коррелятором. Ранее этот термин использовался для обозначения технического устройства, которое лишь регистрирует некоторые виды корреляции, но не вызывает его. С гораздо большим основанием этот термин можно применить к устройству, которое усваивает и актуализирует информацию подобно живому существу.

Корреляционная информационная технология сделает дополнительное сохранение уже сохраненной информации на традиционных носителях (бумаге, лазерных дисках, электронных файлах) таким же анахронизмом, как глиняные таблички или узелковое письмо.

Отпадет необходимость "проигрывать запись", как это делают сегодняшние воспроизводящие устройства, так как совершившееся уже вечно пребывает в памяти, и нам надлежит лишь вспомнить его.

При воспроизведении информация приобретет пространственно протяженную форму, становясь достоянием не только вспоминающего индивида, но и всех воспринимающих эту форму лиц.

Если пространство сегодняшней Всемирной паутины ограничено объемом сетей, опоясывающих Землю, то пространство Вселенской информационной системы ничем не ограничено, непрерывно расширяется и ее "серверами" являются все элементарные частицы, наполняющие многомерную Вселенную. При этом персональные корреляторы можно считать терминалами этого единого квантового компьютера, одновременно являющегося и универсальной компьютерной сетью.

Будут сняты границы между числом и окружающим его пространством, между человеком и остальной Вселенной.

Станет возможным "вернуть прошлое" путем полной актуализации всех впечатлений, полученных индивидом в течение определенного отрезка его жизни, например – воссоздать на основе воспоминаний, виртуальный образ квартиры детства, со всей обстановкой и панорамой за окнами. Это воссоздание не будет означать подмены сегодняшней жизни "бегством в прошлое", так как это "прошлое" будет не просто повторяться, заменяя собой настоящее, а предстанет уже обогащенным всем опытом жизни, протекшей между "записью" и "воспроизведением" совершившихся в "прошлом" событий. Мы увидим его совершенно по-новому, и нам станет невыразимо дорого то, что тогда ("в первый раз") осталось нами незамеченным.

Однажды воспринятое впечатление, будь то впечатление от сгоревшего ныне храма, слышанного когда-то музыкального произведения, название и фамилия автора которого давно забыто, фотографии из пропавшего семейного альбома, – смогут быть теперь воссозданы из "небытия".

А, может быть, – и впечатление от ещё не построенного храма, не написанной ещё музыки, не снятых ещё фотографий и фильмов?

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PHILOSOPHY OF NOTHINGNESS AND LOVE

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ABSTRACT. *The purpose of this paper is to break the dry and blocking condition of the contemporary philosophy and to create the new horizon of philosophy. The question about nothingness had begun in all ages and places. For example, Lao-tzu, Chaung-tzu, Solomon, Buddha, Pascal, Nietzsche, Bergson and Heidegger. The European philosophy started from Plato who created the idea of being. But the whole of being and matter occupies only a slight position in the universe. Compared to the universe, the whole of being and matter is as negligible as three ants to the earth itself (the average density of the universe). European philosophy has been only questioning about three ants and the idea of them. On the other hand, we question about nothingness which includes three ants and the void of the earth size. Nothingness is not non-existence of all things. It includes, and also transcends relative nothingness and being. We call it Transcendental Nothingness or Absolute Nothingness. Nothingness is the highest wisdom which the transcendent-being revealed to mankind and continues to infinity → eternity → the transcendent being, God → love. I call this the principle of nothingness and love. The following is the proof of it.*

KEYWORDS*: Nothingness, infinity, eternity, transcendent being, Love Synthesis of Asian philosophy and European philosophy, Biocosmology*

Contents

Introduction
1. Nothingness as reality
  1.1 Lao-tzu and Chuang-tzu
  1.2 Reality and Nothingness of Bergson
  1.3 Existence and Nothingness after *Being and time*
2. Nothingness as the root of Kū
3. Nothingness according to *the Bible*
4. Nothingness in ancient Greece
5. Nothingness of Pascal
6. Nothingness of Nietzsche
7. Nothingness according to Heidegger's *Being and time*
8. Benevolence by Confucius
9. Buddhist mercy
10. Jesus Christ's love
Conclusion

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Introduction

At first, I build the bridge between Eastern and Western philosophies.

Lao-tzu and Chaung-tzu in ancient China expounded nothingness which was the origin of the creation of all things and the stream of infinite life. In other words, it is reality and nothingness which we cannot perfectly define by language and is the stream of life beyond matter. Once Socrates, Plato and Aristotle intuited nothingness. As the universe expands by the stream of life and energy of life (vacuum energy)[2], the Biocosmology is adequate to my philosophy. The reality here is similar to the reality of Bergson in European philosophy. That of Bergson is also the stream of consciousness and Life (pure duration) beyond matter. The stream of consciousness isn't defined by mechanism, therefore, it is called indetermination and freedom beyond language. It means nothingness. The method of recognition in Bergson is philosophical intuition and that of Lao-tzu is Zabou (meditation).It is only unity of the living subject. This procedure is very important. Without it, there is only an enumeration of philosophy East and West. Still more, without the intuitive method, man entirely depends upon the philology. This requires two to three centuries for thorough study.

Besides, the conclusion is commonplace. As the difference of language is very distinct, we cannot find the common basis of philosophy between East and West. But nothingness as reality and the intuition enable me to establish the theory, *Philosophy of Nothingness and Love*. This paper is the condensation. Heidegger intuited nothingness, too. He collected European philosophy from Plato to Husserl; therefore he was the greatest philosopher of 20th century. But as he adhered to the European logic, he failed to grasp nothingness as reality in later life. Then he changed from the philosopher to the poet. It was the failure of Heidegger and European philosophy. I try to overcome the failure.

1. NOTHINGNESS AS REALITY

1.1 Lao-tzu and Chuang-tzu

In this chapter I shall consider nothingness of Lao-tzu as the metaphysical reality. The main assumptions of it are as follows:

- 'The Way opened Heaven and Earth and is the mother of all creations. It is the

[2] Nakatomi, Kiyokazu (2008). 'On the synthesis of the theory of relativity and quantum theory', 22th World Congress of Philosophy, Abstracts
http://www.pdcnet.org/scholarpdf/show?id=wcp22_2008_0043_0137_0143&pdfname=wcp22_2008_0043_0137_0143.pdf&file_type=pdf
Nakatomi, Kiyokazu (2007). 'On the concept of energy by Bergson and Einstein', *Parerga* No.3, University of finance and management in Warsaw
http://parerga.vizja.pl/wp-content/uploads/2008/01/parerga_3.pdf
The above two papers of mine are collected in *New Horizon of Sciences by the Principle of Nothingness and love*, Lambert Academic Publishing, Saarbrücken.
The first chapter, with extensive corrections, 'Realism – East and West – the reality concept of Bergson and Lao-tzu' from 'Studies in Comparative Philosophy' No. 20, published in 1993 by The Japanese Association for Comparative Philosophy, (Japan). In my philosophy, the principle of nothingness and nothingness principle are same. Also transcendent and transcendental are same.

source where all beings come from and proliferate.' (Lao-tzu *Tao Te Ching*[3] Chapter 1). As there is a very similar concept in Greek philosophy called 'Arche', we may say it is universal.

- The Way does not take any physical form, it is transcendent. According to *Tao Te Ching* Chapter 14, The Way has no shape or shadow, it is 'equable'. Neither it can be heard, it is 'inaudible'. Also we are not able to grasp it with our senses, because it is 'subtle'.

According to chapter 25 of *Tao Te Ching*, before any form or substance comes to exist, there is chaos. It has no voice or shape and because of that it is beyond any explanation or description with words.

It is nothingness itself. Its enormous size exceeds any human categories, does not depend on anything and conducts all the processes taking place in the universe. For this reason it is called 'Big' or 'Dai' after the Chinese character. The 'Dai' keeps on spreading and advancing the universe. There are no limits to the expansion of nothingness, 'Dai' or the Way. In other words the Way and nothingness are the transcendental beings. For the reason of being transcendental, they embrace all things. Things distant from them as well as close to them such as self; all is included. Because all things are filled with those transcendental beings, it can be said that they include those things and for that reason they can be called 'encompassing' or 'Umgreifende' of Karl Jaspers and as such, they undoubtedly reveal the principles governing nature: four seasons, sunrise and sunset, birth and death. Our limited perception doesn't allow us to see the Way itself, but through comprehending the nature and its rules, we have the ability to experience the Way as the transcendental being. When we reach that state, in front of our eyes there stands the true essence of nature, undistorted and real. This experience brings about a change in us and shows us how to live. But please make no mistake about this; Lao-tzu does not mean doing nothing, but living in accordance with the principles of nothingness. Lao-tzu's nothingness is also called absolute nothingness.

According to chapter 21 of *Tao Te Ching*, the Way is ecstatic and undefined. Only after you calm down and free your heart from ambitions and care, you can feel its subtle, pure and unadulterated nature. It's total and complete and only through impartial attitude we are able to know it, that is by getting rid of the knowledge and concepts we have learned so far in our lives. Nothing can be understood about the Way by linguistic analysis and breaking down concepts. The only way is the direct, intuitive experience and unity with the Way. However, there is the problem of expressing that intuitive experience with words. Naturally, the Way is a being that exceeds human languages; so describing it in a comprehensible manner poses quite a challenge. Still more, its appropriate description is not any form of compendium or a theory, but rather it should take a form close to poetry. Here, it is the source of Lao-tzu's mysticism, which was later on taken over by Chuang-tzu and developed further. Now, let us have a look at Chuang-tzu's ideas on nothingness.

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[3] Lao-tzu, Chuang-tzu (1960-). *Lao-tzu, Chuang-tzu* Volume Ⅶ, *Chuang-tzu* Volume Ⅷ, New Interpretation System of Old Chinese, Meiji Shoin, Tokyo.

Nothingness of Chuang-tzu, similarly to that of Lao-tzu, is a metaphysical reality and a culmination of all things. From now on let me explain in a little more details how Chuang-tzu understood the Way.

According to 'The Adjustment of Controversies'[4], as the Way exceeds our cognition, it cannot be expressed with words, no matter how grand the debate aiming at it. Neither is great benevolence the true benevolence, nor exaggerated modesty the true modesty. Using profound figures of speech, like 'the grand way' or 'supreme benevolence', do not bring us any nearer to its essence or deepens our realization of it. If the Way were to be expressible with words, it would disappear because that would indicate its imperfection. In other words, if benevolence were fully contained in this very word, it would lose all its value. Therefore, if wisdom were limited to its ignorant stage of development, would that be enough? The concept of the Way exceeding human cognition was taken over by Chuang-tzu from Lao-tzu. As linguistic description is limited, it can only provide for partial understanding. And because of that partial understanding of ours, we cannot reach complete harmony in our lives. Deep past the linguistic expression, there lies chaos we can touch and by that understand the breath of nature in its entirety. Since that is beyond words, it means it does not exist in its realm so we can call it nothingness. However, this nothingness is not something hollow, inactive and meaningless. It is the centre of any change and the essence of all creation. Chuang-tzu calls it 'the centre of the Way'.

For Lao-tzu the Way was an entity not expressible with words or nothingness and so was for Chuang-tzu. For Chuang-tzu however, nothingness was not just a synonymous word for the Way, but the ultimate realization of it, in other words, a selfless (egoless) state of mind or an ideal one should master by practice.

How can we describe the selfless state of mind then? Shortly, it is absolute nothingness. According to 'Knowledge rambling in the North', to comprehend absolute nothingness is not just to experience the selfless state, but to step further into turning all existence into nothingness, every tiniest manifestation of the existent into inexistent and consequently turning nothingness itself into the inexistent as well. Chuang-tzu thinks that it is impossible to stay in the selfless state of nothingness while deliberating existence and its opposite. Such a state of mind would not allow the realization of the void. Among those who reached that state are those who experienced enlightenment and those who gained knowledge about the Way. In 'The Great and Most Honoured Master' we found that experiencing enlightenment means abandoning scholarly knowledge like Confucius along with human intelligence in order to gain the real wisdom. For a man aiming at enlightenment, success in life as well as working and contributing to the society rather stand as obstacles. The consequences of such an attitude of lack of attachment are no fears, when having climbed a high place, dry, even under water and no burns when in the fire. No dreams

[4] Chuang-tzu (1994). *Chuang-tzu*, translated by Osamu Kanaya, Iwanami Bunko, Tokyo.
Cf. Mori, Mikisaburo (1978). *Lao-tzu, Chuang-tzu* by 'Intellectual Heritage of Mankind', No 5, Kodansha, Tokyo.
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while asleep and no worries in the morning after waking up. No joy of life and no fear of death. He would not delight the fact of being born and would not loath death even though life was just a step to it. He entrusts all to nature; everything that comes and goes. Neither he would try to avoid the beginning (life), nor demand the end (death). If granted life, he would take it with gratitude, if taken it away, would obediently return to the origin. The enlightened stays calm facing life and death entrusting everything the Way. He understands that he came from the Way and sooner or later he'll return there. In other words life and death is all about a cycle being a creation of the Way, which means it's all one. The enlightened (true man) is the one who understood that oneness. As far as his appearance is concerned, he is tall and of gentle disposition. Avoiding any extravagant decorating, he creates the atmosphere of openness and spaciousness wherever he goes. Overflowing with joy, his composed aura makes people feel calm and spirited. People surrounding him feel peace and the need to mend their ways while experiencing liberation from desires and desperation. Instead, they are filled with hope. We may call it spiritual awakening. Such a selfless state, Chuang-tzu called it the state of trance, Zabo or Zabu later on had a tremendous impact on the development of Zen in Japan.

So far, I have been lecturing on the Way and nothingness, the concepts of ancient Chinese philosophers of Lao-tzu and Chuang-tzu. However, in European thought such concepts exist as well; it is Bergson's theory of reality and the notion of reality by Heidegger's ontology.

1.2 Reality and Nothingness of Bergson

Bergson's reality, as a state of mind or consciousness, is defined as 'pure duration' (durée pure). I believe, a bit of an explanation is necessary here. In fact, duration consists of two aspects: In *Matter and Memory*, 'pure duration' becomes memory and it becomes the reality and the flow of life in *Creative Evolution* ('*E.C.*' as *L'évolution créatrice*). Still more it continues into *Two sources of Morality and Religion*. There, Bergson duration's reality and the rules are presented, so they are indispensable to embrace Bergson's philosophy on the whole. His 'pure duration' is a concept that our consciousness is continuously flowing, merging and permeating with others. In other words it is like a melody that fills everything and organically affects everyone who can hear it. Our everyday consciousness, being preoccupied by the perception of the outside world, the one that is the object of inquiry of psychology and medicine, constantly objectifying and quantifying the world around us, is not our actual consciousness. To be more specific, the feeling of muscular effort and heat, sense of weight and others are mere functions of the brain, which processes stimuli and projects objects and space, or a reflection of the world for us. The point is this projected consciousness is not the real, living and flowing consciousness. Consciousness within a spatial projection is like fish scooped up from the ocean where it swam freely and dried up in the sun. The actual consciousness is the entire, continuous consciousness before it was broken down to pieces and programmed. It is

the 'intrinsic melody of life' ('mélodie continue de notre vie intérieure')[5], 'profound and incessant howling of life' ('bourdonnement ininterrompu de la vie profonde')[6].

The 'duration', while criticizing and undermining classic psychology, was described in the essay 'the postulate of directness of consciousness' in *Time and Free Will* and among two pillars of the concepts, namely *Matter and memory*, duration would be equivalent to memory. Our living and flowing consciousness keeps on maintaining reality around, which is not to say that it erases the past, but it integrates it with the present. Consequently, the consciousness of present 'I' is the outcome of the long process of repeated integration of my memory of the past with the present conscious self (*E.C.*2, 4.). In my consciousness, there is my memory and the memory brings the past reality to the present. Our minds with the progress of time and incessant process of accumulated memory or 'duration', keeps on swelling *(E.C.*2.)

"This duration is nothing else, but a smattering of the future within expanding past along the progress of time. The past gradually grows to take on a more prominent role in our minds, which happens through boundless accumulation." (*E.C.*4.)

In this process of successive progress of consciousness and expanding past, memory plays a crucial role; here Bergson hypothesized the existence of two types of it. The first is the one that is 'carved' in our bodies or 'schoolwork memory' (souvenir de la leçon). The second is nowhere to be found, neither in our mind nor in our body, so called 'pure memory' (souvenir pur). The former is a memory created by sensual activity and various kinds of mental exercises; it is located in the functional area of the brain (brain map by Brodmann and Penfield). On the other hand, the latter is completely independent from the body and the cerebrum; it is a pure memory housing the spiritual. At the first glance, the hypothesis, that there exists memory that is independent from the brain, may sound weird, but it has actually been scientifically acknowledged by a Canadian neurologist called Wilder Penfield[7].

His discoveries and recent interest of the scientific world in 'near death experiences', with the use of holography, support Bergson's idea of the existence of the soul. Moreover, this soul is not the soul of an individual, but a reflection of the universal energy penetrating all things, which Bergson called 'élan vital'. This idea of his is described in *Creative evolution*. According to the description, life continues its expansion into space, profoundly and metaphysically. It was 'élan vital' that created this world, propelled its evolution, brought human to life. Matter made the spiritual relaxed and defensive, but still it is inseparable from the spiritual, despite a substantial distance between them. It very much resembles the sun and humankind relationship; the distance between the two is enormous but still, we cannot survive without solar energy. The same sun that feeds us is exposed to the movement of the galaxy it belongs to. If we look at the universe and the whole creation this way, we

[5] Henri, Bergson (1934). *La pensée et le mouvant*, P.U.F., 91e édition, p.166
[6] ibid, p. 167
[7] Details can be found in 'The memory theory of Bergson and brain physiology' in *Studies in Comparative Philosophy* No 12, 1986, assembled by The Japanese Association for Comparative Philosophy.

realize that everything in this world receives its power to exist. Symbolically we can call it 'The duration of the universe' (*E.C.*11.) And since for Bergson this world is in incessant movement, I would rather call it 'The motion of the universe'. According to present scientific theories on the universe, it endlessly keeps expanding in all directions. In other words it is in constant, expansive motion. As Bergson's theories are now scientifically acknowledged, we might say he exceeded his time. The solar system as well as galaxies might look separated, but it is only an illusion created by science for the sake of deeper exploration of certain areas. Science, instead of creating theories and principles based on diligent research, rather seems to be preoccupied by abstraction. That abstraction might often lead to the birth of half-truths, for example introducing systems as independent. At the first glance, what appears to be irrelevant for the science might be of utmost importance; there are many such cases in the scientific world for which convenience is a frequent way to go. Since abstraction is all human imaginary creation, how can it be related to the reality? Celestial bodies that are a couple of billion light years from Earth also contribute to this endlessly expanding universe. This is what we call 'duration of the universe'. Bergson's philosophy embraced the source of life in its entirety, matter being the part of it of course. He also predicted the explosive expansion of the universe (called by the scientists of today 'the Big Bang theory'), which enabled the evolution of life. It can be compared to a sudden, wild wind, which blew into a crossroads, hit the corners of it and split into different streets leading to completely different destinations. After it all settled down, matter was born.

Now let's try to compare Bergson's philosophy and the thought of Lao-tzu and Chuang-tzu. At the first look one may think that it is a non-sense to compare people who were so distant from each other in terms of both time and space. While Bergson was a European philosopher of the 19th–20th century, Lao-tzu and Chuang-tzu were Chinese thinkers living in the second half of the 5th century B.C. and 4th century B.C. It is hard to find any connection between them. But if we look at the heart of the philosophy of the Chinese being 'the Way' and 'nothingness' through the prism of the real, metaphysical existence, suddenly they become very close to the model of the realism of European philosophy – Bergson. Lao-tzu's 'the Way' and Bergson's duration or real existence are indeed immaterial, life-giving and pantheistic, which makes them already have quite a lot in common. But the greatest of reasons to call them similar is their inquiry methods, namely direct, intuitive method. Is it a coincidence? Not really. No matter whether it was East or West, their philosophies were the products of their attitudes based on penetrating and deep instincts. Searching for the real existence was subject to numerous researches in all the cultures of this world, and the primary purpose of division between them. 'Crossing the ditch' appears to be the main challenge of all those who work for reconciliation of all civilizations. What we need to do in the first place is to clearly realize what we do have in common and what are the bones of contention we have to overcome.

