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Editorial

What happens to the great pleasure of the editors : the first issue of the Volume XI of the “*Biocosmology – neo-Aristotelism*”-journal likewise is opened by the Socratic Dialogue. Now it features two prominent professors who tackle the complex issues of biomedicine, on the subject of the relationship between *Human Anatomy and Information Medicine*. At the same time, their interaction represents the relationship of Mentor and Student – Professor-Mentor, Rudolf Klimek; and Professor (once his student) Adam Ostrzenski. R. Klimek also prepared his paper to the “Scientific Life” section of the Journal; entitled, “*Turin Shroud and the law of informational spacetime : $E = i mc^2$* ”. In line with the content of the opening Dialogue : Georges Chapouthier, in his article “*Tverdislov, symmetries and dynamic complexity*”; here the scientist raises topical issues for discussion – such as the origin and evolutionogenesis of complexity; and the complementarity of the achievements of Vsevolod A. Tverdislov, biophysicist from Russia, and his own (author’s) *Mosaic* theory.

The following article raises (and realizes) the important issue of clarifying the true lexicon, i.e. correlating it with the actual content of the Aristotelian Organicist scientific knowledge (the *OrganonKosmology* of the Stagirite). Here the authors are Konstantin S. Khroutski and Milana Tasić; their work is entitled “*New Integralist Time : New (True – Organicist) interpreting, understanding and applying of Aristotle’s OrganonKosmology – to bringing successes to the contemporary world science*”. The goals of this paper are really important because Aristotle’s *OrganonKosmology* (taken as a whole; and accepted as a model and the Type of all-encompassing Organicist knowledge) – this conceptual framework serves in the BCA as a basic referential conceptual structure; and which alone allows all scientists who follow the objectives of Organicist and Integralist scientific knowledge – to obtain a (common basis for) understanding with each other; and, hence – the necessary interaction and effectiveness in their activity.

The section of scientific articles continues with the publication of Dariusz Szkutnik’s work entitled “*Philosophical aspects of biological information, in the course of organic regeneration*”. The scholar herein makes another contribution to the contemporary evolvement of information theory. The next work is a scholarly essay by Vladimir N. Alalykin-Izvekov, “*So, you want to understand Russian soul? Open Danilevsky’s book «Russia and Europe»*”. This publication is timed to coincide with two important dates: the 150th anniversary of the publication of Nikolai Danilevsky’s “*Russia and Europe*” (1871); and the 200th anniversary (in 2022) of N. Ya. Danilevsky himself (1822–1885). Finally, in the section “*Criticism and Bibliography*” we publish a review of a recently published book of the Japanese author Kiyokazu Nakatomi, “*Nothingness and Love of Japanese Philosophy*”. The author of the review is a BCnA-author Makoto Ozaki.

April 23, 2021

Konstantin S. Khroutski, BCnA editor

Редакторская статья

Аналогичным образом, и что происходит к большому удовольствию редакции : первый Выпуск XI-тома «*Biocosmology – neo-Aristotelism*» также открывает Сократический диалог. В этот раз в нем принимают участие два маститых профессора, которые рассматривают сложные вопросы биомедицины, по тематике взаимоотношений «*Анатомии человека и информационной медицины*». Одновременно, их взаимодействие представляет собой отношения Ментора и Студента – профессора-ментора, Рудольфа Климека; и профессора (когда-то его ученика) Адама Острузенского. Р. Климек также подготовил свое сообщение для раздела «Научная жизнь» Журнала; под названием, «*Туринская плащаница и закон информационного пространства-времени : $E = i mc^2$* ». Под статью содержанию Диалога, проведенного Р. Климеком и А. Острузенским : Жорж Шапутье, в своей работе «*Твердислов, симметрия и динамическая сложность*»; здесь ученый поднимает к обсуждению актуальные вопросы – такие как возникновение и эволюциогенез сложности; и взаимодополнение достижений Всеволода А. Твердислова, биофизика из России, и собственной (авторской) *Мозаической* теории.

В следующей статье поднимается (и реализуется) важный вопрос о прояснении истинного лексикона, т.е. соотносимого с действительным содержанием Аристотелевского Органицистского научного знания (*ОрганонКосмологии* Стагирита). Здесь авторами выступают Константин С. Хруцкий и Милана Тасич; их работа озаглавлена как «*Новое (Истинное – Органицистское) осмысливание, понимание, перевод и применение ОрганонКосмологии Аристотеля – для привнесения успехов в современную мировую науку*». Цели данной работы имеют действительно важное значение, поскольку *ОрганонКосмология* Аристотеля (взятая в целом, и принимаемая как образец и Тип всеохватывающего Органицистского знания) – данная концептуальная основа служит в БКА базовой референциальной понятийной структурой; и которая единственно позволяет всем ученым, кто следует целям Органицистского и Интегралистского научного знания – обрести (общую основу для) взаимопонимания друг с другом; и, отсюда – необходимое взаимодействие и результативность в своей активности.

Раздел научных статей продолжает публикация работы Дариуша Шкутника; его труд имеет название «*Философские аспекты биологической информации, в процессах органической регенерации*». Ученый здесь вносит свой очередной вклад в современное развитие теории информации. Следующий труд – это научное эссе Владимира Н. Алалыкина-Извекова, «*Итак, вы хотите понять русскую душу? Тогда открывайте книгу Данилевского “Россия и Европа”*». Данная публикация соотносится с двумя важными датами : 150-летием со дня выхода в свет книги Николая Яковлевича Данилевского «*Россия и Европа*» (1871 г.); а также и 200-летием (в 2022 г.) – со дня рождения самого Н.Я. Данилевского (1822–1885 гг.). Наконец, в разделе «Критика и библиография» осуществляется публикация рецензии на недавно увидевшую свет книгу японского автора Киёказу Накатоми «*Небытие и Любовь в японской философии*». Автор рецензии – *ВСПА*-автор Макото Одзаки.

23 апреля 2021 г.

К.С. Хруцкий, Редактор

A Socratic Dialogue between the Mentor and His Student, on *Human Anatomy and Information Medicine*

Rudolf Klimek¹ & Adam Ostrzenski²

Сократический диалог между наставником и его студентом, по
анатомии человека и информационной медицине
Рудольф Климек и Адам Острузенски

Opening remarks (by Rudolf Klimek)

Scientific-clinical research is very demanding and requires significant dedication, self-discipline, sacrifices, and preserving scientific-clinical integrity (quality, credibility, creativity, and appropriate transparency. Professor Ostrzenski's discoveries of new structures in the anatomy and developments of gynaecologic surgical techniques put him on the clinical-scientific world's stage. In 1978 Prof. Ostrzenski with his family repatriated to the USA to continue scientific-clinical work with the conviction that his mentor, Prof. R. Klimek, well-prepared him to be ready for his independent scientific-clinical journey. He well-understood the teaching and became who he is today, saying, quote: *"I still follow my mentor, Prof. Rudolf Klimek, teaching very closely..."*. Prof. Ostrzenski's authority and authentic accomplishments in the international arena influence me to invite him to discuss his contribution to the progress in medicine. My particular interest was how those achievements in the human anatomy, I can incorporate from the medical viewpoint into the jubilee work (authored by **K.S. Khroutski**), devoted to **"the era of Integralism and the North-Eastern (Noospheric) civilization vector in the world (peaceful) evolvement** [*BCnA* 2020,10(1&2): pp. 5–150].

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Two professors in dialogue : Mentor-Prof. Rudolf Klimek (RK), Poland, and Prof. Adam Ostrzenski (AO), USA

RK (question №1 – Q1): You, Prof. Ostrzenski, demonstrates a unique ability to present accurate facts openly without any personal attack on the opposing debater; indeed, it is a unique feature. Not many scientific-clinical researchers have this ability. You understand well my philosophical interpretation of your new anatomical discoveries, which I classified as informative medicine. In 1983, I served as the honorary Vice-President of the 1st World Congress of Endoscopy organized by the American Association of Gynecologic Laparoscopists. Later, you introduced several new laparoscopic techniques in the gynecologic field. I like to compare your newly developed laparoscopic surgical interventions to the highest pic (Mont Everest) of a Himalayan mountain, witnessed you performing very complex laparoscopic surgery, which lasted several hours with a great final surgical outcome. I know the feeling of introducing discoveries that contribute to progress in medicine. In 1954, I was a medical student and isolated from bacteria new cytochrome-S, which differentiates this type of metalloproteins from animal cytochromes-C, -B, -C, or cytochrome-F present in plants.