First of all, we all have no doubt regarding the origin of life exceeding the matter; Bergson as well as Lao-tzu and Chuang-tzu had a very similar idea here. According to Lao-tzu and his Way, everything is filled with nothingness being the

life-giving source of all their creations as well as in control of their growth. It has also been named 'ki' or the life energy flowing through the universe and responsible for the vigor and growth of all things. Bergson's concept very much resembles the one of Lao-tzu; to him 'élan vital', which is no different from 'ki', is the energy that being the creator of the entire life and incessantly supporting its duration and flow. In terms of senses exceeding, metaphysical side of the origin of life, Lao-tzu and Bergson speak one language. Here, we can recognize it as a base for reconciliation between the thought of the East and West.

Secondly, both of them employ the direct, intuitive method (méthode intuitive). For Lao-tzu it was becoming frank and open-minded, for Chuang-tzu that was Zabu (trance), but linguistic connotations aside, both of the intended to touch the core of life and unification with nature. Neither Bergson nor Chuang-tzu would offer their full trust to language. For Bergson it was rather like a dropped shell or something that surrounds or covers the actual being but not the real meaning. Lao-tzu was not able to name the actual being saying that it is beyond words and put it into the realm of nothingness. And Chuang-tzu... For him words were only a useful tool leading to knowledge about the actual being and should be forgotten just after attaining it. So, their disapproving stance to language and consequently their choice of the intuitive method built a firm, common ground between them. In terms of linguistically expressible intellect and analysis, it is hard to say they created any system, but through their intuition, we may say, they built a bridge above the ocean of differences that has lasted for two thousand and several hundred years.

Third is the problem of freedom. For Lao-tzu, central to the right walk of life should be unifying oneself with the actual existence and the Way by intuition. He taught that it was an ideal means to liberate oneself from the worldly affairs and desires. This state Lao-tzu called 'unconditioned nature (spontaneity)' while Chuang-tzu gave it a name of a 'selfless (egoless) state'. Both of those terms refer to nothingness and living accordingly with its principles, which leads to the realization of the genuine freedom. Likewise for Bergson, who in *Time and Free Will* explains freedom through the perspective of duration. In our daily lives, our attention is absorbed by all kinds of chores, such absorbed self is not the authentic one. It's no more than a surface. On the other hand we have another self, remaining one with the actual existence, independent of our daily lives and residing in the heart of duration; that is where we experience the real freedom. Here, again both Lao-tzu's being one with the Way and Bergson's remaining unified with the actual existence serve as a basis for building the real self and realizing genuine freedom.

1.3 Existence and Nothingness after *Being and time*

From the history of traditional philosophy point of view, the crucial points Heidegger makes are described in his *Being and time*. Since it is not a proper philosophical research, it is impossible to analyze it in a chronological order. As I am going to concentrate on nothingness as the real, actual existence in this chapter, from this point of view, Heidegger's existential concepts presented after *Being and time* are close to those of Lao-tzu and Chuang-tzu and can be classified as realism. *Being and*

time itself is well explained, interpreted and widely known. On the other hand, since thorough analysis of what Heidegger has written after *Being and time* takes tremendous amount of effort, among all those explanations and interpretations available, it is rather difficult to find an original and courageous one; most of them remain on an explanatory booklet level. It goes without saying, that if a researcher has no original ideas on his own, he cannot go far, but the foremost source of hardship is the wavering stance of Heidegger including such basic philosophical concepts as existence and nothingness. In *Being and time*, Heidegger describes existence as our reality (existenz), whilst nothingness as death. Such a statement shows his adherence to the phenomenological school of thought. Going through *Being and time* was laborious indeed, but the concepts themselves were not all that hard to grasp. However, when it comes to his works after *Being and time*, the simple reality swells to include the whole world being not just the matter, but its transcendental dimension as well. Also, the word 'death', so present in *Being and time* disappears being replaced by 'nothingness', but again, its meaning is not determined by the author and prone to change. So... what does it mean then? Personally, I think that he intuitively felt nothingness as the real, actual existence, but he was not really able to grasp nothingness in a conceptual sense. He seems very precise and creative within the realm of the phenomenological existential school of thought and, without doubt, his work should be recognized as the highest achievement of European philosophy and metaphysics. Still not all matters can be grasped methodologically through accuracy of descriptions. Human existence takes a form of a flow and a human is basically a fluid creation. For that reason, analysis through the above mentioned methods of description could hardly be called sufficient. Let me just conclude here that Heidegger's logical way of reasoning and phenomenological theory of existence that he applies must finally lead to a deadlock. However, he had been trying to break the deadlock; it can be observed in his later works by force including *Kant and the problem of metaphysics*, *Nietzsche* and *Holderlin's hymn THE ISTE*R. Those and others make him a very productive author. Finally however, as is widely known, he abandoned philosophy and turned to poetry, but even then he continued to search the truth on existence and nothingness. Changed was only the form of his inquiry. In the end he realized that existence is nothingness indeed, but on his way he has left numerous works. Among them, the one that explains nothingness in a most orderly way is *What is metaphysics*? (*Was ist Metaphysik?*) that he wrote in 1929. Let me quote some gists from it:

- anxiety reveals nothingness;
- nothingness comes in times of anxiety regarding reality in which one lives (Dasein); that nothingness refuses all things the right to exist (Nichtung);
- the reality in which we live is all maintained within nothingness, which by itself exceeds all things and gives birth to them. Therefore we can call it transcendental (Transzendenz). If the root of substance of all things was not transcendental, or, if it was not maintained within nothingness, then all things, as well as ourselves were disconnected from each other;
- without the manifestation of nothingness, ego would not exist and

consequently, freedom wouldn't either;

- nothingness reveals the existence of things to us, humans;
- nothingness is the source of all repudiation;
- also the scientific comprehension of the reality around is possible because it is maintained by the nothingness.

In the book, Heidegger clearly presents his assertions, of which the main is that nothingness is the linchpin and the *Meta* principle of all existence theories and it precedes all logic. It is our denial that enables us to distinguish between things in the first place. By saying 'I am a human' we at the same deny that 'I am not a dog or a cat'. In other words, by defining who is a human, it is simultaneously presumed who, or, what is a being that does not belong to the realm of human beings, which then pushes it to the abyss of nothingness. And, obviously, nothingness was here long before any such reasoning could have taken place thus providing ground for it. Heidegger was not familiar with the thought of the East, but still he intuitively realized the basic principle underlying the whole universe. That, undoubtedly, shows Heidegger's magnificence. Still, despite the fact he comprehended the existence of nothingness, he could not see how it is revealed in the actual being, that is, the stream of life flowing through all things. Unfortunately he was not able to reach that far with his philosophy, but he showed his presence there with his poetry. Even though later Heidegger's poems touched existential matters, as they were detached in their form from a structured philosophy, they did not get recognition as such in Europe; moreover, they had become a proof, that Heidegger abandoned philosophy for good. Their content would include 'holy things', 'inspiration', 'holy chaos', 'pure heart', etc, and are filled with transparent, mysterious and lofty ideas. Obviously Heidegger did not do poetry for the sake of art, but he used it as a vehicle to reveal basic, grave and deep notions regarding existence. In summary, here are the main points from it.

1. The essence of fine arts lies not in their beauty, but in their power to convey truth about existence.
2. A human can but put into a frame of an existential model by words. Poetry is the highest form of art.
3. Even though poetry might look pure and naive, in reality it is the most dangerous and difficult work. A poet is exposed to an existential storm and God sent lightnings.
4. Poetry has the power to start the whole history all over again, save and establish awakening truth for the fallen humanity; it's the deepest gift one can ever get. (based on *Heidegger's ontologic thought* by Jiro Watanabe, Keiso Shobo, Tokyo 1985)

Allow me to briefly comment on that. If poetry is the highest form of art, the deepest gift a human can be given and has the power to awaken humanity; it means that there is no limit to how much Heidegger trusts words. We can say, words have become 'home to all existence' or even the existence itself, not just a tool to convey thoughts and meanings. It is a striking difference to how Lao-tzu, Chuang-tzu and

Bergson saw words. To them, as it was mentioned earlier in this paper, words can as well be forgotten after their meaning has been understood. If the actual being is seen through the prism of nothingness, the actual being is united with nothingness, and then experiential intuition becomes the primary source of knowledge, while worldly concepts serve as an imperfect, subsidiary tool of expression. The state of trance, central to philosophies of Lao-tzu and Chuang-tzu is recognized by Heidegger indeed and called by him as calmness (Angelassenheit). Still, he gives priority to poetry. Or, having felt his own inability to embrace unlimited flow of life, he decided to stay in his comfort zone and stick to words. Heidegger's poetry then is rather limited in its scope because it is created from the refreshing perspective that there is no limit to linguistic power of expression.

Because of the language, we are able to understand, realize and be conscious of the world that surrounds us. Due to that, words become the standard of our recognition of the world, basis of all human activity and source of our history. As a consequence, language brings about realization of the undreamed possibilities. And poetry is a pure means of such a realization. This great faith, Heidegger had in words, soon collapsed. Before long, phenomenological theory of existence lost its credibility along with its definition of the language, and despite his esteem for poetry, Heidegger not being a poet himself could only express himself on existence through borrowing from the lyrics of Holderin. Such a deadlock is not something that happened solely to Heidegger; that is the overall state of the European philosophy searching its Logos. The major tool used for that, the concept of language being able to express all existence is obviously not capable to embrace nothingness, so it must regard it as nonexistent. It goes without saying, that nothingness is beyond European logical standpoint and it is hard to expect a breakthrough there. However, if we turn to nothingness as an actual reality, omnipresent, universal and connected with all things and make it our principle, things change dramatically. Heidegger's and Sartre's philosophy are thought to be the demise of European thought; nothing valuable in terms of ideological was born in the old continent since then. On the other hand, as we all know, the fall of the present era is the harbinger of the next. Now, if we made nothingness as an actual reality our principle, it would be like opening windows of the house of philosophy, letting in fresh air and allowing us to come up with completely new ideas. While nothingness embraces the whole universe, our perception and expression are limited by their natures. It can open new, infinite horizons for us. In the following chapter let's have a look at how the concept of nothingness functioned in ancient India.

2. NOTHINGNESS AS THE ROOT OF KŪ

Sunyata (Kū: Kuu)[8] is the realization of the fact, that the entire, universal being

[8] Kū is the Japanese interpretation of Sunyata. The exact pronunciation is Kuu. The meaning of Kū is nothingness or emptiness of desires. The extreme of negation of desires is nothingness, enlightenment and nirvana. To explain Kū and enlightenment, various views and words are needed. In here, I want to explain some important words of Buddhism.

is nonexistent, which leads to recognition of nothingness and awakening. 'Being is nonexistent' is often thought to be equivalent with selflessness, but it seems that its origin is the causation, which means that cause and effect links are always present. Things cannot exist on their own as they are the outcome of some process, interdependence is at the heart of the idea. (In Christianity this notion is regarded as lack of self-existence, since all things are created or are being created by God). This correlation of all things as well as all linked processes taking place in this world are all causation. Buddha who reached enlightenment realized this truth about the world. Entities are reciprocally dependent on each other, so they cannot exist on their own and that means that in reality they do not exist.

There is nothing like the substance of reality. To present it in a linear order, we have causation first which leads to selflessness and finally to sunyata, or the state of nonexistence. Along with the development of Buddhism though, its new interpretations started to emphasize nonexistence (sunyata), especially Mahayana Buddhism made it the core of its teachings. In this paper, I intend to focus on the origin of Buddhism, prior to the advent of Mahayana. In the beginning, its aim and purpose was based on the concept of nonexistence, which was equivalent to nothingness. Consequently, we realize that the principle of nothingness is at the roots of Buddhism. Here, there are two potential grounds for the argument. The first is the experience of nothingness. As we all know here, the founder of Buddhism, Siddhartha Gautama was born as a prince of the Sakya tribe; that means he never really experienced poverty or other discomfort and lead a life of abundance. In the palace where he lived there were lotus flowers in the pond in the colors of blue, scarlet and white, just to please him. His attire filled the air with sophisticated fragrances; a special cover was invented to provide that Buddha's body never came in contact with sunlight, rubbish or dew. And more he possessed palaces to spend winter, summer and rainy season in. He wasn't allowed to leave the palaces, where women-only musicians played for him. His father, out of concern that he might leave home one day, made him get married with three young women. Before long, Rahula, Buddha's only son was born. As we can see his life was smooth and far from any inconvenience.

Apparently, Buddha, at the plight of an old man realized, that one day he himself too will grow old, weak and be appealing and disliked. After realizing the existence of senility and death, he understood ego and its limits, beyond which he felt

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In Buddhism, the meanings of Kū, Sunyata, enlightenment Satori are the same. Satori is the Japanese form of enlightenment. From the point of human cognition, Sunyata is enlightenment and understanding of the theory of Engi which is the cognition of the interdependence and cycle of relations of the world. It is said that Engi is the principle of cause and effect. As there is no substance of things (nothingness as a lack of subsistentia), all things depend on each other. By the lack of substance of things, all things are moving and changing. This phenomenon is called uncertainty or impermanence of worldly things. On the other hand, from the point of human desire, Sunyata is Kū and nothingness of desire. As the origin of desires is self in Buddhism, self is nothing. It is called selfless state. The principle of cause and effect is same as the cause and effect principle.

nothingness. That was the awakening of Buddha – the experience of nothingness. Sooner or later all things perish and return to nothingness. Although wealthy and abundant, this experience of nothingness nested into Buddha's heart. And it was there to stay. It also inspired him to seek liberation, so he left home, applied himself to ascetic practices and reached enlightenment in the end. In case of Buddha too, the factor that caused him to dramatically change his lifestyle was the experience of nothingness; he went on through poverty and distress to finally arrive at enlightenment. What the life of Buddha actually teaches us is that the nothingness precedes sunyata. That is the first argument.

The second argument supporting the statement that the basis of sunyata is nothingness is that for the before mentioned causation to take place, nothingness is a prerequisite. As I explained before, causation is the interdependence of all existing things, but to realize that, one must understand that there's no such thing as self-sufficiency, namely to deny the possibility of self-existence, realization of nothingness is indispensable. Claiming that interdependence of all things makes them unable to universally exist or come to existence by itself is recognizing functioning nothingness. Absence of independent and universal existence and relation to other things and processes, or causation, leads us to understand the selflessness or the egoless state. That selflessness, or nothingness is the very root of sunyata. So we can now see clearly how working nothingness is crucial to understanding sunyata. Nothingness, when functioning, annihilates all our wants and desires and by that causes ego to disappear.

3. NOTHINGNESS ACCORDING TO *THE BIBLE*

Since my motivation of writing this paper came from my willingness to present nothingness as a principle, I have already mentioned here and there about that principle also functioning in the Bible. Starting from the first page of Genesis that opens the Bible, we find a description of how the heaven and the earth were created. In the second and third verse the creation process goes on:

> *And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters. And God said, Let there be light: and there was light. (Genesis 1:2-3, the Bible)*

As we can see in the above quotation, at the beginning, before heaven and earth came into being, there was nothing or nothingness. It was God's will that created the universe out of that nothingness. The author of Genesis was Moses, who must have intuitively felt nothingness and his writing conforms to that. The nothingness before the creation was the material, complete and absolute one. If expressed with the language of astronomy or physics, there was no time or space, no laws of physics, no celestial bodies, nothing that could be logically explained. That state of absolute nothingness, by God's intervention and creative activity, little by little, started changing. '...darkness was over the surface of the deep, and the Spirit of God was moving over the surface of the waters.' (Genesis 1:2) This state can be compared to

'fluctuation of nothingness (shaking nothingness)', known so well to quantum physicists. According to quantum theory, even nothingness, understood as the state of no time and space, is not constant, that it is fluctuation; this 'fluctuation of nothingness' is thought to be the origin of the universe. Just born universe was all empty, but not in a sense of some kind of void space; it was filled with all kinds of microscopic vibrations. (*Newton* January 1999 /Japanese science magazine/ 'Why was the universe born from nothingness?') The above mentioned microscopic vibrations could be '...the Spirit of God (that) moved upon the face of the waters...', couldn't it? Then, when the microscopic vibrations twinkled with the light of God, explosion took place that we know today as the Big Bang. Today's astrophysics maintains the theory, that the universe was created out of nothingness, which at the same time supports biblical nothingness and the principle of nothingness. Biblical God created the heaven and earth the first day, but obviously it was not the twenty-four hour span we usually associate with a 'day'. It may as well have been a period of a thousand, ten thousand or even a hundred million years. The theory of the universe having been created from nothingness and having the nothingness principle at its foundations, supported by the physics that offered a glimpse into the ultimateness of existence, stepped in a new way leading to an explanation of the origins of the universe. Science, that bumped into nothingness, slowly, by trial and error, moved on forward in accordance with the principle of nothingness.

The first account on nothingness in the Bible comes from Moses, but the strongest intuitive experience of it was described by Jewish King Solomon, who reigned 960–922 BC. He is considered a wise monarch, who ruled the kingdom at the height of its prosperity.

Now, let me deliberate a bit further on what Solomon's experience of nothingness really was.

Solomon's experience of nothingness is especially explicit on the first page of 'Ecclesiastes'.

'Vanity of vanities, saith the Preacher, vanity of vanities; all is vanity.'

Just this verse. The very concept of emptiness or sunyata comes from Buddhism, but obviously Solomon could not know that, since he lived five hundred years before Buddha experienced enlightenment. In Hebrew, the origin of the word emptiness (hebel) is 'breath' that instantly disappears. The Hebrew concept of void stresses its similarity to breath being like air, elusive and imperceptible, formless and momentarily vanishing. That is no different to emptiness. That stressing of the formless state and elusiveness of the breath brings it close to the principle of nothingness, especially to its notion of things being unable to exist on their own. Hebrew 'void' has been translated into Japanese using Buddhism term 'sunyata' or 'emptiness', which may cause misunderstandings, but in terms of the essence of the word, there is no word more appropriate. Moreover, if we make the part of the nothingness principle's part assuming that things are unable to exist on their own a rule, then we quickly realize, that it is a universal concept that by far surpasses Buddhism and is applicable for the Bible, etc. In general, however, Buddhist emptiness and emptiness in the Bible are too far culturally and historically to equalize

them. What connects them though is the principle of nothingness, functioning of which underlies both forms of emptiness. Basically Buddhism and Christianity are two completely different, separate religions. If we look at them though, not from their respective doctrines point of view, but the nothingness principle, all the differences will suddenly disappear, that they are all one. The reason being that is Solomon and Buddha, both intuitively felt and directly experienced the same nothingness, they way they speak about it differs.

4. NOTHINGNESS IN ANCIENT GREECE

The principle of nothingness was intuitively felt in ancient Greece as well. According to Greek mythology, before any creation came into being, chaos, which is thought to be the beginning of everything, ruled. Indicating chaos, Greek word of 'khainein' literally meaning 'wide open mouth yawning and revealing endless, bottomless and empty space of darkness'[9].

Well, does not this dark and ominous empty space bear close resemblance to nothingness? Ancient Greeks, intuited nothingness, took this dark and ominous crack for an abyss and named it chaos. This concept of nothingness became the starting point of all Greek mythology, philosophy and civilization. As I stated in previous chapters, functioning nothingness principle is a foundation of ancient Chinese thought, Buddhism, Christianity (the Bible) as well as Greek philosophy. Using a different expression, because nothingness penetrates the entire world and universe, it can make its working appearance anytime and anywhere. We already know that it made such appearances in ancient China, India and Israel. But from now on, after the inquiry into ancient Greece, I am going to focus on Europe and Japan. By comprehensively covering, virtually, the whole world this way, I believe a completely new world view can arise.