AO: Your biochemical enzymatic method of oxytocinase identification in blood revolutionized the symptomatic clinical diagnosis of hypothalamic dysfunction.

RK (Q2): At that time, clinical biochemistry concentrated on the pituitary hormones, but not on hypothalamic neurohormones. Oxytocinase did not get the researchers' attention, while Prof. Kurt Semm from Germany introduced the diagnosis of hypothalamic dysfunction based on the physiologic methods. Later, Prof. Semm and you, Prof. Ostrzenski, pioneered the gynecologic laparoscopic field and educated worldwide numerous pelvic surgeons. How was your way to developing successful clinical research that the medical globe is fascinating with it?

AO: In the USA, I have to pave the way myself to establish recognizable clinical-scientific research. I structured my clinical and scientific step stones very carefully. The first step was to get the US physician's diploma and license to practice medicine and surgery. The second step was to go through the US specialty training, which I did at the State University of New York in Buffalo, NY. After meeting clinical and theoretical criteria, I received the American Board certification as a specialist in obstetrics and gynecology. Upon receiving formal specializations in obstetrics and gynecology and an identified specialist of reproductive endocrinology in the State of

Maryland, now it was time to establish my clinical-scientific research field. I joined Georg Washington University in Washington, DC, was elevated to the rank of assistant and later associate clinical professor. The Obstetrics and Gynecology Department of Howard University in Washington, DC, recruited me for a full-time faculty member position and promoted me to university full professor rank. At the same time, I accepted the responsibility of the Operative Gynecology Division director. The next in our family educational line was my wife, Maria. She successfully graduated from the Georg University Law School with a master's degree in comparative law. Our daughter Katarzyna became a physician and an internal medicine specialist, while son Bartosz chooses the law profession as his mother and runs a law firm.

My clinical-scientific research interest commenced when I was a medical student, and I was interested in the secretion of electrolytes in apocrine glands. I evaluated differences in their secretion in a menstrual cycle before and after the women's ovulation and later during a complicated pregnancy. I introduce the results of this study in my Ph. D. dissertation. In 1972, I was looking to determine my new research field. I came across a newly published book entitled "**Clinical Neuroendocrinology.**" Using this occasion, I request a meeting with you, Prof. Klimek. I was very much impressed with your scientific-clinical caliber during our session, and I like to follow in your footsteps. From our meeting, I concluded that a simple laboratory would be the only option for me and not the endocrine laboratory. Mycotic infections of the female genitalia were on my mind for a long. During this time in Poland, only a few established mycotic scientific-clinical laboratories existed, and the leading one was at the Jagiellonian University (JU) in Cracow. I asked you again to help me establish contact with this JU institution, and you did without any hesitation. Prof. Marta Dolezal and Prof. Marian Dolezal from the Mycology Department shared their experiences and offered me scientific consultation. The next step was to develop scientific cooperation with the Department of Pathomorphology. I discovered that mycotic infection could affect the endometrium, cause irregular uterine bleeding, and compromise female fertility. I developed therapies by irrigating the endometrial cavity with antifungal medication applied directly to the uterine cavity in the menstrual cycle's first phase. The work was well received and accepted for presentation in two consecutive International Federation of Gynecology and Obstetrics (FIGO) congresses in Moscow and Mexico City. This research and international recognition of this study's results gave me confidence in being an independent scientific-clinical researcher.

I like to take this opportunity and express my deepest gratitude to You, Prof. Klimek, for being my scientific-clinical mentor and my example of how to represent a scientific community with honor and dignity. *Your finishing touch in my career progress was your encouragement and advice on being an independent clinical-*

scientific researcher, independent teacher, and independent clinician. You, Prof. Klimek, successfully directed my doctor habilitate, the post Ph.D. degree, the process that you completed at the oldest and most prestigious university in Poland, Jagiellonian University. Thank you again, Prof. Klimek, for supervising and modulating me in clinical endocrinology. Your teaching allows me to become a certified subspecialist in the human endocrinology field. Throughout my entire professional life, I did consider you as my clinical and scientific parent. Limited vocabulary does not allow me to express my feeling and everlasting gratitude for your unselfish and spontaneous help, so you are my professional guru. My scientific-clinical accomplishments belong to you too, professor.

Polish reality was very antagonistic against any scientist who was not a member of the communist party. This situation forces me to make my decision to repatriate to the USA since I was a US citizen by birth (my mother was a USA citizen). In the USA, a new beginning has commenced! Professionally, I must start by getting a US physician (MD) diploma, going through US training in my specialty, and supporting my family.

RK (Q3): From the perspective of time, how do you see the influence, if any, of Polish scientific-clinical accomplishments in your worldwide success?

AO: In my view, the Polish experiences prepared me for independent clinical-scientific research. You in my young professional life, gave me direction, which I will use for the rest of my professional life. You prepared me how to materialize my ideas into scientific work. It is like a child who learns in her/his youth to be productive and respectful. I discovered a new medical entity in Poland that mycotic pathogens can infect the women's endometrium and caused uterine irregular and heavy menstrual bleeding. Indeed, it was the first taste of scientific triumph. The medical community in Poland suppressed the echo of this scientific research success in the international arena.

RK (Q4): What was your scientific research in the USA?

AO: After stabilizing myself in my profession and establishing comfortable support for my family, the time came to return to my scientific-clinical research. I commenced studying the female urogenital structure of gross and topographic anatomy on human female cadavers. My learning from anatomical dissections anatomy, I start implementing it to gynecologic surgical procedures. I established cooperation with US gross anatomy departments. However, my study's best materials were on healthy and suddenly dead women. Such subjects were only available in a forensic medicine

department. I couldn't get permission from a forensic department in the USA to do my study due to the law governing forensic medicine. I approach many institutions in Europe and got a few permissions to continue my research there. Among those forensic medicine departments was Warsaw Medical University in Poland. I used to work at this Polish University before my departure to the USA.

I researched the gross ovarian anatomy by slicing them longitudinally and exploring stratum-by-stratum structures under surgical loupe magnification. My particular interest was polycystic ovary. Observations from this investigation, I applied to treat polycystic ovarian disease (Stein-Leventhal syndrome) by vaporizing the 1 cm strip longitudinally on the free ovarian edge. Results showed that ovulation was induced in the high range, with 62% baby taking home in this study's group. As a young surgeon, I observed Prof. Klimek operating and applying the wedge resection procedure on patients who suffered from this disease. I adopted this method and successfully executed this operation at the Warsaw Medical University with good results in Poland's pre-Clomid area. It was natural for me to continue this mode of practice and change the approach from abdominal to laparoscopic. I published the study's results in the mainstream peer-review journal in the USA. This study was well-received in the USA, and the "Book Year" editors included it in its text of this book. This medical scientific-clinical research success in the USA rebuilt my confidence in entrusting myself to develop a new surgical concept that the international community notices and promotes. Indeed, it motivated me to dedicate my professional life to clinical-scientific research, and I am cultivating it until today.

RK (Q5): We learned about your motivation and the continuation of your clinical-scientific research. How did you develop such an impressive number of new surgical techniques in classic abdominal, vaginal, laparoscopic, and hysteroscopic surgery?