Greek mythology, having nothingness for its cradle, gave birth to Greek philosophy. Then, this Greek philosophy since the times of Plato focused its inquiry on 'being' or 'existence' rather than 'nothing' (and nothingness principle in consequence) for two thousand and five hundred years, which greatly affected the European thought. No wonder, the nothingness principle seems to be on the opposite side commencing all its inquiries from nothingness. Because it takes such an opposing stance, from the traditional philosophy point of view, it is of a different nature. Therefore, since the traditional philosophy enjoyed two thousand and five hundred years of development, a similar perspective should be expected for the philosophy based on the nothingness principle. We often hear statements such as 'the poverty of philosophy' or 'the death of metaphysics', but the real reason behind such pessimistic views is persistently sticking to the traditional philosophical dogmas. I have no doubt that the days of the philosophy, that seeks to explain existence or 'being', are over. The proof is that after Nietzsche, Heidegger, Jaspers and Sartre, no such talented superstars of philosophy were born. The principle of nothingness has a potential to open new horizons for philosophy. I believe that from now on, as long as

[9] *Compendium of philosophy* (1971). Heibonsha, Tokyo.

humankind exists, nothingness is to be inquired into. In the realm of physics, nothingness is just a lack of existence, but in the metaphysical realm it offers unlimited and inexhaustible possibilities.

As I said clearly supra, the starting point of Greek mythology, which provides a spiritual basis for its philosophy, is nothingness. In the mythology, the nothingness principle is expressed by the means of symbolic representations. We can see it most clearly in *Oedipus Rex* by Sophocles, which is a masterpiece tragedy of enormous popularity. In a way, it is a quintessence of the Greek view on what a human and life is. Considering himself as born against his own will, he painfully awakens to non-existence of self, which makes him stick pins into his own eyes and go blind. While asking for ceasing to exist, he saw what he was not supposed to and as a punishment for that he lost his sight and entered the world of darkness, or in a way, a world of nothingness. Doesn't his life resemble the one of Zedekiah, the last king of Israel in the Old Testament? Oedipus the King, who should not have been born, means that he should have kept on belonging to the nothingness. As his fate was to be born into an unable man, he had to experience the nothingness in a tragic way.

5. NOTHINGNESS OF PASCAL

Pascal's intuition of nothingness very much resembled that of King Solomon's as mentioned supra. He experienced a clear and convincing vision of human being a mere speck of dust in this enormous and infinite universe. He felt, that in the face of eternity we, humans, are powerless and worthless creatures and belong to nothingness indeed. Seeing such powerlessness, helplessness, emptiness, vanity of humankind and tragedy that they bring sufficed Pascal to awaken and to realize nothingness. To add to King Solomon's words in the Bible 'vanity of vanity, all is vanity' Pascal stressed that 'human is no more than a reed, but a thinking reed'. Solomon was thought to have been endowed with God's wisdom, Pascal was of outstanding intelligence. At the age of seventeen, his essay on conic sections[10] was published in Paris, where he presented the first real discovery since Archimedes. To make his father's work easier, he conceives a calculator, and later on at the age of twenty six (in 1649) he receives a patent for the manufacturing of calculators directly from Lord Chancellor.

Therefore, if we realized, that he laid the foundations for making the machine we know today as computer, we would be struck by his genius and magnificence. At the age of twenty three, together with a friend of his father, he successfully repeated Torricelli's vacuum experiment twice and based on that experience he published 'The new experiment regarding vacuum' the following year. Then he exchanges correspondence with father Noel from the Society of Jesus.

At the age of twenty eight he writes 'vacuum theory' and two years later starts working on 'On the balance of liquids' and 'The weight of the atmosphere'. At the age of thirty one, he sends the mathematically calculated results to The Academy of

[10] 'Essai pour les coniques et génération des sections coniques'
Blaise, Pascal (1954). *Œuvre Complètes de Pascal*, Bibliothèque de la Pléiade, Libraire Gallimard, Paris, I give a brief account Pensées.

Sciences in Paris and writes 'the Treatise on the Arithmetical Triangle' along with the supplementary theses. On his 'law of share' (probability theory) he exchanges letters with the first class French mathematician, Pierre de Fermat. Four years later, he writes 'The history of the cycloid'. Between thirty four and thirty five years of age he keeps on writing *Pensées* (lit. *Thoughts*), published in 1670 posthumously. Pascal, who was of poor health and suffered from various diseases, lived only thirty nine years, but this life was so full of accomplishments that we come to think that it is not the length of life that counts the most. No doubt it is the value of his achievements. I am sure it is the dream of many mediocre, elderly scholars to be able to produce at least one of the Pascal level theses. In the span of the last few centuries, how many scholars were really able to immortalize themselves?

Pascal was an eminent, genius scientist with reaching our times, but on the other, as far as his physical condition is concerned, he lived a life of obscurity and misery, which led him to experience nothingness. The more we shine, the harsher misery is the price for that. During his lifetime Pascal seems to have experienced the light of wisdom and fame as well as the darkness of agony and anguish. That, in one respect, makes him similar to King Solomon, who experienced glory and nothingness at the same time. Solomon, though, was saved from horrible anguish of the body. Undeniably, Pascal's patience and resistance to pain was by far greater than that of an average human. All this he went through, brought him closer to God and his wisdom and let him experience nothingness.

Pascal was afraid of nothingness in darkness and despaired. But through the intuition of nothingness, he thought of the infinitude of universe, and then continued to eternity, the transcendent being (God) and love. Pascal defined that man is the middle being between nothingness and infinity and insisted on the creation from nothingness and the advance for infinity. In *Pensée,*he wrote:

"Toutes choses sont sorties du néant et portées jusq'à l'infini" et "primiers principes,qui naissent du néant."[11] He also supports the principle of nothingness and love. We can propose the new interpretation about Pascal against the accepted theory which he was the supporter of Christianity.

6. NOTHINGNESS OF NIETZSCHE

As Nietzsche intuited nothingness, he insisted on the conquest of nihilism. The nihilism is to deny the highest value and standard of mankind, e. g. morality, religion and philosophy. It is the thought that we cannot find the purpose and sense in life and all things come to nothing. Of course, in that, nothingness functions. Nietzsche denied Christianity and intended to destroy it. The state of the complete denial is the nihilism and intuition of nothingness. In the state of the infinite denial, he reached to the eternal repetition as the infinite returns, the superman and the intuition of God. Nietzsche's philosophy is explained by the new principle which nothingness

[11] Blaise, Pascal (1954). *Œuvre Complètes de Pascal"*, Bibliothèque de la Pléiade, Libraire Gallimard, Paris, pp. 1106~1107, No.84.
Cf. *Pensées*, Japanese version (1982). translated by Shinzaburo Matunami, Kodanshabunko, Tokyo.

continues to infinity ~ eternity ~ the transcendent being (superman, God) ~ love (Amor fati, love of fate). Now, the superman is nothing but the projection of Christ from my standpoint. Because he was born in Christian family and learned in the high school (Pforte) affiliated to church, we must recognize him under the influence from Christianity. Before anything else, we can never neglect the confession which he decided to devote his life to God in fourteen years old. In history, Jeanne d'Arc intuited God in same age, she saved her country, didn't she? Florence Nightingale experienced the intuition of God when she was seventeen years old, then she saved so many wounded persons in Curimea War, as a nurse didn't, she?

The intuition of God in young age often becomes motive power in the society and history. Nietzsche believed in Jesus. At that time, the wedge of Jesus was driven into his deep heart. Whether he was aware of the spirit or not, the wedge existed in his heart. The wedge sometimes brought him light sense and peace of mind as a release from sin. As he had been suffering from illness (headaches, sight impair), he could not be immersed in the peaceful atmosphere. Body hardships often brought motivations of the intuition of nothingness (same as Job and Pascal). The doctor had already given up on the patient. Nietzsche gradually despaired of God. Consequently, he denied Christianity and instead of God, he proposed the superman. But the superman is the lightning of the wedge of Jesus. The thought of the superman became deeper and developed by confrontation with Jesus. If man compares the superman and Jesus by its conceptions of existence, destroyer and creator of value, real ideal for man, peace, eternity and prophet, he would recognize that superman is the projection of Jesus. In his last moment, Nietzsche returned to Christianity. If man denied God one million times, he could be Christian by an affirmation only one time. The new principle proposed to reverse the Interpretation of Nietzsche.

7. NOTHINGNESS ACCORDING TO HEIDEGGER'S *BEING AND TIME*

Another philosopher, who had an experience of nothingness, was Martin Heidegger. He interpreted it as death, which served him as a basis to define human life as 'Being-toward-death'. At that time Heidegger still understood death as something strictly biological, a simple end of life of a physical body of animals and plants 'verenden'(to perish). He claimed it was likewise for humans. Heidegger also thought that all our existence is facing death and he called this subtle and vague process 'ableben' (demise) while the end of it 'sterben' (to die). Such a distinction is one great achievement of Heidegger; by that he drew a line between the life of humans and other creatures, which led to recognizing and emphasizing our life as dignified. When a human dies, in terms of language, it is recognized as a similar fact and called 'death'. Apparently death has lost its esteem; he argued that the death of a human being cannot be taken that lightly. Heidegger lived in times, when the First World War has just ended leaving behind indescribable destruction and millions of injured and victims. In concrete terms, on both sides, Allied Powers and Central Powers, almost 9 million combatants lost their lives, while 19 million suffered various kinds of injuries. Human life felt so cheap then as if it was worth nothing at all, as if it was nothingness. This condition of human life being nullified and having

no value gave Heidegger the direct experience of nothingness and influenced his thought to the extent of making him believe that nothingness is death.

Heidegger inherited the nihilism and intuited nothingness as death (*Sein und Zeit)*. It is the first class Significance that he proposed dignity of life and death. He inquired into existence by phenomenology which was very novel at that time and defined that existence is time, as awareness of death (Sein zum Tode). Surely, he could succeed in the question from existence to time, but could not succeed in it from time to existence by the lack of Christian faith. Then he inquired into nothingness as reality, but failed to grasp it by the hard notions of the phenomenology and European logic. Stated above, that was the fall of Heidegger and European philosophy. We can intuit nothingness of infinity at a time, but cannot describe it at a stretch. The European philosophy has faced nothingness, having nothing to do with it. Only the new principle can break down the condition.

8. BENEVOLENCE BY CONFUCIUS

Confucius also intuited nothingness. As he was an orphan, he faced nothingness as the lack of parents' love. Then he overcame some serious trials before he could be the Minister of Justice as mentioned above. As he was always conscious of his ignorance, he researched truth with infinite passion and learned the importance of morality and love. He called this Jin (perfect virtue). Generally speaking, Jin (perfect virtue, benevolence) is honesty (loyalty) and consideration (thougtfulness). The meaning of honesty is loyalty to myself and to others, an unwillingness to deceive. Consideration is thoughtfulness for other (Do not impose on others what you yourself don't want.). But there is a big and mysterious paradox. The following phrase is very famous.

Hsien (a disciple of Confucius) asked, 'Standing firm against the temptation to press one's advantage, to brag about oneself, to harbour grudges or to be covetous may this be called "benevolent"?'

The Master said,' it may be called "difficult", but I don't know about its being benevolent.' (Confucius. *The Analects* XⅣ-1, Penguin Classics)

What on earth is the meaning of his words? The founder of Confucianism does not seem to know his central notion. It is very mysterious. In generally, from the standpoint of European Philosophy and logic, man cannot understand it. It is like Jesus Christ saying, "I don't know love." If man wants to understand the meaning of his mysterious words, he has to accept dignity of benevolence and practice of behavior. Confucius preached benevolence, but it was quite rare.

'The occasions on which the Master talked about profit, Destiny and benevolence were rare.' (*The Analects* Ⅸ-1)

Confucius was not a merchant, therefore he didn't tell about profit. On the interpretation of Destiny, Sorai Ogyuu (1666~1728) who was a famous Confucianist scholar in Edo age of Japan interpreted it as life. According to Sorai, benevolence involved dignity of life. His thought was spiritual basis of Tokugawa Shougunate. Therefore, a typical Japanese warrior (samurai) did not speak much. The following sentence is the origin of this idea:

The Master said,' Unbending strength, resoluteness, simplicity and reticence are close to benevolence.' (*The Analects* XIII-27)

The Master said, 'He has not lived in vain who dies the day he is told about the Way.' (*The Analects* IV-8)

In these sentences, we can find the resolutions (similar to the resolution of death in Heidegger) for truth and benevolence. Against these sentences, the following is a typical superficial man.

The Master said, 'It is rare, indeed, for a man with cunning words and an ingratiating face to be benevolent.' (*The Analects* I-3)

As Confucius was a minor official, he knew the world of bureaucrats and their nature. A man who is always playing up to his boss is a good example. Therefore, he taught disciples to think poorly of cunning words and an ingratiating face. He did not preach benevolence positively. Only the most heart and eager disciples asked him, and he answered them in a way suitable to the personality and ability of disciples. There were various disciples and various questions. The answers were not fixed. Sometimes the meaning of benevolence is Chuu-Jo (honesty and consideration), or Ai (to love a fellow man), or Rei (courtesy, being good as a son and obedient as a young man), after a great deal of thinking Confucius said that I did not know benevolence. Of course, benevolence was difficult to put in practice. The definition of benevolence is not fixed; it means that benevolence is not absolute but relative. It is not absolute love which Jesus Christ practiced. Confucius knew the dignity of actions and practices but he could not devote his body to the Cross.

In later age, he lived through difficulties and intuited Heaven which is said to be nothingness.

The Master said, 'I am thinking of giving up speech.' Tzu-kung said, 'If you did not speak, what would there be for us, your disciples, to transmit? 'The Master said, 'what does Heaven ever say? Yet there are the four seasons going round and there are the hundred things coming into being. What does Heaven ever say?' (*The Analects* XVII-19)

The meaning of the sentence is that Heaven says nothing. In ancient China, Heaven was the transcendent being which controls the movement of the world with infinite power like 'Arche' type. It is nothingness as reality. After that, he attained Sei (saintliness, sage) which saves all the people. Sei is higher than Jin (perfect virtue, benevolence). The thought of Confucius is explained by this new principle.

9. BUDDHIST MERCY

Mercy aims at abandoning attachments and desires of ego and reaches the state of total unity and awareness of others. Discarding one's attachments of ego is a way to be less egoistic and have more exchange and more in common with others. It is believed that in such circumstances a variety of human virtues blossom and 'mercy' is believed to be the purest of them[12]. Have the ability and be sincere, tell the truth and

[12] Hajime, Nakamura (1998). *The Personality of Buddha and his Thought*, NHK Books, Tokyo, p. 220.

be soft spoken, meek and not arrogant. Know when you have had enough, eat modestly, do not get taken over by routine activities, lead a simple life, calm your senses, be wise and do not get overexcited, do not take other people's possessions of any kind. Avoid mean deeds for which experts may criticize you. Bring about peace, happiness and comfort to living things.

Doesn't this full of Buddhist mercy 143–145 of *Sutta Nipata* closely resemble Bible's "I Corinthians" chapter 13, verse 4-8

Because Buddha's state of enlightenment was so sublime, it is rather easy to imagine and compare to what is written in the Bible. In the above fragment we find St. Paul description of the means of his victory over his bodily desires or sin, which he saw as modesty, meekness, tolerance and patience. In other words this is how he understood love. In Buddhism, as expressed in *Sutta Nipata*, it is mercy that enables practitioners' liberation from attachments of ego and desires. It also says in verses 147, 149 and 150 in *Sutta Nipata* about tender, loving care (empathy) practitioners should have for all living things.

Buddha's mercy extends to all living things of this world without exception. His mercy for all creation remains in harmony with the enlightenment (satori) he experienced. To start with, Buddha's enlightenment reflects the truth about the world and the universe and is one with the really existing world where the moon, void, incessant labor-driven movement or the sun do not exist. Also Nagarjuna in his *Middle Way* describes this state in more detail.

The base of Buddha's concept of mercy for all living things is undoubtedly his experience of enlightenment and deliverance from earthly bondage. That said, essentially what he means by enlightenment and deliverance is not physical non-existence of the moon, sun, earth, fire and wind but that they should not be regarded as separate. Buddha claims that everything remains in perfect harmony and unity. In other words, the self, the moon, sun, earth and wind are all parts of a great, universal self that we belong to. For this reason, the dualism of body and soul is nowhere to be found in Buddhism. Individual self exists only as long as it belongs to the universal one. Buddha, building his system partly on criticism of Chuang-tzu's concepts, simply added 'body', 'moon', 'sun', etc to it. Originally humanity is one with nature and the world. Buddha understood the truth of unity with all the living things and mercy through reaching the state of enlightenment. That makes enlightenment the origin of mercy. Consequently, if enlightenment or 'sunyata' is the origin of mercy, then as 'sunyata' is just a different name for functioning nothingness, the connection of nothingness to infinity to transcendent being (dharma) and to love (mercy) becomes clear. In other words the doctrine of Buddha can be explained with the use of the nothingness and love principle.

10. JESUS CHRIST'S LOVE

Jesus Christ, man and God, intuited nothingness and love to the largest and deepest extents. Then he realized love. The realization of love is the cross and the atonement for the sins of all humankind that lives from the past to the future.

The first intuition of nothingness by Jesus is the words to Nicodemus. He was a

man of the Pharisees and a ruler of the Jews. To the comments of Nicodemus, Jesus answered:

> The wind bloweth where it listetth, and thou hearest the sound thereof, but canst not tell whence it cometh, and whither it goeth. (John Chapter 3-8)

In common words, “You do not know from where you came, neither where you go”. As a philosophical view, it is the origin and aim of humankind. Generally biology preaches the evolution from a microorganism to fish, amphibian animals, reptiles, mammals, apes and humankind. The main cause of this evolution is DNA. Well, why and how DNA did change? What is the reason of the mutation of DNA? If man assumes it to be an accident, it means the abandon of the scientific standpoint of view. Science does not admit it as an accident. The origin of humankind is beyond biology. We ask for cosmology. In this paper, I developed upon the creation from nothingness. Modern physics faced the nothingness and followed the principle of nothingness. Jesus already intuited the creation from nothingness and the principle of nothingness.

The second intuition of nothingness by Jesus is nothingness as silence. Jesus stood before the governor Pilate who asked him “Art thou the king of the Jews? “And Jesus said to him, “Thou sayest”. When Jesus was accused by the chief priest and elders, he answered nothing. Though there are so many witnesses against Jesus, Jesus never answered to Pilate (Matthew Chapter 27). Probably Jesus was full of infinite power; his power of dignity overcame Pilate. Therefore Pilate marveled greatly.

The third intuition of nothingness by Jesus is the prophet of the eschatology. It is nothingness as the end of the world in Matthew’s Chapter 24. Jesus predicted not only the eschatology but also his coming back. This means nothingness and Love. From the eternal future, Jesus comes back as the saver of humankind. It is the realization of the principle of nothingness and love. Nothingness continues to eternity ~ infinity ~ transcendent being ~ love.

The fourth intuition of nothingness by Jesus occurred in the prayer of Gethsemane. He intuited nothingness as death. Gethsemane is a garden at the foot of the Western slope of East Jerusalem, the Mount of Olives. There Jesus brought two disciples and entered in prayer. "Oh my Father, if this cup may not pass away from me, except I drink it, thy will be done." What is this cup? Is it the punishment of the Cross with nails to the limbs? Jesus in the prayer of Gethsemane intuited nothingness as death. The pain was so intense that Jesus sweat fell like drops of blood. Although Jesus had the unimaginable suffering of the Cross, that even ordinary people do not experience, there was further suffering. It is the suffering of the redemption of the sins of all mankind. Redemption is not the making of a normal human being. It is that of God only. Jesus' death realization is simultaneously the love of the redemption of sins of all mankind. Since this suffering was too intense, the angel appeared from heaven and encouraged Jesus.

Jesus who intuited nothingness and love at the garden of Gethsemane was arrested by pontiffs and people by the betrayal of the disciple Judah.

He was crucified in spite of his innocence at the trial. Nails were driven into the hands and feet of Jesus who carried his weight and the weight of the sins of all humankind. Jesus died. It became the nothingness of Jesus and the accomplishment of intuition of love. Jesus bore the sins of all humankind and came to nothing. However, it is not the conclusion. As the conquest of death and nothingness, he resurrected. According to the Bible, it was a symbol of the everlasting life. Jesus resurrected and appeared before the disciples in his body. Jesus was shown to be a person of transcendent being (God) by overcoming death and having proved immortality. In intuition Jesus is one as an infinite transcendent being. Jesus is united with the Almighty God, transcendent being (Yahweh) who is the creator of the infinite space. Death, nothingness of Jesus does not end in misery or the darkness but it is the accomplishment of love and the redemption of all humankind. Revival is the proof of everlastingness and the divine nature of the love of Jesus. The love of Jesus Christ is an everlasting light to sparkle in the infinite space.