AO: In scientific investigations, the very first step is to establish the field of a researcher's interest and to organize the specific and independent necessary laboratory to execute the study. In my case was to have access to the anatomical dissection and operating room to do surgeries. The next step was to explore an option scientifically how in-depth knowledge of anatomy influences a surgical procedure and its outcomes. An example of a late complication is total vaginal prolapse following a total hysterectomy, because it requires understanding this surgical intervention's anatomical consequences. I identified all suspensory and supportive structure mechanisms by doing stratum-by-stratum anatomical dissections on female cadavers to establish responsible structures for maintaining the vagina in two different topographic natural positions. Applying these anatomical findings at the time of hysterectomy with vaginal

vault suspension and posterior cul-de-sac reconstruction, utilizing only the native tissue, provide a very high degree of total vaginal prolapse prevention. It is essential to remember about natural mechanisms that must rebuild a) to resuspend a lateral vaginal cuff to the cardinal ligament bilaterally; the posterior vaginal to a uterosacral ligament, and the anterior vaginal wall to the endopelvic fascia; b) the supporting anatomical structure of the posterior cul-de-sac must (the pouch of Douglas) be reconstructed as well as anterior, posterior, and lateral vaginal existing defects; c) the posterior perineum integrity is vital to restore. These multiple procedures will maintain the vagina in the proper topographic position at the time of hysterectomy and then after. Those procedures, I published in the mainstream, peer-review journals. The world accepted my clinical approach. As a result of this popularity, I received significant invitations to demonstrate and teach others of these surgical interventions. Leading surgical textbooks in the USA included these surgical techniques in their text.

RK (Q6): So, which scientific-clinical accomplishment in the traditional gynecologic surgery, you consider as the number one?

AO: At most, I treasure the urethral stabilization procedure for female urinary stress incontinence (SUI). I based this new surgical technique on my anatomical discovery of the urethral stabilizing mechanism's intricate anatomy. That two research allow me to define the etiology of female SUI. Determining how the urethra is anatomically suspended-support, and translating it into surgical intervention was challenging. The surgical outcomes were emotional and pleasing. Then, waiting three years for final follow-up results was merely unbearable. Still, when I opened the last subject's envelope with a three-year evaluation in it for final analysis, it brought a sense of scientific satisfaction. I developed the urethral stabilization procedure without using a surgical sling, meshes, or permanent sutures. This way, I can help women worldwide with this devastating medical entity was the highest price in my life.

The second place belongs to my surgical reconstructive technique for total vaginal prolapse. This technique is the reconstruction of site-specific defects and anatomical suspension-support of the vagina in its natural topography. This technique is highly appreciated globally and won a monetary prize awarded by the German-Turkish Gynecologic Society.

Next, the lateral vaginal wall can prolapse into the vaginal canal and become symptomatic (dyspareunia, fillings of the vaginal fullness, and heaviness). I develop a new surgical technique to reconstruct this anatomical defect with outstanding clinical results, curing deep dyspareunia and other symptoms. It is essential to emphasize that supporting and surrounding structures of the lateral vaginal wall are much different

from the anterior-posterior vaginal wall. I demonstrated that the surgical fascia (the vaginal wall's adventitia) fuses with the superficial fascia pubovaginalis muscle. Historically, this study is the first clinical-scientific research globally, showing the necessity to treat the symptomatic lateral vaginal prolapsing into the vaginal canal.

My study also establishes that the pelvic organ prolapse quantification system is inadequate because the perineal body is located under the posterior-distal vaginal wall in the horizontal orientation and rests on the rectovaginal septum. Additionally, this investigation documented that the perineal body site-specific defects of the anterior surface differ from the posterior surface in the same subject. I reconstruct both surfaces separately to treat female urinary or fecal incontinence or superficial dyspareunia.

RK (Q7): So, which one new laparoscopic surgical technique, you consider the most important?

AO: Laparoscopic total hysterectomy with the prophylactic suspension of the vaginal cuff and reconstruction of the posterior culdoplasty created the base for developing a radical laparoscopic hysterectomy with pelvic lymphadenectomy for oncologic diseases. My new surgical technique, complexity for total vaginal prolapse, delivers the most personal satisfaction for its excellent international recognition. This surgical intervention also won a monetary prize awarded by the German-Turkish Gynecologic Society. I developed this surgical operation using the concept that all site-specific defects need repair with native tissue without utilizing surgical meshes. Reconstruction of the Douglas' pouch and suspend the vaginal cuff laterally to the cardinal ligament bilaterally; the posterior vaginal vault to the uterosacral ligaments; the endopelvic fascia suspends the anterior part of the vaginal cuff. Additionally, I do repair all identifiable site-specific defects of the posterior perineum and vaginal walls. There are too many new anatomical discoveries and too many new surgical interventions that I described, but it would take time to present them.