Conclusion

Through the research of nothingness in all ages and places, I established the principle of nothingness and love. Socrates, Plato and Aristotle also intuited nothingness. In the case of Socrates, I argued about it in my paper, 'Meditation and intuition'[13] and in the case of Plato, 'Kosmologie von Platon'[14] and also in the case of Aristotle, 'Metaphysics of Aristotle and Asian philosophy'[15]. Aristotle who said that philosophy is to wonder is the easiest example to understand. From my stand point, the wonder is so big that man can express nothing. That means nothingness beyond the words. In ancient ages, Asian philosophy and European philosophy separated from the origin, nothingness. European philosophy started to analyze the world. To the contrary, Asian philosophy started to intuit nothingness. Both philosophies are based on the same experience and are united in origin.

As for the theories of love, I synthesize them as follows.

Confucius also intuited nothingness. As he was an orphan, he faced nothingness as a lack of parents' love. Then he overcame some trials, he became the Minister of Justice.

As he was always conscious of his ignorance, he researched truth with infinite passion and learned the importance of morality and love. It is called Jin

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[13] Nakatomi, Kiyokazu (2012). 'Meditation and Intuition' *Społeczeństwo i Edukacja,* Międzynarodowe Studia Humanistyczne Nr 2/2012, Warsaw. http://www.humanum.org.pl/images/SiE/SiE-2012-nr2.pdf#search='kiyokazu+nakatomi+%2 Cmeditation+and+intuition'

[14] Nakatomi Kiyokazu (2013). 'Kosmologie von Platon' *Filozoficzne i kulturowe aspekty działalności człowieka w służbie rozwoju – wybrane karty historii 2013,* Warsaw. http://www.kaweczynska.pl/dokumenty_do_pobrania/Instytut_Studiow_nad_Filozofia/ksiazki/filozoficzne_i_kulturowe_aspekty%20.pdf

[15] Nakatomi, Kiyokazu (2014). 'Metaphysics of Aristotle and Asian philosophy' Izvestia 2014, Volgograd State Pedagogical University http://izvestia.vspu.ru/avtor/5166

The above three papers of mine are collected in *New Horizon of Sciences by the Principle of Nothingness and love*, Lambert Academic Publishing, Saarbrücken.

(benevolence). Getting older, he lived through difficulties, he intuited Heaven which said nothing. In ancient China, Heaven was the transcendent being who controls the movement of the world with infinite power like 'Arche'. It is nothingness as reality. After that, he reached to Sei (saintliness) which saves all the people. Sei is higher than Jin. The thought of Confucius is explained by the new principle. It also applies to the Jihi (mercy) of Buddha. He reached Kū by the intuition of nothingness. Kū is the unity of dharma which is transcendent being, infinite and eternal truth of universe. From nothingness Buddha also reached to infinity ~ eternity ~ the transcendent being ~ love (Jihi). By these experiences, Confucius and Buddha intuited and anticipated the love of the Cross of Jesus for mankind. After hundreds of years, Jesus realized God's Love by the Cross. The great philosophies, thoughts, and religions of all ages and places can be synthesized by the principle of nothingness and love. Nothingness is the highest wisdom in which the transcendent being is revealed to mankind.

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THE MIND IN PROCESS: MEANING OF CHINESE PHILOSOPHY OF MIND ON MIND ECOLOGY STUDIES

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ABSTRACT: *Traditional Chinese Philosophy directly concerns the issue of mind. There is not only Theory of Mind-Nature, but also many scholars regard Confucianism as the Mind Studies, so that some see Chinese Philosophy as Philosophy of Mind. Human mind is seen as an absolute subject, dominates and concerns everything in the universe, moreover possesses characters of wholeness, introversion, and functions of praxis for growing and developing, so it is not entity of western metaphysics but a being in process for actualizing Sage Realm of morality by spiritual praxis. In the course, various factors and relations of mind get synergy in the thinking of organism, holism and becoming theory. These understanding are coincident with postmodern Mind Ecology Studies in the perspective of Process Philosophy. Therefore, Chinese Philosophy of Mind has implication of Mind Ecology Studies, and the latter further demonstrates contemporary theoretic value and realistic meaning from Chinese Philosophy of Mind.*
KEYWORDS: *Mind; Process; Praxis; Chinese Philosophy of Mind; Mind Ecology Studies; holism; organism, Theory of Becoming*

Contents

Introduction
1. The Mind as Absolute Subject and Its Characters
2. The Mind with Praxis Function for Growing and Developing
3. Seeing Chinese Philosophy of Mind from the Mind Ecology Studies
Conclusion

Introduction

Traditional Chinese Philosophy is different from the Western Philosophy as metaphysics of substance and epistemology for questioning of the cosmos and the world as well as knowledge. The former, it doesn't put vision on the world to resolve the issue of being and how to know the world, but aims at human beings and discusses the question of human mind. Its interest lies in considering the relationships

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between human being and world, man and man, man and himself, in order to construct ethic, aesthetical and value world of meaning. Therefore, Chinese Philosophical human studies of humanism directly concern the issue of mind. There is not only Mind Studies (心学) as theory of mind-nature (Han 1992:2–16) which discusses human nature, self-value and its realization, tries to interpret the relationships between human beings and nature, society as well as human life, the mutual relations between lust sexual passion, sense-perception, moral reason, spiritual freedom, and the methods of mind self-cultivation in order spiritual self-transcendence by human consciousness about all phenomena of matter and spirit though Confucianism Buddhism Taoism have their own characters, but also some scholars regard Confucianism as a Philosophy of Mind[3] which is different from psychologism but has close relation with the issues of mentality and concerns the relationships between men and the world, mind and things, mind and Tao. Some directly see Chinese Philosophy as a Philosophy of Mind (Meng 1998:3), because traditional Chinese Philosophy mainly emphasizes the existence of human mind as well as its value and meaning including the self-actualization and transcendence of mind. Maybe, these judgments are very strong. However, we have to say Chinese Philosophy possesses rich thoughts of mind. Moreover, these understanding are coincident with postmodern Mind Ecology Studies in the perspective of Process Philosophy. Therefore, this paper tries to make a new proposition: the Chinese Philosophy of Mind has the meaning of postmodern Mind Ecology Studies, and the latter further demonstrates the contemporary theoretic value and meaning of praxis from Chinese Philosophy of Mind. In main text, three issues will be discussed as follows.

1. The Mind as Absolute Subject and Its Characters

In general, the core category of traditional Chinese Philosophy is the Mind, and the mind is always seen as an absolute subject which dominates everything, concerns everything in the universe. However, it is not substance as Descartes' mind entity for thinking and opposed with the nature but keeping the unity with the nature. The relations between Mind as absolute subject and outside things are not single cognitive relationship in epistemology but potential and manifesting, silent and feeling, hidden and apparent relations. It emphasizes that the human mind and Tao of *the book of Changes* are interlinked, in other words, the mind potentially possesses Tao. From Mencius, all things are prepared for me. In Chu Hsi's opinion, the mind is regarded as Taichi. From Wang Yangming, nothing exists beyond the mind. Lu ChiuYuan believes that the universe is my mind, and my mind is just the universe. According to Zhang Zai, one of philosophical missions is setting up the mind for the heaven and earth. Buddhist thinks, such as, any natural law and principle is attributed to the mind, and has no law outside human mind, and so on. These ideas all embodied the

[3] Chinese some scholars including Mou Tsung-San regard Confucianism as the Philosophy of Mind in a certain extent. In addition, Meng Peiyuan in his book of *The Transcendence and Realm of Mind* also sees Confucianism and Taoism as Philosophy of Mind.

concept of the mind as absolute subject, and set up Confucian ethic subject, Taoist aesthetical subject.

From Meng Peiyuan in his book of *The Transcendence and Realm of Mind*, the mind of traditional Chinese Philosophy as absolute subject has characters of wholeness and introversion. (Meng 1998:4–8)

The wholeness of mind refers to, the mind can integrate intellectuality, emotions, will, intention, and it is self-contained, so it is not necessary to analysis (from Wang Yangming). This character emphasizes the balance between various factors of mind activities, and it is supported by spiritual practice or spiritual praxis.

The introversion of mind refers to self-contained mind subject is not completely realized, it is relative with potentiality and possibility. That is, the mind always lies in a self-actualized process, so it needs to return itself, and depends on itself in order to self-reflect, self-practice, self-realize. Due to mind is dominator for body and human action, so "If cultivating virtue within oneself，the virtue will be real" (Lao Tzu). From Zengzi, I should reflect myself three times each day; I desire "benevolence" (Ren, "仁"), the benevolence (Ren, "仁") will be present. Meng Tzu proposes that the idea of "conserving and settling the mind" (Shou Fang Xin, "收放心"), do not lost conscience (Ben Xin, "本心"). Taoism thinks that the mind itself is pure and light ethic-mind, real-mind, but human being has to keep it in secular society by seeking to the states of "natural Wu-Wei" (doing nothing, "自然无为") as the baby and getting rid of any interference and maintaining tranquility of mind ("致虚守静") as well as non-utility, non-desire ("心斋") and enabling mind forget own body and secular norms, give up own intellect, follow the universal Tao in order to take real freedom ("坐忘").

The subjectivity, wholeness and introversion of mind decided that the mind is basic reason for understanding and explaining the universe and humanity (human nature). From Mou Tsung-San, the mind is reason, its full character of dense is called Qi (Chi, "气"), its character of clear venation is called Li（"理"）, its prevalence and giving individual encounter of necessary certainty is called Ming (Inochi，"命"), its certainty of limitation is called Xing（"性"），its character of being with itself principle is called Dao（Tao, "道"） its unpredictable marvelous character is called Shen（divinity, "神"）， its cohesion is called Jing (spirit，"精"), its master and domination is called Xin (heard，"心"), its without false and excessive demands is called Cheng (sincerity，"诚"), its impartial state is called Zhong (doctrine of the mean，"中"), its without any additional thing is called Ji (pole，"极"), its message running or information communication is called Yi (Change，"易").(Mou 2005:167) All these belong to one, namely, the "conscience"(“良知”). In another words, Qi, Li, Ming, Xing, Dao, Shen, Jing, Xin, Cheng, Zhong, Ji, Yi, are all different expressions of the conscience.

The thoughts of absolute mind as subject with above characteristics are mainly embodied in the studies of mind, the philosophy of the mind.

From the Chinese traditional studies of mind, Confucian studies of mind have

four characters as follows. (Han 1989:72–80)

Firstly, it is a mode of thinking of ontology of mind-nature. From the logical process of thought evolution of Confucian studies of mind, from the Pre-Qin and Han Dynasties' a priori natural studies of mind and Confucian studies of mind combined with emotion of moral psychology, to digestion of Neo-Taoism and Buddhist studies of mind, evolved Confucian the studies of mind from the school of idealist philosophy of the Song and Ming dynasties, and formed the abstract and speculative Cheng-Zhu's Neo-Confucianism as well as the Lu-Wang's mind theories for ontology of moral norms and relations between moving and motionlessness, body and function of mind. After the modern revolution of democracy and the import of west civilization, the modern Neo-Confucianism with "Chinese Cultures as basis, Western Cultures as subsidiary" was shaped.

Secondly, it combines physiology, psychology and morality with the mode of thinking of mind theory. According to the difference between human beings and animals, the relationships between human physiological desires, psychological emotions and moral consciousness are demonstrated; controlling desire, emotion, experience and realizing moral self-cultivation are interpreted by the relation between knowing and doing.

Thirdly, it is an internal self-transcendence. The subjectivity and consciousness of moral emotion and ethical awareness are emphasized, and it argues to actualize human internal value by making an effort, intellectual moral self-cultivation process. The pre-Qin Confucianism pays attention to self-examination by perceptual moral behavior, and takes experience of moral norms from sensible intuition. For example, Meng-Tze regards senses of compassion, of shame, of comity, and of right and wrong as Benevolence, righteousness, courtesy, and wisdom, namely, Four-Terminals Theory of Ren, Yi, Li and Zhi. Confucian school of idealist philosophy of the Song and Ming dynasties concretely interprets moral emotions from the abstract intuition of moral reason, that is, properties of mind (Ren, Yi, Li and Zhi) are externalized the senses of compassion, of shame, of comity, and of right and wrong by the relationship between body and function, moving and motionlessness. Modern New Confucianism based on Confucian school of idealist philosophy of the Song and Ming dynasties, absorbed west philosophy, and further emphasizes that moral subject. Mou Tsung-San combines Lu-Wang's studies of mind with Kant's autonomic morality, advocates the theory of mind- properties unity, and argues that the mind is not only being but activities.

Fourthly, it is the view of human life state as the Internal Sage and External King ("内圣外王"). Confucianism advocates internal self-cultivation such as, Kong Yan enjoys communication with others, and asks for people becoming the sages and men of virtue, meanwhile promotes this view of human life to society in order to realize the social ideals of rectifying the mind, sincerity, self-cultivation, regulating the family, the country and the world. The modern new Confucianism advocates new internal sage and external king, internal cultivation is mainly the Kong-Meng's Tao, external action follows science and democracy, so it is a good unity of the view of human life and social ideal.

This generalization is more accurate. The subjectivity, wholeness and introversion of the mind are all embodied. It includes Confucian Tao, learning and politics, and shows that there are not only Confucian traditional studies of mind, but also there are the learning of nature of mind of Taoism and Buddhism. This is reason why Chinese Philosophy with Confucianism, Buddhism and Taoism is called the philosophy of mind.

Moreover, this philosophy of mind is aim at the Realm of Mind of actualizing sages, and constructs a meaning world based on the Realm of Mind. It tries to set up a mind for the heaven and earth, enable human life in the world abide by Tao in order to take Ming, keep excellent learning for the sages of last generations, let peace in the future generations in the world.

However, the actualization of various Realms of Mind also has to depend on spiritual praxis of mind, namely, mind needs self- cultivate for Tao to be embodied, and Tao to be practiced.

2. The Mind with Praxis Function for Growing and Developing

The Chinese Philosophy argues that the mind is not a motionless mirror, but lies in a process of growing and developing by its creativity. The Mind is living, and its being is embodied by the activities of emotions, will, impression, desire, feeling, perception and thinking. It is different with western philosophical substance of mind or subject of thinking, subject of reason, subject of spirit, Chinese Philosophy emphasizes the wholeness and unitarity, and unfolds praxis of mind to the aim of Sage Realm.

Therefore, the fundamental meaning of mind is growing and developing. The growing and developing is a process, so the mind is not entity but spiritual practice for realizing the Sage Realm of morality. In the course, factors and various relations of the mind get synergy, and communicate the heaven and earth. In the thinking of organism and holism, Chinese Philosophy from human life to universal life, to interpreting human life by universal life, finally, pays attention to mind. From the *Yi Zhuan*, the great virtue of the heaven and earth is treasuring life, and growing life is change. However，everything is actualized by spirit (Shen, “神”)，the spirit refers to Shen Ming (“神明”) of the mind which is fundamental for realizing the virtue of heaven (Tian De ,“天德”) and the virtue of life (Sheng De, “生德”). That is, the mind is root of life. Hence, human mind is not only a process of activities, but also is the activities for ethic or aesthetic aim of praxis. We can say that the functions of mind activities are not in the ways of cognizing and logical inference, but in the ways of human intuitional experience and praxis. It is very clear, the praxis of mind is based on creative activities of novelty and the emotion- intentionality activity of human mind, finally, actualizes the Sage Realm for the unity of the heaven and man.

It is necessary for giving an interpretation. There are some differences between Confucianism, Buddhism and Taoism for understanding the Mind Realm, so there are different means and ways for realizing ideal mind realm.

Confucius sees the “benevolence” (Ren, “仁”) as the highest realm, and Lao Tzu

regards "Tao" (Dao) as the highest realm. The Theory of Realm of Benevolence (Ren) pays attention to human ethical value of morality in order to get the realm of the unity of the heaven and human beings. The Theory of Realm of Tao (Dao) focuses human nature of nature of the morality beyond ethics in order to go the way of spiritual freedom of the unity of virtue and beauty. Of course, the two ways are completed by subsequent Confucianism and Taoism. (Meng 1998:192) This determinated the different means and ways of Confucianism and Taoism actualizing ideal realms, for example, Confucianism until emphasizes moral education and self-cultivation, and Taoism continuously asks for dislodging intellect including moral knowledge, advocates desirelessness and doing nothing (Wu-Wei, "无为") to comply with the Tao of nature, in order to keep tranquility and freedom of mind.

In the fact, in the tradition of Confucianism or Taoism, there are different ways for pursuing of moral realm.

Seeing from the realm theory of Lao Tzu and Chuang Tzu of Taoism, Lao Tse and Chuang-Tzu all emphasize the way of self-cultivation for getting rid of any private idea and keeping tranquility of mind (Zhixushoujing, "致虚守静"). Lao Tse's Realm Theory of Tao advocates that returns the state of the simple and the baby. The baby state as a metaphor of life meaning, concerns the growth and self-realization of the mind. The simple state as a metaphor of being meaning, focuses on original truth. From Lao Tse, with the beginning of chaos of the universe, human being is actualizing and differentiating his or her oneself, and the latter, the process of self-differentiating possesses the possibility of alienation, so man has to self-cultivation and self- transcendence. Therefore, it is needed for growing knowledge everyday for engaging in learning, and it is necessary for giving up unnecessary desire and knowledge everyday for practicing Tao in order to improve the moral realm of mind. The word of "decrease" (Sun, "损"), discloses that the activity of moral cultivation is a process of doing (Wei, "为"), namely, it is a process of praxis for the subject of mind in the ways of conscious self-practice, self-transcendence and self-realization. In the process, the ability of self-calming is necessary in order to exclude any uneasy, concentrate one's attention to experience Tao. It is very clear that the realm of unity of human being and Tao needs the self-transcendence of mind.

Chaung Tzu concretizes Lao Tze's above principles in self-cultivation, advocates Xin-Zhai ("心斋") and Zuo-Wang ("坐忘"), You-Xin("游心") and Qi-Wu"齐物". Xin-Zhai ("心斋") refers to a state of mind which refuses outside various lures of the utilitarian including reputations and benefits, and lets mind is not disturbed, in order to keep mind doesn't depend on especially doesn't infatuate any outside thing. Zuo-Wang("坐忘") refers to consciously giving up some things what are not relative and necessary, and controlling the emotions of pleasure, anger, sorrow and joy as well as utilitarian desires. Chaung Tzu said that forgetting feet shows that the shoes are suitable; forgetting waist, due to the belt is suitable; if you know forgetting right and wrong, it means that the mind is in nice state（《庄子·达生》）. (Sun 2007:279) However, this kind of forgetting has its own premise, namely, the mind is self-sufficiency. You-Xin ("游心") refers to the

mind lies in a state of freedom. According to Chaung Tzu, You-Xin ("游心") is just Wu-Dai ("无待"), getting rid of limits, stumbles, without relying on vain glory in the world. Qi-Wu（"齐物"）refers to equality of things in the meaning of ontology and axiology, anything has its own value and meaning, because Chaung Tzu opposes the distinguishing of the way in the utility, the useless thing maybe has its own great function. In his opinion, any distinguishing comes from human subjective prejudice and Cheng Xin ("成心"), and it is not necessary for distinguishing out right and wrong, great and small things in the world. Hence, he advocates that human beings and all things in the earth are equal, and everything has its own value of existence by its own nature which Tao learns from and abides by the nature of thing. Therefore, Chaung Tzu's thought is called the Theory of Freedom Realm.

Whether Lao Tze's Theory of Tao Realm or Chaung Tzu's Theory of Freedom Realm, they all gave the ways of realizing transcendental Mind Realm, and seek to growth and development of mind by playing the roles of experience and keeping of Tao in order to realize the realm of the unity of the heaven and human being.

In addition, various mind realms of Confucianism also went through a process of evolution. Finally, Wang Yangming's Study of Mind which emphasizes the internal pursuing of mind and the interpretation about the functions of growth and development of mind is regarded as the Theory of Mind Resonating ("心灵感通说"). Mou Tsung-San's book of *the Conscience* (*Du-Ti*) *in loneliness* (Mou Tsung-San 2005) tries to interpret his own views of Wang Yangming and Zhuxi in the *Theory of Spirituality Resonating* ("精灵感通论")and the *Dialogue of Zhu and Wang*.(Mou 2005:161-177) In Mou Tsung-San's opinion, Yangming's Study of Mind make an opposition between his "Mind(Xin，心)" and "Reason(Li，理)", and Yangming argues that "Reason (li，理)" is not in outside of mind. In the fact, Zhuzi's "Reason (Li，理)" doesn't neglect "Mind (Xin，心)", and it is only a methodology for interpreting the order of the universe, namely, theory of cultivation. Zhuzi not only sees the order and the rule of the cosmos as "Reason (li，理)" from the aspect of physics, but also regards "Benevolence (Ren，仁)", "Justice (Yi，义)", "Propriety (Li，礼)", "Wisdom (Zhi，智)" and via media as "Reason (Li，理)" in the humanity. The "Reason (Li，理)" becomes to Zhuzi's a whole principle for interpreting all phenomena. (Mou 2005:163)

Therefore, from Mou Tsung-San, the difference between Yangming and Zhuxi is just that, Zhuxi's question is on order of the universe and goodness of human nature, so his system of theory is from ontology to cultivation learning; Yangming's question is in the investigation of things（Ge-Wu, "格物"）, his system of interpretation is from cultivation learning to ontology. Due to the difference of two systems in the direction, produced different propositions in the ontology, one is the Theory of Spirituality Resonating in an aspect, and another is comprehensive rationalism in two aspects. (Mou 2005:164) Zhuxi's theory also concerns cultivation learning, and Yangming only considers the mind, so some call his theory as the Study of Mind. Mou Tsung-San prefers to see it as the Study of Conscience. (Mou

2005:164)

Indeed, from Yangming, the mind has multiple properties and functions by his Theory of Spirituality Resonating, and it is related with all things of the heaven and earth. In Mou Tsung-San's opinion (Mou 2005:166–167), (1) I am center, by the function of induction of conscience, all things of the heaven and earth are prepared for me. The "spirituality" (Jing-Ling, "精灵") of conscience is seen as center, everything with my mind turns to silent when Ling Ming doesn't happen to induction. (2) The conscience and spirituality (Jing-Ling, "精灵") are in every place. Human conscience is the consciences of grass, wood, and stone. They are not themselves if the heaven and earth have not human conscience, so everything and human being are a unity, moreover Qi ("气") run between the heaven and the earth. This is the theory of spirituality feeling and understanding, namely, the Theory of Spirituality Resonating ("精灵感通论"). (3) The principle of Genius (Spirituality, Jing-Ling, "精灵") plays same role with Zhuxi's Reason (Li, "理"), Tao ("道") and Tai Chi ("太极"). The conscience as subject has twelve properties, such as Qi ("气"), Li ("理"), Ming ("命"), Xing ("性"), Dao ("道"), Shen ("神"), Jing ("精"), Xin ("心"), Cheng ("诚"), Zhong ("中"), Ji ("极"), Yi ("易"), and they are called as twelve proper nouns. (4) The "Nothing is outside mind" of The Theory of Spirituality Resonating ("精灵感通论") based on conscience is a question of inquiry but an issue of being in ontology.

We can say that Yangming's Theory of Spirituality Resonating ("精灵感通论") of Study of Mind especially emphasizes the activity of spiritual interaction with all things and environment, and the universe will become lonely and dark if there are not the activities of spirit. In other words, thanks to the activities of spiritual interaction with all things and environment, man can experience Tao and promote his realm of morality, and enable the universe and all things are lighted. Meanwhile, the praxis of spirit for mind growing and developing is attributed to human conscience and spirituality (Jing-Ling, "精灵") from mind.

3. Seeing Chinese Philosophy of Mind from the Mind Ecology Studies

We can say that the mind from Chinese Philosophy possesses functions of ethic and aesthetical spiritual practice. However, playing these functions need to appeal to keep the conscience ("本心") as well as synergy between the mind and outside environment including body, in order to realize the Sage Realm of the unity of the heaven and man. Therefore, Chinese Philosophy of Mind has the implication or meaning of postmodern Mind Ecology Studies.

The postmodern Mind Ecology Studies is put in a theoretic framework of Process Philosophy of the organic cosmology and holism, and it regards human sustainability and common good as itself practical principles in order to understand and interpret the mind again. It agrees that the mind is not abstract thinking, so we have to resort to the "mind ecology" for considering it. The "mind ecology" is

proposed by the shift from modern perspective to constructive postmodern perspective. The constructive postmodernists believe that they resolved material and spiritual oppose from the modern western philosophy. Philip Clayton thinks that the Mind Ecology Studies (“心灵生态学”) is example illustration for interpreting the change from the modern to the postmodern, and environment science and human spirituality supported the movement. He sees Taoist classical book with five thousand words (called the perfect of religion of balance by some scholars) as a philosophy of balance as same as the Mind Ecology Studies. The Mind Ecology Studies emphasizes mutual relevance between the mind and environment, and it considers the aesthetic ethic and cognitive functions of mind in the whole relationship. From Alfred North Whitehead, it is internally related between us and other things.

Hence，the Mind Ecology Studies thinks that the relations between mankind and other creatures are internally related, and the good or bad influence from us will become their part. All human beings have to face various benefit lures, but we have right of selection. We are a part of the web of life, and this web of life is a community of all creatures, moreover we should offer services for this community. From the process philosophy, our every thinking, every word and action will produce eternal impression in the whole cosmos – Objective Immortality. The Mind Ecology Studies is appropriate for whole ecological system including us. Philip Clayton said that “The Mind Ecology Studies reminds us should not empty talk about praxis, and sustainability concerns praxis, our mental state and states of mind, as well as my action at present. The web of life is still hovering in my heart.” (Clayton 2012: the first edition)

In the fact, Mou Tsung-San, as a Neo-Confucianist, had absorbed and accepted Whitehead’s thought of process philosophy. He shows his own theoretic position of Whitehead’s philosophy in the book of *The Conscience in Loneliness*(《寂寞中的独体》), especially is in the chapter of *Theory of Causality of Perception and Theory of Possibility of Knowledge*. Mou Tsung-San thinks that Alfred North Whitehead’s Theory of Image of Thing from Sensation (“感觉物象说”) or the Theory of the Form of Thing from Sensation (“感觉物相说”) is his expression about Theory of Internal Relationship of Feeling. Mou Tsung-San admits that he followed Alfred North Whitehead’s thoughts when he considers the “pure givenness” (“纯粹所与”) and the “givenness emerged”（“显现所与”). (Mou 2005:13) Due to he follows Alfred North Whitehead’s thought, Mou Tsung-San interprets as follows. (Mou 2005:12-16)

Firstly, the natural world is the world of events, and the relationships come from events, movement also belongs to events. The internal relationships are happened to by the relations of events.

Secondly, the relations of extending occurred by each event and any event, then they can produce a kind of collection, so that present a certain shape, namely characterizing actual anything. The certain shape is the focus as well as way and appearance as events presenting. We can find their causal chain by the focus presented, and confirm our object of cognition by the way and appearance presented.

The appearance presented is called the "form of thing" ("物相") which used for classifying the types of things. The events and the "form of thing" ("物相") have causal relationship on the focus presented. The "form of thing" ("物相") is a result, and the relationship of events is cause.

Thirdly, the relationship of sensation is also relations between events in the knowledge. We call it the "event on the middle seat" or "event as media" ("中座事素") in the body which it produces relationships with objective events around it, so there are match relationships. The match relationships are also a collection and a certain shape characterized. The certain shape characterized ("定型") is also focus presented, and it has its own appearance presented. The shaping of appearance presented is called feeling shaping the "form of thing of sensation" （感知物相）which is shaped by sense organs of body.

Fourthly, the "form of thing of sensation" （感知物相）is just the "givenness emerged", and the events produced the "form of thing of sensation" are the "pure givennesses". The relation between "pure givennesses" has a relationship of extending, so it also has causal relationship which is seen by the focus presented. Inquiry for this causal relation is questioning the logos of the world, and the inquiry is based on the "givenness emerged". Therefore, the "givenness emerged" and "pure givenness" possess causal relationship, namely, the upper and lower relation. The lower level or shadow is the "givenness emerged", and the upper or shape is the "pure givenness". We have to be based the form of thing of the "given emerged" to analyze the logos of the world. That shape is also called the model or format which is public, universal, eternal and invariable. Whitehead calls the finalizing the design or objectification of actual events as the "eternal object" ("永恒客体"), however, our knowledge comes from the "eternal object". Formats of the "form of thing of sensation" can compose the "form of thing of perception", it is the union of abstractions for many forms of thing of sensation, and it is also the union of abstractions of relations between formats. This kind of the "form of thing of perception" is more abstraction, and it prefers to use thinking of abstraction, and it is more and more closing the logos of the world, finally, we can take scientific forms of thing. The meaning of the abstraction is just an application of Alfred North Whitehead's method of the abstraction-extending ("抽延法").

The answer for knowledge how to be possible is proved by Mou Tsung-San like Alfred North Whitehead. Mou Tsung-San uses the causal relationship between the givenness presented and the pure givenness, as well as the abstractions from the "form of thing of sensation" to the "form of thing of perception", and he unifies feeling and thought, body and mind, thing and me, the world and spirit, being and thinking, finally these conflicts are unified in the process from occurring to developing of the relationships of events. This understanding shows, the cognitive question of mind does not only belong to single thinking activity, and involves the questions of the relationships between body-mind and environment, concerns human activities of feeling or prehension in the particular and concrete environment.

Obviously, we can say, the interpretations of cognitive activities of mind from

Neo-Confucianism and the Mind Ecology Studies, the both have a common source of thoughts, that is, Alfred North Whitehead's Process Philosophy (Whitehead 1978, 1967).

Conclusion

To sum up, in the perspective of the Mind Ecology Studies with the tradition of Whitehead's Process Philosophy, we promote a dialogue and fusion of horizons between constructive postmodern philosophy and traditional Chinese Philosophy. Consequently, the Mind Ecology Studies in the postmodern context revealed an ecological dimension, contemporary theoretic value and practical meaning of Chinese Philosophy of Mind. However, it is necessary to give further interpretation for this comparative research between traditional Chinese Philosophy of Mind and contemporary the Mind Ecology Studies as follows.

On the one hand, we have to see their common points which are key premise of our comparative research, for example, they insist on organism, holism, theory of becoming and theory of process in the perspectives of time and history, as well as they all stress the category of relation, and they possess same characteristics of the thinking of synthesis， moreover, they argue that human mind is growing by various spiritual praxis, etc.

On the other hand, we also should admit their different points between traditional Chinese Philosophy of Mind and contemporary Mind Ecology Studies from constructive postmodernism:

(1) Their cultural backgrounds are different. Chinese Philosophy of Mind was based on traditional Chinese culture and civilization of agriculture, and the Mind Ecology Studies is based on the culture of modernity in the late western capitalism and civilization of post-industry.

(2) Their paradigms of philosophy are different. Chinese Philosophy of Mind comes from the perspective of simple and unadorned dialectics in the paradigm of pre-modern non-speculative Chinese philosophy, but the Mind Ecology Studies comes from the perspective of process-relationship dialectics in the paradigm of constructive postmodern speculative Western philosophy.

(3) Their interests and targets are different. Interests of theory for Chinese Philosophy of Mind is how to realize the transcendence of human mind by spiritual praxis, namely, to promote the aesthetical ethical Sage Realm of human beings and social orders in Chinese traditional society or community, the interests of theory for the Mind Ecology Studies lies in how to realize universal peace, harmony and ecological civilization by the subject of mind as event its own self-feeling, self-prehension, self-selection, self-creation, self-enjoyment, self-actualization in the position of metaphysics of a generic empiricism and cosmology. Above these ancient and modern, Chinese and Western differences enable the common points of comparative both look like more precious and important. Thereby, it enlightens us that nowadays, we not only should engage in civilization dialogue beyond time and space but seek to civilization of dialogue in the process of reconstructing civilization.

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THE RELATIONSHIP BETWEEN THE HISTORICAL BUDDHA SAKYAMUNI AND THE ANTICIPATORY BODHISATTVA VISISHTACARITRA (SUPREME CONDUCT)

Makoto OZAKI[1]

ABSTRACT. *The Buddha Sakyamuni and Nichiren are mediated by the anticipatory Bodhisattva who is the self-projection in negation onto the eschatological future, so-called mappo era, after 2000 years since the Buddha's passing. The relationship of them is interpreted by Jijo Ohashi (1923–2014) in terms of the triadic logic of Emptiness, appearance, and a unity of them in the direction of spiral teleo-driven soteriological self-development in history. Heidegger's view of truth as unconcealment might be relevant to the disclosure of the hidden essence of the Buddha's original eternity which is to be self-manifested in the dynamic evolutionary process. The historical person Nichiren is apprehended as identical with the original eternal Buddha in the way of cyclic return in unhiddenness or opening up of truth. The basic Neo-Aristotelian structure of the dynamic cyclic triadologic movement might be cogently in agreement with this Buddhist idea of identity and difference which is teleologically driven by the reciprocal reversal of cause and effect in the soteriologically spiral self-developing process of time.*
KEYWORDS: *The Buddha Sakyamuni, The anticipatory Bodhisattva, Nichiren, dynamic triadologic, teleo-driven causality, cyclic return, soteriological process*

What is meant by the Bodhisattva Visishtacaritra, who appeared in the story of the Lotus Sutra? This is the key concept for the understanding of the relationship between the Buddha Sakyamuni and Nichiren, who appeared in the actual span of time in Japan after the Buddha's passing. Revd. Jijo Ohashi presents a unique interpretation on this matter in terms of the logic of identity and difference between the dharma (truth) in itself and its soteriological efficacy. According to him, the status of the Buddha Sakyamuni as the past fruit is converted into the status of Nichiren as the present acting subject or person through the mediation of the anticipatory Bodhisattva Visishtacaritra who is the proleptical preappearance of the eternal original Buddha. This implies the direct presence of the even distant past in the present actual entity, and in the end, Nichiren is conceived of as being self-identical with the eternal Buddha.

The Bodhisattva Visishtacaritra is not an actual body, but a foreshadowing of the eternal Buddha, who was revealed by the historical Buddha Sakyamuni, onto the future in which the eternal Buddha takes a new form. For this purpose, the hidden dharma in the depth of the Lotus Sutra is transferred to the Bodhisattva from the

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Buddha Sakyamuni, tells the story. Here it is obvious that on the one hand, the Buddha Sakyamuni is regarded as the past establishment, that is, the fruit or effect, and on the other hand, the Bodhisattva Visishtacaritra is regarded as the forthcoming person or acting subject after the past fruit. However, that Bodhisattva is not yet an actual person in history, but is just indicative of a foreshadowing or emanation of the deeply hidden original Buddha at the bottom of Sakyamuni onto the real horizon of space and time. Namely, that Bodhisattva is another expression of the Buddha himself, and is expected to appear in the actual stage of historical progression. That Bodhisattva represents a new superseding Buddha, who is not different from Sakyamuni as the original Buddha in essence. Even so, however, in appearance, they have the different aims; one is to close and finish the previous soteriological working process, the other is to begin and disclose the new activity of salvation so far hidden in depth. In terms of the dharma-body or dharma in itself, the Buddha Sakyamuni and the Bodhisattva Visishtacaritra are identical with each other, while they make the different efficacies upon their own aims from the perspective of history or actual field of human action. And this anticipated person is concretely none other than Nichiren. In other words, Nichiren is the present acting subject, to whom the hidden dharmas have been transferred from the Buddha Sakyamuni through the mediation of the Bodhisattva Visishtacaritra. As a result, Sakyamuni is no longer the lord of the appropriate teaching in our time, but is superseded by Nichiren as the reincarnation of the Bodhisattva Visishtacaritra. So, Sakyamuni, Visishtacaritra and Nichiren are the different names of one and the same reality in time-process. Thus, Ohashi's provocative interpretation of the personal identity of Sakyamuni and Nichiren, despite their historical and geometrical distances, has some implications of the direct presence of the distant past in the present or the immediate prehension of the far past by the present actuality, sharing with A.N. Whitehead's thought. In short, Nichiren is immediately apprehended as the eternal Buddha's soteriologically appropriate presence in our age.

The transition from the Buddha Sakyamuni to the Bodhisattva Visishtacaritra takes place in the form of extensive continuum, in which the actual events are alternately transmuted into the potential status in the order of time and afterwards a new creation of actuality occurs as a consequence of the synthesis of the potential past and the possible future at the present moment of action. Therefore, although both figures of the Buddha and the Bodhisattva stand in communal relativity, stressed the present action, the latter emerges in the place of playing a more fundamental role in the actual world. And this makes a sharp contrast to the intellectual contemplation, which Tanabe Hajime, the Kyoto School Philosopher of modern Japan, refuses, without a practical agency. The importance of the Bodhisattva lies in the active attitude towards a construction of history with hopes for the future. So, Ohashi mentions that the Buddha Sakyamuni and the Bodhisattva Visishtacaritra constitute the dynamic unity of duality and non-duality, and more importantly, when the Buddha Sakyamuni actually existed during his life-time, the Bodhisattva Visishtacaritra was just a projection onto the future, whereas after the Buddha passed away the time has come to fulfill his self-projection, as the standing position is reversed. Another pole

of the unity, i.e., duality, is present and manifest, making a tension between eternity and time in the field of human activity, in contrast to non-duality in which time is elevated into eternity. That means that the Buddha changes his status on behalf of the unredeemed people and assimilates himself to them in the form of the Bodhisattva on the subsidiary level. But this does not mean the power of salvation of the latter is inferior to that of the former, but rather, in terms of the present urgency of redemption, the latter's standing position is more important than the former's. The criterion depends on the actuality of salvatory working in the nascent situation, in which human beings are inevitably involved as a matter of fact. The emphasis is placed on the present activity rather than on the past state, in which the previous activity is stored but for the moment inactive, just functioning as the given datum from which a new activity is originated by leap. Consequently, it is turned out that time and space in which the Bodhisattva Visishtacaritra is in fact at work as the subject of salvation are really fundamental, and the total reversal of the position occurs for the facing purpose of saving those who are not yet in touch with salvation at all. In other words, the Bodhisattva Visishtacaritra is not simply on the level of subsidiary but also represents the full manifestation of his latent essence, which belongs to the Buddha Sakyamuni, in the sphere of actual existence of humanity on the whole.

With regard to the importance of the Bodhisattva Visishtacaritra, Ohashi also points out that the eternal origin of the Buddha Sakyamuni had been concealed until the Bodhisattva Visishtacaritra appeared in the mode of projection, and this signifies the latter's superiority to the former paradoxically, for the former was disclosed by virtue of the latter and this order is irreversible. To put it another way, the revelation of the eternal Buddha depends on the Bodhisattva Visishtacaritra, and becomes historical reality in the concrete form of personality. The Bodhisattva Visishtacaritra is prior to the full revelation of the eternal Buddha, and the latter is projected onto the former. In actuality, the concrete form of the former is the driving force in history by virtue of which other human beings are brought about into the self-realization on their own efforts of practice. This stands for the continuity of the eternal Buddha with human beings through the mediation of the Bodhisattva Visishtacaritra as the representative or archetype of all mankind except for the Buddha. However, the continuity does not imply a direct connection between the two parties, but an indirect one as a disconjunction of conjunction or a unity of opposites in a dynamic movement, involving a successive development in the direction of cumulative and extensive unfolding in the future community of historical figures. In respect to the successive development referred to just above, each occasion, in the self-realization or becoming present of eternity in time and space, is only fragmental and partial as an infinitesimal region, as it were, not representing a total presence of eternity in that area.

Without integrating the discreet occasions or moments in time as a totality of duration, how is it possible to construct history? This is the point, to which Tanabe finally referred in his latest days with reference to the fulfillment of the content of emptying activity of Emptiness, which is differently expressed by Whitehead as the

epochal duration of time ordering a series of occasions in integrity. The epoch of eschatological period so-called "*mappo*" era should be viewed from this perspective, in which the concrete form of the anticipatory Bodhisattva is predestined to come out of the ground of our globe to make the whole of humanity attain their own Buddhahood. And in this occurrence, the direction of going from time to eternity is converted as a returning from eternity to time, to infinity, as far as humanity seeks for the self-realization within the framework of historical existence.