RK (Q8): How did you react when you learned that The Indian Cosmetic-Reconstructive Gynecologic Society presented you with the title of the "Father of Cosmetic-Plastic Gynecology?"

Warm Congratulations!!

AO: Thank you! Cosmetic-Plastic Gynecologic field is a new branch of the gynecologic field. The word "gynecologic" suggests that a gynecologist should be the one who is offering such a service for women. It is not as simple as it sounds because

gynecology does not provide cosmetic, topographic, and surgical anatomy principles. Recently, we observe a trend for self-appointed-plastic surgeries. Plastic surgeons are knowledgeable in cosmetic-plastic general principles but do not have training in gynecologic surgeries or gross, functional, experts who neither have formal training in teaching surgeries, anatomy, nor applied ethics. This very neglected field leads to very deceptive practices and teaching and clinical research without respecting scientific-clinical integrity. Such a situation leads to severe, debilitating, catastrophic, and irreversible surgical functional and esthetic complications due to under-educated practitioner-experts. In many instances, esthetic surgery gives priority over the preserving function; it usually results in irreparable complications. Gynecologic Societies around the globe do not provide any formal postgraduation teaching or training. I teach both gynecologists and plastic surgeons and fill this educational gap so that both specialties can minimize occurrences of severe complications. I teach courses/workshops with good results, but one educational center is a drop in the bucket.

RK (Q9): Can you please present some of your new surgical interventions?

AO: The most demanding procedures are those which require corrective methods for a botched surgery. **Labiolysis of the labia minora** is one of them. This surgical intervention releases the labium minus from unnatural fusion with the interlabial crease and the labium majus. Labial over-resection is the cause of severe complications leading to dysfunction or neuropathy. This corrective procedure restores the natural anatomy function; although, it is simple but technically demanding. **A frenuloreduction** is a surgical procedure that trims down the length of the frenulum of the clitoris. I discovered a new anatomy structure within the frenulum and termed it „the infraclitoris fascial bundle.” Additionally, I documented that the clitoral frenulum structure consists of two layers a) superficial skin stratum and b) the deep layer of the infraclitoris fascia bundle. The deep stratum is responsible for maintaining the stability of the clitoris, particularly the clitoral glans. Before this discovery, surgeons excised the deep structure, destroying the clitoris stability and leading to difficult clitoral stimulation and pain. My surgical technique eliminated such complications. **G-spotplasty** restores or improves the function of the G-spot.

G-spotplasty restores or improves the function of the G-spot. The **G-spot-spot discovery** (neurovascular complex) earned popularity worldwide to the point that I could not handle it daily. Scientifically, BioMedLib® classified my article on this discovery as the number one in the world and selected it from 23 million scientific-clinical articles. The International Study Group on G-spot verified the G-spot anatomy and established histologic characteristics features. The French MRI study group

confirmed the G-spot existence within the original anatomical location described by me.

Additionally, I discovered and published the G-spot's role in the genesis of the anterior-distal vaginal enlargement. I utilized all these discoveries regarding the G-spot and developed G-spotplasty, a surgical intervention to cure neurovascular (the G-spot) secondary dysfunction. All my scientific articles on these very subjects are available on my website at www.cosmetic-gyn.com. I established and published the classification (the anterior, lateral, and posterior vaginal introitus) and its connection to numerous different anatomical structures. Reconstructing the defective vaginal introitus eradicates feelings of the wide or smooth vagina requires intimate anatomical knowledge.

RK (Q10): In the old methods, surgeons resect the skin and fatty tissues with the adipose sac without other reconstructions of the labia majora. Your technique provides an option for a surgeon to reverse the flat appearance to the natural and rounded look of the tissues, does it?