Then, why does it occur that the Buddha Sakyamuni takes the form of the Bodhisattva Visishtacaritra to appear again or return in the time to come after his self-completion? This is, philosophically analyzing, the problem of the relation of time and eternity in a double way of going from time to eternity and of returning from eternity to time. Once the Buddha Sakyamuni retraced to his origin, which represents the direction of going to eternity from time, he cannot stay any longer there, but rather comes down to time again, representing the reverse direction from eternity to time. This is the converting gesture or transfiguration in return of the Buddha attained in eternity to the Bodhisattva in attainment in history. And hence, the Bodhisattva is the symbol of the converting action in return by which the eternal content of the Buddha is to be realized in the realm of human beings. In other words, eternity or the Absolute does not remain as such forever, but rather is made to disrupt and realize itself into space and time through the mediation of action of those who have already entered salvation to extend their fruits to others on the status of being unredeemed.

In this respect, Tanabe suggests a significant meaning of the Bodhisattva in general by referring to the Lotus Sutra in that the Buddha performs his salvific work in a variety of different names and forms according to the various kinds of groups or species of sentient beings he wishes to save. This means that salvation must have a specific society as its substratum and some particular culture as its medium, because the eternal Buddha as the Absolute never extends a hand directly to save less advanced people, but rather always translates himself in the form of the more advanced, so to speak, the elder brothers, in his place. This is the reason why the Absolute as such never acts on by himself or out of his own will, but does so only through the mediation of those who have already been saved or nearly saved to save others. From this, it follows cogently that the eternal Buddha never goes to work out for others immediately, but mediates himself in the mode of emanation or transfiguration as the secondary rank rather than the first or primary rank of the Buddha as such. This is due to the self-emptying activity of Emptiness itself in principle that is no other than the Absolute or eternity. By reason of this self-emptying activity, the Absolute or the eternal Buddha is converted in self-negation into the secondary form of the Bodhisattva to realize its/his own essence in the realm of actuality of human beings to be saved. And this also entails that the Bodhisattva Visishtacaritra provokes other potential Bodhisattvas' returning or converting actions in the horizontal direction of society in a repetitive manner. Hence, Visishtacaritra is not the only one Bodhisattva, who mediates between eternity and time in a returning action by which others' potential actions are to be evoked infinitely in the future as well as in society. This is the ground that the countless Bodhisattvas are expected to

come out of the actual existence of humanity as a whole. And this also corresponds to Tanabe's denial of the "only one" Son of God in Jesus Christ, but, instead, to a positive extension of God's Sonship to the possible returning or converting actions, to be borne by innumerable people, in the boundless regions of space and time in which human beings exist.

However, Tanabe, on the other side, denies the second coming of Christ at the end of history as a liner time in terms of momentariness of time, in which eternity is continuously converted and manifested into time as "here and now" through human action. From the standpoint of momentariness, as completion is at the same time incompletion, each present moment is constantly negated and renewed in the direction of increase and accumulation of the past. This is parallel to Whitehead's process conception, in which the antecedent actualities are superseded by the succeeding ones in succession and they make up time as perpetual perishing as well as perpetual arising. And this process is described in terms of subject and superject, the latter of which is comparable to Tanabe's concept of substratum or species, upon which the individual subject acts and then to which the subject turns and converts itself as a result of losing its subjectivity; this process of turning from subject to superject or substratum is a transformation of subjectivity into objectivity or the state of pastness. Aside from the parallelism between them, a succession of momentariness in time entails an incessant conversion from the past being to a new present becoming or subjective acting, upon which creative advance into novelty is further made.

From this viewpoint, even Jesus Christ is never conceived of as isolated from other human beings as if he were the "only one" Son of God above them, but rather, he is still in continuity with them so as to reflect his Sonship upon their Sonship and vice versa. Apart from the mutual reflective communication between Christ and human beings in general, there is no authentic Sonship of Christ, and in the end, the Sonship of Christ falls down into a superject or substratum devoid of subjectivity. To put it another way, only in so far as the Sonship of Christ is mediated to the Sonship of other human beings, only in cooperation and community with them, Jesus Christ is perceived to sustain his absoluteness of the primal source precedent to others as the prototype of mankind. This signifies that Jesus Christ is not absolute as such, but only in relation to human beings maintains he such absoluteness as the springboard or mediating point, from which the Sonship of mankind is also to be realized accordingly. From such a perspective, the second coming of Christ is untenable, and a view of liner time is rejected by Tanabe as a conservation of the past state, in which the Sonship of Christ is no longer subjectively active to convert and communicate itself to mankind. The Sonship of Christ is not a self-identical being beyond time, but is constantly communicated and transformed into the potential Sonship of mankind in turn. This is based upon a fulfillment of Emptiness as a self-conversion through negation in action, even though Tanabe's conception of momentariness is not yet enough to found a temporal duration of historical time as the integral wholeness of separate moments in history. Anyway, viewed from this standpoint, the Bodhisattva Visishtacaritra is also conceived of as the relative Absolute that is extensively to be realized in human beings through their own actions in time and space, i.e., history.

Tanabe's way of thinking, centered on the instant moment of time, i.e., the present, might be much influenced by Zen Buddhist thought, in contrast to the Christian tradition of the expectation of Messiah in the eschatological time as well as to another Buddhist stream of the Lotus Sutra in which the foreshadowed Bodhisattva is anticipated to appear in the future after the demise of the historical Buddha. Tanabe does not refer to Heidegger's idea of the other beginning, vis-à-vis the first beginning declined in the present age, in preparation for a new history in which the last God may appear. Heidegger's idea might also be reflective of the second coming of Christ in the biblical background. The instant momentary time of the present is the distinguishing characteristic and limitation of Tanabe's thought, without developing the historical duration, i.e., epochal time, in connection with the line and purpose towards the future.

To begin with, Buddhist philosophy, represented by Tendai (Tien Tai)'s systematic interpretation of the Lotus Sutra, displays the triadic structure of truth of the entire universe in the forms of Emptiness, appearance, and a unity of them in balance, i.e., the middle (way). This triadic structure might be comparable to Hegel's dialectic of the identity of identity and non-identity. Emptiness becomes appearance as non-identity, i.e., other, in and through self-negation, and both of them are unified on the higher level through the double negation, and so on. This triadic logic can also be relevant to the relationship between the Buddha Sakyamuni and the historical person Nichiren, born in Japan after 2000 years since the Buddha's passing, through the mediation of the anticipated Bodhisattva Visishtacaritra. The Bodhisattva in question is none other than the other form of the Buddha, who revealed his own original eternity, in and through self-negation for the purpose of saving the human beings to come in the future after the Buddha's passing. This Bodhisattva is anticipated to exist as a real person in history, and is at last identified as Nichiren, who is in a position of starting a new course of salvation again. Although the three parties, the Buddha, the Bodhisattva and Nichiren, are different in their stages of salvation, nevertheless, they are identical with each other in essence. In spite of their different appearances or multi-disguises, the original essence of the eternal Buddha revealed by the historical Buddha is invariantly one and the same through his soteriologically far long process of time. Nichiren is apprehended as the return to the original eternal Buddha upon the completion of the historical Buddha's salvation work. This signifies a cyclic return to the eternal origin from the end of historical time; after the Buddha Sakyamuni completed his saving activity, a new course of salvation is to commence again for those who have been fallen and estranged from the Buddha's salvation and hence not yet saved. The historical period after 2000 years since the Buddha's passing, in which we are now inescapably involved, is the right time for a new course of salvation, and for this purpose the Bodhisattva Visishtacaritra is anticipated to come out in the world, despite his disguised other form than the Buddha. The dialectical unification of the identity and difference is crucial for comprehension of the Buddha's soteriologically valid progress aimed at the last and ultimate redemption. The Buddha Sakyamuni as the past effect and Nichiren as the present cause are mutually mediated by the intermediate being of the

Bodhisattva Visishtacaritra as the foreshadowing or proleptic preappearance of the hidden original essence of eternity in depth. Here might be found some corresponding Neo-Aristotelian elements, e.g., the inherent changeability, immanent teleo-driven causality, bipolarity vis-à-vis triadicity, dynamic cyclicity, spiral evolutionary development, and so on. In this way, the relationship among the historical Buddha Sakyamuni, the anticipatory Bodhisattva Visishtacaritra and the historical person Nichiren, elucidated by Rev. Ohashi, might be apprehended in terms of the Neo-Aristotelian scheme proposed by Konstantin Khrouski.

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IS LIBERTY POSSIBLE? THE TRAJECTORY OF LIBERAL INSTITUTIONALIZATION OF LIBERTY IN POST-COLONIAL SOCIETIES

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ABSTRACT. *The gradual emergence of the* ***order of freedom*** *in a traditionally structured society creates an illusion that the emerging order will provide an unprecedented freedom and no coercive mechanism will be there to deny human will. This expectation of unquestionable freedom in traditional, tribal, religious or patriarchic societies will be interpreted a social form without any restrictions or limitations if not purely order-less. This unreasonable expectation from the order of freedom is not the result of inappropriate knowledge of liberal order of freedom rather it is due to the understanding of the notion of freedom through post-colonial spectacles.*

The liberty as political ideal is one of the most important political ideal in post-colonial historical context but due to specific colonial legacy the meaning of freedom presumed or at least idealized in these parts of the world is actually in-formalized in the sense that it generally defined in antagonism with any form of authority i.e. religious, traditional, communitarian, patriarchal and most importantly bureaucratic order of governance. The empirical justification of this claim is in itself a domain of research but this actually not the core concern of our paper. In this paper it will be argued that our post-colonial notion of informal non-institutionalized freedom is beyond the scope of freedom make available by liberal order. The demand of unprecedented freedom is anarchic. An attempt will be made in this paper to conceptually explicate the order of freedom rather than freedom itself. It will be argued that freedom without order is not acceptable for liberal socio-political order thus it offers certain restrictions and limitations on human expression which are presumed to be necessary to guarantee individual freedom.

KEYWORDS*: post-colonial society, order of freedom, civil disobedience*

Introduction

It is an acknowledged fact the freedom in political sense is the area of non-interference defined, acknowledged and protected by the State apparatus. This formalization of the area of non-encroachment is presumed to be one of the most celebrated political ideal of liberal political order. It means that liberal order must necessarily presumed a very well defined institutional mechanism to define the area of non-interference, it's possible encroachment and its legal corollaries. Secondly it must also presume a very clear role of State apparatus regarding the determination of

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legitimate public sphere and the limits of the freedom of expression in a given public order.

The culturally non-liberal societies according to Fareed Zakarya are the real cause of illiberal democracies or the dis-functionality of democratic political procedure. But this actually an over simplified understanding of post-colonial non-liberal tendencies which manifest in the form of illiberal democratic orders. In such democratic order people (due to their non-liberal particularities) often consider ***"order of freedom"*** as illegitimate because it not only provides you freedom but at the same time limits your freedom by defining the area-of non-encroachment or in other words defining what ought not to do i.e. not to encroach others freedom which most of the times contradictory to the values of the people of post-colonial societies and their notion of informal freedom.

The ordered life is generally being considered as a socially recognized mechanism of discipline and punishment. The nature of order is in itself instrumental to overcome the fundamental existential vacuum of human urge for security and stability. Different justifications have been given to bridge the gulf caused by the fear of instability and insecurity for instance traditional, tribal, religious orders have their own justifications to legitimize their mechanism of discipline and punishment to overcome the fear of instability and insecurity. Historically different institutions have been emerged or evolved for the determination of well-ordered society. The most important question is whether the security or stability is end in itself or they are the mean to an end. In this sense it was traditional to provide a teleological justification of a given social order. The nature of social order will be determined by the ***telos*** it guarantees. It is important to note that the mechanism of discipline and punishment is one of the integral aspects of social order. Thus social control is legitimized by virtue of its capacity to actualize the ***telos*** which has been emerged from the tradition, intuition, revelation or the collective historical experience of a given civilization. The teleologically grounded ***grand-narrative*** provides a hermeneutical space to reasonably argue the justification of a given order. It reveals that the institutionalization of a given order and its corresponding mechanism of discipline and punishment is not just a political issue which can be resolved by coercive State apparatus and by certain bureaucratic mechanism. Rather gradual historical process which provide condition for evolving the "telos" actually interwoven into the socio-cultural fabric of a given society.

Thus the order of religion in a society which considers the order of tradition, or tribe, or patriarchy or matriarchy etc. as legitimate as the imposition of the order of religion will be considered by such society as coercive. Similarly if the order of freedom is going to be imposed through direct state apparatus or indirectly through humanitarian aid incentives, strengthening civil society net works and international bureaucratic institutions etc. is equally coercive from the perspective of those who do not consider encroachment in individual's private sphere as immoral or illegitimate.

It reveals that principally establishment of any mechanism of order presumes a particular grand-narrative which has to be acknowledged as meta-rational. Secondly any mechanism of order cannot be established without identifying the theoretical

limits of the notion of tolerance i.e. it should be clear in that mechanism of order that what cannot be tolerated otherwise no order can be maintained. If any establishing order fail to legitimize the sanctity of the given telos from which the order is to be derived than the coerciveness of a given order can be presented as threat to the given political community hence its order will be considered as illegitimate.

Liberal order in culturally non-liberal societies is generally considered as unjust and coercive because its far more judgmental regarding the traditionally or religiously emerged mechanism of discipline and punishment which most of the times do not respect the sanctity of the area of non-encroachment and individual's inviolable right of self-determination.

It is because of this reason internalization of liberal order i.e. order of freedom, in a culturally non-liberal society through constitutional codification, legislation and its corresponding institutionalization eventually emphasizes more on ***what should not be done?*** Rather than, ***what should be done?***

The gradual institutionalization of individual freedom through active state interventions pave the way for a constant antagonistic dialectics between non-liberal communal attachments and individual urge to transcends those pre-modern coercive particularities and historical specificities. As a result of this the liberal activists emphasize more on ***what they don't want***? *Rather* than ***what they do want?***

In the following section we will provide Rawlsian attempt to institutionalize the order of freedom. This exposition of the institutionalization of individual freedom will be helpful to understand the order of freedom, its theoretical limits of tolerance and possible conditions of being violent towards those who challenged the order of freedom.

Section 1

In his analysis of liberty, Rawls is not concerned with the definition of liberty. It is more than obvious that he is much more interested in "the relative values of the several liberties and why they come into conflict" with each other[i]. So he sets aside the traditional distinction between positive and negative conceptions of freedom expounded by Berlin.

According to Rawls, any meaningful explanation of freedom must address three questions as follow:

i) Who are the agents of freedom?

ii) Freedom from what? I.e. what kind of restrictions or limitations is required to be eliminated?

iii) What legitimate constraints are needed to enhance general freedom i.e. "what it is that they are free to do or not to do?"[ii]

It is customary to define freedom in terms of obstacles and maximization of freedom is considered as synonymous to the elimination of the identified obstacles. The identification of obstacles (political, social, cultural, religious, emotional, aesthetical etc.) is a never-ending phenomenon; therefore, the absolute realization of freedom is not possible. For Rawls, these questions[iii] are organically linked with each other as well as they pose a challenge for contemporary political philosophy to

resolve. "This or that Person (or persons) is free (or not free) from this or that constraint (or set of constraints) to do (or not to do) so and so"[iv].

Rawls focuses on the constitutional and legal restrictions, which refrain individual's freedom. He acknowledges that there is no one sense of liberty because there are different agents of freedom, for instance i) person ii) associations or organization or cooperation and iii) state.

Therefore liberty is in fact the name of "certain system of public rules defining rights and duties."[v] This means that freedom is just a space whose frontiers are determined by the system of rights. According to Rawls, in political sense the meaning of freedom is determined by the publicly acknowledged institutions, because the prioritized system of rights cannot be protected without having proper institutional structure.

There are different spheres of liberties due to which there is always an open possibility of clash among different spheres of liberties. The role of institutions (political, legal, and economic) is to protect one agent (person, association, state) from the interference of the other. It is the institutional framework, which imposes legal obligations over the agent, not to interfere in others political, religious, moral etc. affairs[vi]. Since there are different spheres of liberties, therefore basic liberties should be assessed in a single system rather than particular liberties on their own. The task of the delegate (in a constitutional convention)[2] and legislator is to balance one sphere of liberty against that of the other for the attainment of "best total system of equal liberties"[vii].

In the Rawlsian framework, the conception of freedom is not anarchic. He acknowledges certain restrictions and limitations as legitimate and necessary for the sustenance of the system of liberty. The limitation of freedom is not unjust because "these limits are subject to certain criteria expressed by the meaning of equal liberty and (the) serial order of the two principles of justice.[3]"[viii]

He acknowledges that the framework of constitutional democracy is not a perfect political system but in such a system two conditions must necessarily be satisfied namely i) the principle of equal liberty and ii) the possibly "just and effective system of legislation"[ix].

In Rawlsian framework, the principle of equal liberty is concretized (in constitutional procedure) in the form of "principle of equal participation". The initial

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[2] Here the constitutional convention has been used in the specific Rawlsian sense which he has used in the analysis of original position i.e. a hypothetical choice situation in which fair principles of justice will discovered behind the veil of ignorance.

[3] The two principles of justice which Rawls put forward as likely to be chosen are: ***First Principle***
"Each person is to have an equal right to the most extensive system of basic liberties compatible with a similar system of liberties for all." (See Rawls J. A Theory of justice, op.cit p. 302 – 303)
Second Principle
"Social and economic inequalities are to be arranged so that they are both a) to the greatest benefit of the least advantaged, and b) attached to offices and positions open to all under conditions of equality of opportunity."(Ibid. p. 302–303).

reference of constitutional democracy is equal political participation. The worth of a democratic decision is determined by the fact that to what extent the principle of equal participation is realized. Before discussing the relation between liberty and political participation, Rawls mentions the general features of constitutional statecraft as follows:

i) Socio-political and economic policies are decided by elected representatives for a limited period.

ii) These representatives are accountable to the electorate.

iii) The representatives have advisory capacity for effective legislation according to the legitimate public sentiments.

iv) The executive body (i.e. judiciary) is responsible for monitoring legislative procedure according to the constitution or the spirit of constitution.

v) Political parties are not just interest groups rather they must have some political agenda and public conception of the good.

vi) The constitution determines the parameters of the legislative body; however, "a firm majority of the electorate is able to achieve its aims by constitutional amendment"[x].

vii) All sane adults have the right to vote (one man one vote).

viii) Fair, free and regular elections are also important for the sustenance of constitutional regime.

ix) The need of a loyal opposition to counter one party dictatorship, to open up healthy bargain and clash of opinion for the realization of the principles of justice, for the promotion of public good, and to critically evaluate and analyze the prevailing socio-economic and political policies of the government[xi].

In the Rawlsian framework, the principle of equal liberty is institutionally concretized (constitutional procedure) in the form of the principle of equal political participation. Therefore the initial reference of constitutional democracy is the realization of the principle of equal political participation.

Rawls believes that there is always an open possibility of the clash of certain spheres of liberties therefore, there is a need of a "firm constitutional protection for certain liberties particularly freedom of speech and assembly and to form political association."[xii] The institutionalization of the principle of equal liberty in the form of equal participation requires three-dimensional analysis namely the meaning of equal participation, the extent of this participation and its limitation and the measures which are necessary to be taken for the enhancement of its (i.e. equal participation) worth. In this regard, the equal participation is characterized by a) one man one vote, b) if the electorate is divided into single member territorial constituencies, the constituencies must have about the same number of electors (TJ, page 223) and c) every citizen has equal access to public offices. It means that everyone is free to i) join political parties, ii) run elective positions and iii) hold places of authorities.[xiii] However reasonable constraints of "age limit" and condition of permanent residence must be imposed.

As far as the question of the extent of participation is concerned, Rawls is not very clear though he believes that the problem of the extent of political liberty (equal participation) is raised if:

a) The constitution establishes majoritarian dictatorship.

b) The ability of majority (of electorate) to achieve its objectives through constitutional amendments.

In order to cope with these problems there is a need to limit the scope and authority of the majority through constitutional checks and balances, separation of state power, judicial review of the bill of rights etc. But the problem is that these constraints eventually "limit the scope of the principle of participation"[xiv]. Interestingly Rawls believes that these constraints are consistent with the principle of equal participation, because "similar restrictions apply to everyone and the constraints introduced are likely over time to fall evenly upon all sectors of society"[xv]. Lastly there is always a need of institutional backing to promote the sanctity of the principle of equal liberty through the systematic, coherent, and consistent realization of the principle of participation.

Rawls precisely identifies that the major cause of the failure of constitutional government is the lack of systematic institutionalization of the principle of participation. He believes that the root cause of all defects is the "failure to insure the fair value of political liberty"[xvi].

It is a historical fact that ironically the disparities in the distribution of material welfare were tolerated by the legal system of the constitutional governments. The reason of this was that the economic inequalities were mistakenly considered as compatible with political equality. The natural corollary of this is that no measures have been taken to develop such institutions (distributive), which are necessary for the sustenance of the formally given political equality. However Rawls believes that the political injustice is much more disastrous than that of market imperfections. Concentration of political power is much more dangerous than that of capital concentration. It is another question that in today's world capital and power (political) is become synonymous. Rawls acknowledges that "parties and elections are financed not by the public funds but by private contributions, the political forum is so constrained by the wishes of the dominant interest."[xvii] This simply means that the dominant finance group directly or indirectly affects the political process in general and individual's liberty in particular which is constitutionally guaranteed and institutionally protected. It implies that between the lines Rawls acknowledges market domination as an unintended consequence of the constitutional democracy, which needs to be countered. Rawls believes that since these problems are in fact the problems of political sociology, therefore they are not directly addressed in his theory of justice. In other words theory of justice must not be taken as "a theory of political system."[xviii]

Rawls believes that the existence of a loyal opposition is necessary for just political process, because it helps to derive a conception of the good (according to the will of the people), and at the same time without negating the only legitimate public good i.e. "individual freedom" (freedom of conscious, freedom of thought, assembly,

expression and property). Thus the loyal opposition creates a hermeneutical circle to keep on interpreting or reframing the meaning of public good. There is no single and ultimate policy or methodology to maximize individual liberty, therefore the purpose of opposition is to critically analyze the socio-political policies and constantly identifying the obstacles which obstruct individual's freedom.

The role of representatives in the political institutionalization of the theory of justice is decisive. The representatives are not the vehicles of the blind will of the majority or just the agent of their own constituencies. The legislators, according to Rawls, "represent their constituents in the substantive sense"[xix]. By substantive representation he means just and effective legislation. The credibility of the representative is judged on the basis of his loyalty with the principles of justice. Moreover, the priority of equal liberty for all, without systematic and coherent institutionalization of the principle of political participation is meaningless. Rawls believes that constitutional democracy is a political procedure which has the capacity to not just ensure equal freedom but also its proper institutionalization. In such political procedure principle of equal liberty is only realized, when the principle of equal participation is satisfied. The principle of participation is applicable to institutions not the individuals therefore it should not be taken, according to Rawls, as a condition of citizenship to take an active role in political affairs. It means that the state craft cannot force their citizens to take active part in political affairs, however no state institution can refrain their citizens to take part in political affair. Rawls introduces certain moral and ethical argument regarding the importance of political life and one's participation in that aspect of life, but there is no legal compulsion legitimate in this regard. In more specific sense, the citizens are free to participate in the consolidation of the system, but they are not free to destabilize the system.

We have taken a brief survey of the corresponding institutions of the two principles of justice. Rawls differentiates principles for institution from principles for individuals.

Rawls believes that the principles of institutions are different from principles for individuals. He claims that justice as fairness not only derives fair principles which apply to institution but also identify principles for individuals. According to him, a complete theory of right not only derives principles for institution but "includes principles for individuals as well."[xx] Rawls does not discuss the principles for individuals comprehensively but he acknowledges that "principles of this type are an essential part of any theory of justice."[xxi]

Three sorts of principles are to be chosen:

(1) The principles for the basic structure of society
(2) The principles for the individuals
(3) The principles for the law of nations

He discusses the first two principles and emphasizes that the lexical order of the choices of these principles must be followed. In order to defend his sequence he insists that in this way identification of moral obligation and duties are much easier and can be short listed after the settlement of the basic structure of society. In this regard, he agrees with Bradley's argument that "a person's obligations and duties

presuppose a moral conception of institutions and therefore that the content of just institutions must be defined before the requirements for individual can be set out."[xxii] Rawls believes that the agreement on the principles for institutions is not enough and there "must be an agreement on principles for notions such as fairness and fidelity, mutual respect and beneficence as these apply to individuals as well as principles for the conduct of the states." [xxiii] The principles which apply to the individuals are considered as "principles of fairness." [xxiv] The principles of fairness hold that an individual has to do his part accordingly, if two conditions are met. Firstly, the institution and the practices are just i.e. they satisfy the two principles of justice. Secondly, one has accepted voluntarily the benefits of the institutional structure.

It means that if a citizen takes advantage of the opportunities and benefits from the institutional arrangement then it is his obligation to act voluntarily for the sustenance, protection and stability of the just socio-political arrangement. Thus, the principle of fairness has two parts: "the first (part) states that institutions or parties are in question must be just, the second (part) characterizes the requisite voluntary act."[xxv]

Rawls also identifies certain natural duties, for instance "the duty to help another….; duty not to harm or injure another; and the duty not to inflict unnecessary suffering."[xxvi] The duty of mutual aid is basically positive, i.e., it tells you, what one ought to do. The rest of the two are negative in the sense that, they tell you what one ought not to do. Rawls believes that "negative duties have more weight than positive ones"[xxvii], because the violation of negative duties is much more disastrous regarding the realization of fair and just scheme of social cooperation. Rawls identifies some important features of these natural duties, for instance, the natural duties do not hold between institutional relationships rather they hold between individuals. Moreover, the natural duties morally compel each and every citizen of a well-ordered society to consider every other citizen as equally moral, respectable and worthy.[xxviii]

The natural duty which is most fundamental to complement justice as fairness is the duty of justice. The duty of justice encourages us "to support and to comply with just institutions that exist and apply to us." [xxix] It is important to note that the principles for institutions are prior to the principles for individuals. Therefore any realization (based on subjective or incorrect interpretation) of the principles for individuals which is in conflict with the actualization of the principles for institution would be illegitimate.

Rawlsian conception of "right" is derived from the principles of natural duty and obligation, in order to understand the whole body of right / duties and their institutional implication it necessary to understand these ideas which are organically linked with his concept of justice. The most important natural duty identified by Rawls is "to support and to further just institutions." [xxx]

According to Rawls, in the context of the theory of justice, this natural duty has two dimensions:

1) The individuals (citizens) must comply with just institutions and also do their share when they (just institution) exist or function.

2) Every citizen should take part in the establishment of just arrangement and also be ready to sacrifice, for the stability of the just institutions at the cost of his (immediate) interests.

These two dimensions basically reflect two different sorts of prescriptions. The first one tells us what the citizen ought to do, i.e. "to uphold justice, mutual aid, and mutual respect." [xxxi] The second one prescribes what the citizen ought not to do, not to instrumentalize other, "not to injure not to harm the innocent." [xxxii]

In a well ordered society, individual's involuntary acts are governed, ordered and structured through principles for institutions. But the voluntarily acts ought to be governed by the principles for individuals. It implies that the individuals may prefer principle of utility rather than principle of fairness as a governing principle for their voluntary acts. For instance, if a legislator presumes utility principle as a governing principle then, according to Rawls, this incorporation of the principle of utility to guide individual's decision or conducts eventually leads to contrary directive and does not ensure individual's commitment with just institutions at the cost of his immediate interests. As a result the spirit of the fair principles is unrealizable. It is very crucial to understand that Rawls emphasizes the need to harmonize the principles for institutions with principles for individuals. If the principles for individuals (i.e. utility maximization) is not compatible with the principle for institutions (i.e. two principles of justice) then the actualization of justice as fairness cannot be guaranteed.

The principles which define the duties of individuals must be simple, clear and supportive to just arrangements. Rawls prefers the principle of "agreement" or "consensus" rather than principle of utility to guide individuals and the realization of their natural duties. However the principle of obligation just plays a complementary role in this regard. The natural duties identified by Rawls are presumed to be reasonable but they cannot be legally enforced. The adoption of the duties is a matter of choice which cannot be institutionally imposed upon individual. However, Rawls claims that actualization of natural duties (independent of any legal or institutional compulsion) enhances individual confidence on his own self, system of values and sense of worth etc. At times our sense of duty compels us to sacrifice our own interest for that of others. This voluntary help to others makes little difference to our self but it is very significant for the other. Rawls claims that the value of help is not determined by the qualification of the "help" rather "by the sense of confidence and trust in other men's good intention and the knowledge that they are there if we need them." [xxxiii]

Rawls provides a pragmatic argument regarding the desirability to act according to the demand of natural duty. If people become indifferent regarding the realization of their natural duties then "it would express indifference if not disdain for human beings that would make a sense of our own worth impossible." [xxxiv]

Rawls believes that the principles for institutions and priority rules are finite. On the other hand, the moral principles (virtues of institutions) are infinite. Therefore, the violation of moral principle cannot be tackled institutionally. So "the significance of the moral reasons that are not accounted for becomes negligible as the conception of

right is more fully worked out." [xxxv] This problem is of a practical nature because in a well-ordered society everything cannot be legalized. There must be a sphere of life which is independent of institutional intervention. Therefore Rawls believes that "the priority rules are sufficient to resolve conflicts of principles as at least to guide the way to correct assignment of weights." [xxxvi] The finite conception of "right" provides a framework which is claimed to be enough to guide one's moral actions in a given situation. As far as the problem of obligation is concerned, Rawls believes that all sorts of obligations are dependent on the principles of fairness.

The voluntary support of the institutional structure provides the basis of legitimate obligation. Moreover, all sorts of obligations are dependent on the "principle of fairness." Rawls claims that principle of fairness has two dimensions the first part deals with the question of How? i.e. "How we acquire obligations?" [xxxvii] The second question deals with the conditionality of the obligations i.e. "the condition (is) that the institution in question is just, if not perfectly just, at least as just as it is reasonable to expect under the circumstances." [xxxviii] This implies that obligations must not be superficial or subjective rather they should be institutionally backed as well as there must be some objective conditions of their satisfaction.

Section 2. Principle of liberty and the violation of institutional order

In the light of the above theoretical discussion, further we will focus on the specific institutional problems which are closely related to the problem of civil duty. Rawls accepts the possibility of unjust laws in a just constitution. However he thinks that injustice of law is not the sufficient basis of legal violation. If the basic structure of the society is just then we have "to recognize unjust laws as binding provided that they do not exceed certain limits of injustice." [xxxix] In the original position it is presumed that the principles of justice "will be strictly complied with and followed by everyone." [xl] Therefore the tolerance of partial structural injustice is a crucial and questionable issue of the procedural conception of justice.

In the political scenario the problem of "civil disobedience" and "conscientious refusal" are the core issues of political theory in general and Rawlsian political liberalism in particular. According to Rawls, there is a need to discuss the issues of "political duty" and 'obligations" before discussing the problems and the legitimacy of civil disobedience and conscientious refusal. In some cases, non-compliance is justified, for instance, in case of the violation of fundamental rights. Similarly unjust laws can also be violated but there are certain conditions of such intolerant expression. He believes that "non-compliance is justified to the extent to which laws and institutions are justified." [xli] According to him, there are two major reasons for non-compliance: firstly, the existing socio-political, legal arrangement and publicly accepted standards of justice are incompatible with each other. Secondly, the socio-political and legal arrangement of a given society reflects the sentiments and interests of the dominant class, which is apparently unjust.

Rawls acknowledges that different conceptions of justice are relatively reasonable to each other but he claims that, "the principle of justice and the related principles of natural duty and obligation define the most reasonable view among

those on the list, others principles are not unreasonable." [xlii] The incompatibility between the existing socio-political structure and generally accepted standards of justice eventually lead to civil disobedience. However if the principles of justice are not specifically violated then it will be illegitimate. In short civil disobedience is legitimate only when the principles of justice (derived in the original position) are structurally violated (by structural violation he simply means the establishment of such institution which i) either in conflict with the institution derive from the principles of justice or ii) against the spirit of the principles of justice). The structural violation indicates the contradiction between the theory and practice, though Rawls grants the reasonable deficiencies regarding the complete realization of the theory into practice. The structural violation may be identified as

a) the incapacity of the theory to be practically realized,

b) the methodological error in the institutionalization of the theory and

c) the corruption of the agency of the just procedure (i.e. individuals), which is the decisive factor.

Rawls discusses the possibility of (a) and (b) while ignores (c) as a factor of injustice.[xliii] Because he is apparently structuralist and does not deal with the role of agency in the establishment of just order.

Rawls acknowledges that the political process governed by the constitution is just but imperfect because no one "guarantees that the laws enacted in accordance with it, will be just." [xliv] He also accepts the practical deficiencies of procedural justice whereas "in practical affairs perfect procedural justice cannot be achieved."[xlv] There are a number of reasons for this imperfection as follows:

(1) The role of voting or election for the continuation of constitutional process

(2) Majoritarian suppression, i.e. the narrow and self interested pursuit of majority

Since disparities (either political or economic) are inevitable even in a well-ordered society, therefore it is only our natural duty to be committed with just institutions which compels us to "comply with unjust laws and policies"[xlvi] or at least refrains us to pursue any illegal way to oppose unjust outcome (enacted legislation) of just institution until they do not exceed certain limits of injustice. It is important to note that "justice" in Rawlsian framework simply means the realization of the principles of justice. The problem arises that how the term "realization" is to be interpreted. The realization of the principles of justice is possible at two different levels namely formal level and practical level.

An institution is considered to be just if it formally accepts principles of justice as initial reference to the realization of a just social order. The institutional enforcement of the principles of justice is the practical dimension of the theory of justice. The dilemma is that if an institution fails to practically implement (though it is a question of interpretation of the principles of justice) the just principles, it eventually yields injustice in Rawlsian sense. Since the institutions are embrionically just (formal acceptance of the principles of justice) therefore illegal or violent political expression is not legitimate according to Rawls. It is important to note that

the practical or actual realization of the principles of justice is a problem of interpretation. A highly complex hermeneutical activity is required to consider legislation just or unjust.

In theory, a well-ordered society is a contractual society. In such a society, all socio-economic, political relations are established on the basis of contract among equally free, rational self interested individuals. Rawls believes that apparently it seems to be obnoxious that free, autonomous and self-interested individuals "rationally accept a procedure that may decide against (their) own opinion and give effect to that of others."[xlvii] Rawls emphasizes that despite all the limitations, constitutional democracy does have some substantive qualities which appeal to rational individuals to be committed with this political procedure. He offers two reasons in this regard. First, in the constitutional convention, very few procedures have been accepted unanimously. And there is no such procedure which always favors' one group. Second, the minimal agreement at any procedure (political process governed by constitution) is a more better than no consensus at all. These pragmatic reasons reveal that constitutional democracy is, if not the best then one of the best political procedures. Rawls claims to identify three concrete facts which must be faced by any political process assuming the framework of constitutional democracy. The three facts are as follows:

(1) The parties necessarily make concessions to each other for the realization of consociational ventures in the constitution of just political order.

(2) The clashes regarding the interpretation of fairness are inevitable.

(3) The choice of best possible constitution necessarily presumes some form of majority (suitably defined and circumscribed) role[xlviii].

Rawls opines that the basic liberties can never be denied in any form of constitutionalism. He claims that constitutionalism is the only political form which guarantees equal liberty for all. He introduces the idea of "civility". By civility he means a duty to tolerate the weaknesses of the inevitable imperfections in a constitutional system which is embrionically just. According to him, in a constitutional framework the role of majority is not ignorable. The consent of majority is necessary to ensure just and effective legislation. In a liberal political order, majority is a form of collectivity which is motivated by its general interests. He accepts majoritarian rule with certain conditions that it must insure the, "political freedom, freedom of speech and assembly, freedom to take part in public affairs and influence by constitutional means, the cause of legislation and the guarantee of the fair value of these freedoms." [xlix] However he acknowledges that majority rule does not necessarily legislate justly[l].

Rawls believes that the just political institutionalization must not be purely autocratic or technocratic. According to him, common people must be incorporated (through the process of election) in political decision making. He claims that the legislation is a highly complex hermeneutical activity even "rational legislator would often reach different conclusion, there is a necessacity for a vote under ideal condition."[li]

Concluding remarks

The natural outcome of the first principle of justice in political sphere is "universal suffrage", i.e., equal political participation in the establishment of a constitutional body which "determines the outcome of the constitutional process and establishes the law with which they are to comply." [lii] Rawls is interested to ensure individual's participation in the constitution of legal body and collective decision making even indirectly (i.e. by elected representatives) for the realization of basic fundamental rights. There are two specific arguments for this approach:

a) Since everybody has equal right to pursue his own conception of good and interest in political sphere, therefore the exclusion of any individual or group from the power structure will necessary be exploited by the others[liii].

b) Everybody has a unique capacity to participate in discussion (as consociational venture). The exclusion of any individual or group of individuals to participate in discussion negatively affects the quality of discussion and of course eventually affects the quality of final decision / agreement.[liv]

In Rawlsian framework the ideal political procedure or original agreement is not the manifestation of a compromise rather it is result of a fair bargain between opposing and self interested parties, who are trying to enhance their own interests. Therefore the importance of discussion and equal participation (direct or indirect) is necessary for the constitution of just and fair socio-political order. However, the legislative discussion must not be conceived as a contest between interests rather, "as an attempt to find the best policy as defined by the principles of justice." [lv] Rawls has precisely mentioned that a just constitution is one which, on the one hand, satisfies the two principles and on the other, produces just laws under the condition of ideal legislation.

Another important aspect which is needed to be highlighted is that the society emerges from such state / market relationship is market society. Market society is essentially a class based society, i.e., class domination of more advantaged class is the unintended consequence of market society. Rawls's interventionist state stabilizes market society by protecting basic liberties and maximization of the benefits of the least advantaged group. In short we can say that the Rawlsian difference principle eliminates absolute poverty and legitimizes the enhancement of relative poverty as an unavoidable outcome of well-ordered society

The above analysis reveals that the order of freedom although acknowledge the diversity regarding the determination of ***"what ought to be?"*** which creates an illusion that this order is only concerned about the institutionalization of ***freedom from*** and the autonomy principle will provide equal opportunity to all the citizens to exercise their particular conceptions of good according to their will but the above analysis reveals that the institutionalized order of freedom is equally concerned with ***" what ought not to do?".***

If we try to analyze the institutionalizing mechanism of the notion of ***freedom from*** in a society which is not culturally individualistic than the protection of the area of non-encroachment through active state apparatus will be more concerned with those encroachments which refrain individuals to determine his own conception of

good as per his will. It is an acknowledged fact that quantification of individual freedom is a central problem of liberal public order in general and order of freedom in particular. Because ***freedom from*** is quantified in terms of the negation of the obstacles or encroaching agencies of one's area of non-encroachments. It means that more obstacles less freedom or less obstacles more freedom. As far as the issue of the identification of obstacles is concerned it's an ongoing process. Thus the protection as well as the formal determination of the area of non-encroachment is not a static, well-defined objective which is to be realized and formally satisfied by active state intervention once for all rather it is in-itself an infinitive process. Thus what one should not do is actually the real challenge for the state apparatus rather than what one should do, that is for institutionalizing freedom and established the order of freedom.

Endnotes

[i] Rawls J. A Theory of Justice", New York Oxford University Press, 1971, page 201.
[ii] Ibid page 202.
[iii] This sort of analysis of the issue of freedom is borrowed from Maclannen's article "Negative and positive freedom" by Rawls (Dimensions of freedom, New York st. Martin's Press 1961).
[iv] Rawls John A Theory of Justice, op. cit page 202.
[v] Ibid page 17.
[vi] However it is not the case, in reality, in liberal framework everybody is forced to be free. The prioritization of individual. Liberty disintegrates religious, racial cultural and even political communities.
[vii] Rawls John A Theory of Justice, op. cit page 19.
[viii] Ibid page 20.
[ix] Ibid page 21.
[x] This capacity of majority eventually opens up the possibility of majoritarian dictatorship see Ibid page 222.
[xi] See Ibid page 222-223.
[xii] Ibid page 223.
[xiii] Ibid page 224.
[xiv] Ibid page 224.
[xv] Ibid page 224.
[xvi] Ibid page 226.
[xvii] Ibid page 226.
[xviii] See Ibid page 227. The problem is that in his theory of justice Rawls categorically supports the liberal theory of political system and he obviously thinks that above mentioned problems will be eliminated by the reconciliation of the economic and political spheres (capitalism / liberalism) in the name of individual freedom.
[xix] Ibid page 227.
[xx] Rawls J. A Theory of Justice, op. cit p. 108.
[xxi] Ibid p. 108.
[xxii] Bradley F.H. Ethical studies 2nd ed. Oxford Clarendon Press 1927 p. 163–189. Quoted in A Theory of Justice by J. Rawls op. cit p. 71.
[xxiii] Ibid p. 71.
[xxiv] Ibid p. 111.

[xxv] Ibid p. 112
[xxvi] Ibid p. 144.
[xxvii] Ibid p. 114.
[xxviii] See Ibid p. 115.
[xxix] Ibid 115.
[xxx] Ibid page 334.
[xxxi] Ibid page 109.
[xxxii] Ibid page 109.
[xxxiii] See Ibid page 339. Between the lines the ulterior motive is actually interests i.e. to sacrifice short term or immediate interest for the protection of long term interests.
[xxxiv] The Rawlsian conception of self is ontologically "antecedently individual" otherwise the prioritization of individual's freedom cannot be possible. In the context of such conception of self-the question of moral life is irrelevant. The moral questions like what "what should I want?" provides the criterion on the basis of which legitimate desires or wants can be judged. Since in Rawlsian system "right" has priority our "good" therefore the question of "good" is insignificant in the constitution of just social order. The theoretical corollary of this is that no moral life is possible, because to be moral there is a need of:

a) Knowledge of intrinsic goodness.
b) Agency or criterion to judge our desires, compatible with that of intrinsic goodness.

Since the question of "goodness" was suspended in the original position and it has trivial significance in the constitution of social justice. Therefore moral life is theoretically not possible in his system. There is one way to resolve this problem if we consider Rawlsian prioritization of right as "hyper good" and derived all implication from this good for instance. On the basis of that good on can differentiate between legitimate / illegitimate desires. In this way the questions like "what should I want" or "what should I desire" can specifically be answered. So on theoretical ground moral life would be possible. (see Ibid page 339)
[xxxv] Ibid page 340.
[xxxvi] Ibid page 341.
[xxxvii] Ibid page 343.
[xxxviii] Ibid page 343.
[xxxix] Ibid page 35.1
[xl] Ibid page 351.
[xli] Ibid page 352.
[xlii] Ibid page 352.
[xliii] It shows two things: (1) it seems that Rawls does not consider the role of agency, due to which it appears that he is a structuralist. (2) He prioritizes legality over morality, which is of course a structuralism approach regarding the solution of theory / practice contradiction.
[xliv] Rawls J. A Theory of Justice page 353.
[xlv] Ibid page 353.
[xlvi] Ibid page 354.
[xlvii] Ibid page 354.
[xlviii] These points reveals that although principles of justice affirm a-social individualism even then the framework of justice as fairness is such in which "the parties give up any hope of free – rider egoism" (354 T.J.).
[xlix] This prioritization of freedom eventually disintegrates any form of collectivity which might be dangerous for constitutional democracy in future. Secondly Social atomization and pluralism are inevitable outcome of such political rule.
[l] (1) By just constitution he simply means "a constitution that would be agreed upon by rational delegates in a constitutional convention who are guided by the two principles of justice". (357 T.J.).

(2) By just law and policies he simple means, the law and policies that would be enacted by "rational legislator who are constrained by just constitution and who are conscientiously trying to follow the principles of justice as their standard". (357 T.J.)

[li] Rawlsian John A theory of Justice, op. cit page 357.

[lii] Ibid page 221.

[liii] I think this might be over simplified implication that in Rawlsian framework everybody is free to pursue his own political interests. It is not the case, in Rawlsian framework everybody is free to pursue his own conception of good (or interest) subject to the constraint that the only public good is will to freedom. Therefore any political interest which in conflict with that of "will to freedom" is not only unrealizable in Rawlsian political framework but also legitimately suppressible.

[liv] This view also foresees Rawlsian condition that the principle of justice must necessarily be presumed in the constitutional as well as legislative stage. Therefore those who disagree with the legitimacy of the principles of justice are necessarily being excluded from the discussion. It implies that, Rawlsian theory of justice is not theory of justice per say it is a liberal theory of justice.

[lv] Rawls J. A Theory of Justice, op. cit page 357.

TRADITIONAL CHINESE MEDICINE'S HOLISTIC THOUGHTS

Li RUNHU[1]

ABSTRACT. *Traditional Chinese Medicine includes almost all the core concepts of Chinese Traditional Philosophy which combines spirit, human and nature from a holistic view. That is why TCM doctors treat people under the background of society and nature. This is a big difference between them and Western Medicine which treats people only as men with problems in their tissues and organs. According to it, there is no identical patient situations in the world, that is why doctors of TCM always treat patients individually, they pay more attention on a patient by the holistic thought not illness (According to Western Medicine, there is only illness in their point of view which lead them always get same diagnosis to different persons). However, the concept of TCM is hard to understand and communicate, Chinese Science is poor in these several hundred years and treatment of TCM has not got a big progress for a long time, all of that mislead people all around the world believe that TCM is not as good enough as Western Medicine. The holistic thought of TCM is its core idea during the entire process of TCM. I believe TCM and WM have its own character; we should integrate their valuable ideas and techniques to do more good things for human beings. I would like use the concept of Modern Medicine to substitute TCM and WM.*

KEYWORDS: *TCM; Holistic thought; Western Medicine; Modern Medicine*

Contents

Introduction

1. A systematic holistic research methods of Traditional Chinese Medicine (TCM) on the precaution
2. Traditional Chinese Medicine also has the systematic holistic thoughts on the diagnosis
3. The system holistic thoughts of Traditional Chinese Medicine treatment
4. The system holistic thoughts of Traditional Chinese Medicine on "after healing"

Conclusion: What is the real meaning of thorough holistic system of TCM?

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Introduction

The Theory of Traditional Chinese Medicine (TCM) contains the rich holistic thoughts. That is why the most important idea resources of Traditional Chinese Medicine derives from the Chinese Traditional Philosophy thoughts, such as concept of yin-yang and five elements, ancient Buddhist or Taoist concept of communion with nature (i.e. Unity of Heaven and Man), all of these Chinese Traditional philosophical concepts were borrowed by TCM to describe the relationship between the body's tissues and organs and the same token between man and nature. All of these reasons above cause plenty of obstacles for further understanding and popularize TCM.

TCM is constant in analyzing disease with holistic thoughts in contrast with the research approach of Western Analytic Reductionism. Meanwhile, TCM focuses not only on the systematic entirety of each parts of human body, but also on the systematic entirety of human body and natural environment. Furthermore, it strives to achieve the optimal effect by conducting comprehensive observation and examination, dialectical treatment of the disease with the application of combined medications, and adjustment of the whole body and mind. Conclusion is that the Traditional Chinese Medicine (TCM) is a systematic holistic science.

Traditional Chinese medicine's (TCM) systematic holistic thoughts are mainly manifested in the following three aspects:

1. A systematic holistic research methods of Traditional Chinese Medicine (TCM) as precaution of illness

TCM believes that there is not only coordinated and orderly organic whole between each part of human body, but also believes in unity among the human body, spirit and nature. Because of human disease is closely related to seasonal climate changes, human body blood running has a rhythmic change during day and night, the body's biological rhythm is directly related to the phases of the moon, the human body physiology is closely related to the geographical environment, Traditional Chinese Medicine still claims that there is a unity between human beings and nature.

The holistic thought is a basis of TCM, by virtue of this concept, TCM can achieve its ultimate purpose by the way I believe it is the most important idea in TCM, i.e. "nip in the bud". In China, we have a very famous legend about Bian Que who was a miracle-working doctor in ancient China. It can be used here to explain the importance of prevention in TCM.

Bian Que has two elder brothers; they all are proficient in medicine. His eldest brother is the doctor better than he and his elder brother. His elder brother is better than him; he believes that he is the worst doctor ever.

His eldest brother could predict the illness before someone has the omen and prevent it in time. But because of that, nobody believes in his medical skill: each man feels nothing about their illness, they think they are very healthy and they do not believe that he does a lot of favor for them, they recognize him as a liar.

His elder brother could realize the importance of the illness after getting slight related signs of sickness and cure a disease before it gets worse. However, the illness

is very gently at its attacking stage, most of people do not take his elder brother`s medical advice because they think they just have a minor illness which should not be paid too much attention, even though his elder brother cure their illness, they say that it is common place that a doctor can cure that kind of illness, they do not believe his elder brother has crack skill in medicine.

The irony is Bian Que only can find the pathogenesis and cure his patients when they are hopeless about their illness. Bian Que could recover his patients at that desperate situation, so people commend him and acknowledge him as a miracle-working doctor. So many times he resurrects the dead people, he become the most famous doctor than any others especially his two brothers.

From this story we can understand that all of the TCM doctors from past to present believe that the best TCM is precaution, not cure. The best doctor is not like Bian Que who always do remedial work but like Bian Que`s eldest brother who can prevent people from illness.

2. Systematic holistic thoughts of Traditional Chinese Medicine on the diagnosis

The core concept of TCM regards human body as a unity, at the same time looks on people & nature & society from an organic holism view, so during the process of diagnosis, TCM doctors not consider illness as a partial problems which can just "find it and fix it" like Western Medicine. During a process of TCM diagnosis, a TCM doctor not only try his best to examine the patient to get the information from patient but also pay much attention to the patient lives with what kind of geographical environment and the social relationship, even more he works harder to understand the temper & habit and hobby and so on.

In this regard, I want to strengthen that the main job of Western Medicine is an analysis of patient`s biochemical pointer, from this point of view I want to emphasize that the main job of Western Medicine diagnosis is analyzing of the biomedical indicators of the patient and making the diagnosis based on some physical and chemical (organic and inorganic chemistry) principles. Nevertheless, Traditional Chinese Medicine believes that these steps are the very beginning of the understanding a patient's illness, and the diagnosis should not stay on the surface. The environment and social reasons, as well as physical and psychological causes should also be taken into concern, in order to make a correct diagnosis. In short, the Western Medicine has only the concept of disease, while the Tradition Chinese Medicine believes that there is no identical disease or illness in the world, we need treat each of them from a developing and changeable sight due to different patients and same patient but different time and situations. The Western Medicine might categorize cold into several types, no matter what the gender, nationality and race of the patient. The Traditional Chinese Medicine believes that each patient in his each distinct period may get a unique cold type, which requires a totally new diagnosis to find out the unknowns in the patient's illness. Two identical diseases never ever exist, just as there cannot be two identical leaves in this world. Thus, each diagnosis by the Traditional Chinese Medicine is a new research and exploration of a new disease. We can see that we need comprehensive study of pathogenic factors and through local

pathological changes of the body we can understand the whole physiology.

There is a fun expression at TCM doctors` world which can state the TCM doctors` attitude, they say that "the people who understand you most should be us rather than the one you love or even your parents".

3. The system holistic thoughts of Traditional Chinese Medicine treatment

Treatment of Traditional Chinese Medicine emphasizes dialectical therapy, by using the systemic regulation to the patients to achieve the purpose of the cure. The reliable diagnosis and evidential treatment for the clinic in TCM is not only by observation, listening, interrogation, and pulse-taking but also take consider of season, climate, one of the 12 two-hour periods of the day, the emotion of the patients and all the other related factors. All the cure power (such as acupuncture, moxibustion, cupping, massage and putting the medicines of TCM under the skin) and medicines of TCM are from nature not from limited human rational power or synthetic chemicals; even most of medicines of TCM are ordinary food in daily life.

According to the description o*f Huangdi Neijing*（黄帝内经），the circle of life & nature of China Yi-Tao thoughts is a basis of the organic whole of Traditional Chinese Medicine. Yi follows the law of heaven and earth, so Yi as holistic thoughts which unite the life view and the world view (the same to unite Tao of Heaven and Tao of Human.)

Therefore, the treatment of TCM follows the paradigm of nature to recover the patients and let them in harmony with nature again. By the same token TCM takes everything into consideration under the perfect system of nature and society. The most amazing thing is in the ancient TCM we already have own logotherapy and psychotherapy like nowadays which called "意疗法". TCM believe that people have seven emotions: happy, anger, yearn, worried, sad, fear and surprised which may cause mental disease when these emotions cross their reasonable line. TCM use "意疗法" and TCM medicine to cure the patients from past to present.

So the treatment of TCM is all-encompassing, it is full of valuable thoughts which we should learn it and carry forward it.

4. The system holistic thoughts of Traditional Chinese Medicine on "after healing"

TCM and traditional Chinese philosophy believe that the best mode is "use natural rules to match nature, use natural rules of bird to feed bird (以天合天，以鸟养鸟)" (quote from <*Zhuang zi*>), and this mode is suitable for human beings. We should treat people with their own inherent characters and wish them to be themselves in a totally free As we know, the precaution, diagnosis and treatment of TCM are pure natural paradigm, at the same time its methods, techniques and medicines are from nature, without any synthetic stuff can give patients a natural new life style which can cure illness naturally and unconsciously. The treatment of TCM intervene patients` life and form them healthy eating and lifestyle habits, in addition, it can influence the patients` outlook on values and life

and make them get into a peace state which can be harmony with the universe. The "after healing" of TCM is not like Western Medicine's same process which is directed on acquiring patients` physical data and no matter of disease resurgence they need humanistic care. Why? Because TCM use natural ways to make patients back in the embrace of nature, once the doctors of TCM made it, there is no need to care about the possibilities of relapse, sequelae and side effect and so on.

Conclusion: What is the real meaning of thorough holistic system of TCM?

According to the methods and ideas of precaution, diagnosis, treatment and "after healing", we can see that TCM is a thorough holistic system. Certainly, TCM is not as quickly as Western Medicine at some emergency situations, but the reasons for this is not because of the idea of TCM, it is because of lacking of technique of TCM (As I know, the technique of TCM hasn`t get a big progress for a long time) and the backward Chinese science in past days. But I believe that the idea of TCM has its own profound value like the idea of Western Medicine, the fight between the TCM and Western Medicine is stupid and meaningless. The only value itself perhaps is we can see more clearly the advantages and disadvantages of TCM and Western Medicine.

I believe that real meaning of thorough holistic system of TCM is TCM and Western Medicine should complement each other and do pretty good things to people`s health together. So we should advocate the concept of Modern Medicine which can integrate TCM and Western Medicine and avoid their disadvantages to provide human beings a healthier and happier life in future. That is real meaning of holistic thought and thorough holistic system of TCM.

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Review on *Craig Martin's*
Subverting Aristotle: Religion, History and Philosophy in Early Modern Science
Baltimore: Johns Hopkins University Press, 2014

SUBVERTING ARISTOTLE OR CULTURAL HISTORY OF EUROPE?

Anna MAKOLKIN[1]

Given the current revived interest in Aristotle and Aristotelianism, any discourse on the topic is welcome, particularly, if it covers several centuries of pertinent polemics, as the new volume does. One may appreciate the effort of constructing a historiographic narrative, rich in the required onomastic panorama, and an attempt of restoring the *zeitgeist* of centuries. The volume does make recourse to numerous authors who dealt with Aristotle in the post-Christian discourse. However, what could have become a much needed tracing of the several hundred years of polemics around Aristotle, relevant to philosophy, modern science or past and present theology, happens to be a very problematic outcome.

Rather than becoming a valuable reference volume, Craig Martin's book is a *discourse desideratum*, revealing a post- post-modern impatience with the facts and following the well-trodden in historiography pathway of a fable, unsubstantiated by, the available by now, historical evidence. It displays the intention of becoming an ambitious reference source, but regrettably fails to do so. It may mislead the unqualified reader on many planes, but it strikes the average scholar with unprofessionalism. One is surprised how one of the most reputable American Press houses could have approved the volume for publication without checking the contents. But even the cover signifies very peculiar contents.

The choices made by the author and blessed by the Press are more than peculiar. For instance, the front cover, displaying Aristotle's portrait in the striking (!!!) upside down position appears to be more suitable for a student satirical paper rather than a scholarly monograph. It does signify the **satirical intentions**, but it is a clear subversion of the scholarly discourse. The author's desire is clearly to mock and misinterpret for the sake of entertaining the reader whether it is with laughter or hearsay. It diminishes the narrative, constructed allegedly upon the work in the reputable Italian archives. The author promises to prove that Aristotle was "an impious figure of dubious morality," one wonders why? This intriguing but very surprising promise is substantiated by anecdotal references to the sources which the author did not bother to check, i.e. Diogenes Laertius (pp.36; 106; 154). Moreover, it is quite clear to the academic reader that the author plans to subvert a towering icon in world cultural history discourse, whose works he is hardly familiar with, i.e. Aristotle himself. Prof. C Martin has not proven that he has read enough of Aristotle in English, Latin, French, Greek or Arabic, and without such a proof one cannot take

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his statements seriously. One may subvert something which one knows intimately. Nor has he apparently read Cicero, either in English or Latin, his statements about his alleged non-relationship to Aristotle are anecdotal (p.34).

The author is also, regrettably, completely misinformed regarding the actual transmission of Aristotle in Europe and the role of the Arab commentaries and translations which he exaggerates unduly. Hence, his undue attention to Averroes whose works are more familiar to him. The mythology around the role of the Arabic scholars in connection with Aristotle evolved concurrently with the myth of the alleged Islamic impact on the West, and spread of Islam in the world, but it has been already debunked by the Western European scholars in this century (see *Aristoteles Arabus*) and historians of Spain, who have already revised and corrected the flawed narrative. According to Renan, the Spanish born Averroes (1126–1198) knew neither Greek, nor Syriac, and simply gave "a Latin version of a Hebrew commentary, written on Arabic version of the Greek" (Stocks, 1933:126). Most educated Moslems and Jews of Spain by the 12th century knew neither Arabic, nor Hebrew, and were assimilated into the Spanish culture. They had opportunity to read Aristotle because the Roman Emperors, centuries prior, had made sure that the libraries of all their provinces had the Greek and Latin versions of the philosophical texts.

Had the author bothered to familiarize himself with the elementary sources in Greek, Roman, Byzantine and European history, he would have understood the real pathway of transmission of knowledge from Greece to Rome and the rest of Europe. Had he compared it with the Arabic history, he would not have made the sweeping statements in his para-scholarly attempt. The myth of the alleged Arabic role in returning Aristotle to Europeans coincides with the anxiety of the younger civilization and the myth of Al Andaluz, particularly useful in the current climate of Islamo-Christian debates, Islamic radicalization and politics of post-modernity. Contrary to Prof. Martin's mythology, Aristotle survived not due to Arabic commentaries but to the strong ties between Athens and Rome, Alexandria and Byzantium, and Roman educational policy in the pre-Christian era. The author treats hundreds of years of European intellectual history around Aristotle with enormous carelessness. Obviously, not possessing solid background in European cultural history, the author contributes to the historiographic mythology, mystifying the subject even more. He neither convinces the readers in the alleged "dubious morality" of the Hellenic sage, nor did he enlighten about the process of cultural evolution. The narrative shifts the focus of the polemics in the direction of the Islamic impact on Europe. It may appeal to the Islamic scholars and contribute to another currently popular mythology.

Consistent with the **satirical format** of the book, it has nine conclusions (!!!), after each chapter plus final, having devoted 27 pages out of 177 total to conclusive remarks. Dedicated to the Latin translator of the citations, the book does not have a dedication page. The table of contents does not reveal the actual contents; there are subsections within each chapter not mentioned. The introduction fails to introduce the topic properly. It lacks the, required for the genre, proper indexing, depriving the reader of the much needed mini-biographies for the most unknown or forgotten historical figures. Usually, books of such genre have two indexes – one name and

one subject. Citations from the sources are reduced to half sentences and do not help to prove the arguments. In general, the volume contributes to the historiographic mythology rather than debunks it. It is surprising that Johns Hopkins Press, one of the most prestigious USA publishers, rushed to publish this work without proper preparation and evaluation. The volume seems to have been hastily complied out of the several papers or essays to produce another "book", the skill which many post moderns do not have, despite the ambition.

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