AO: The surgical technique that I developed and published in peer-review journals restores the integrity of the adipose sac and eliminates the unpleasing esthetic look. **Prepuceplasty and commissure anterior reconstructions, Labioplexy, Labioplasty, Introitoplasty, Subdermal prepuceplasty, and Rejuvenation of the vaginal columnar rugae** with a CO₂ laser and **Hydrodissection** assists in removing adhesions. The reductive procedure also can correct the unnatural look of the clitoral hood.

RK (Q11): I am under the strong influence of your accomplishments in creating numerous new surgical techniques for female urogenital structures. As a gynecologist, I understand developing several new surgical procedures; however, you discovered multiple new anatomical structures; as a gynecologist, I can't comprehend it. Indeed, it is spectacular, breathtaking, and it surprises me that in the 21. Century, new anatomy discovery can occur. Here, the question is, what are anatomists doing? The professor of gynecology makes anatomical discoveries. How has it happened?

AO: At the beginning of my professional life, I decided to learn more about human anatomy. Late on, I tried to implement acquired anatomical knowledge to gynecologic surgery and noticed that the anatomy is disregard in many procedures. Furthermore, I identified anatomical misinformation in traditional textbooks and surgical atlases as

well as in scientific-clinical articles. When I noticed a deficiency in honoring the anatomy, I went to the anatomy dissection room and revisited my specific anatomical concerns during anatomical dissections. The rest is history!

RK (Q12): Which one discovery in anatomy are you assigning the highest rank, and does your ranking correspond with global interest?

AO: I have never contemplated this aspect of my work; although, it is an interesting question. From the clinical perspective, the “urethral stabilizing anatomy” is the number one discovery in my judgment. Based on this discovery, I developed the novel surgical technique for female stress incontinence, which I termed “**urethral stabilization procedure.**” Moreover, the actual anatomy study results help me create this technique without using surgical slings or meshes and establish the etiology of female stress incontinence, the most common form of incontinence in women. Other clinicians and scientific-clinical researchers should and will scrutinize those findings, and I am waiting for it very impatiently for any fact. Although the most popular of my work among scientific researchers and media is my discovery of the G-spot anatomy and histology. Nonetheless, satisfied women are the best in my work promotion. Whoever likes to make familiar with my work will find my scientific-clinical articles published in the mainstream peer-review journals and abstracted in PubMed on my website at www.f-sui.com

RK (Q13): Your anatomy studies fundamentally changed our thinking in formulating surgical concepts in gynecology. Can you, professor, furnish us with examples that the anatomy changes the ideas of surgical concepts?

AO: I do consider the anatomy like a “Holy Grail” in surgeries. The anatomy of the urethral stabilizing mechanism in women is a very complex structure. In brief, anatomical suspension and support consist of three independent structures a) Retzius’ space, also called the retropubic space; b) subpubic area; c) prepubic space. In the retropubic space, the pelvic ligaments, peri- and para-urethral ligaments, and ischiocavernosus and bulbocavernosus muscles suspense and support the urethra. The pubourethral ligament attaches the urethra to the posterior margin of the pubic bone. The ventral perineal membrane stabilizes the prepubic urethra (the perineal urethra) to the pubic bone, symphysis pubis, and the pubocervical fascia. Laterally, the pubourethral ligament and superior fascia of the levator ani muscle connect the urethral wall. The bulbs of the vestibule surround the proximal perineal urethra. The vaginourethral ligaments, the lateral anterior-distal vaginal wall, and the dorsal perineal

membrane support the posterior urethra. My articles are available on the website (www.F-sui.com). Before my discovery of the adipose sac and my new surgical intervention development, surgeons offered partial resection of the skin and fat of the labia majora. This traditional surgical approach made the labia majora flat and did not correct the underlying cause for labial anatomical deformity. In summary, I like to emphatically stress that the right executed surgery does not exist without intimate knowledge of gross, topographic, functional, and surgical anatomy!!!

Continuation of the dialogue

RK: A language is a tool consisting of an infinite number of words and grammatical rules, but it can generate numerous possible meanings, which allows us to “peek” future elements, e.g., according to the prof. Ryszard Tadeusiewicz’s cognitive resonance by using mathematical linguistics, in which statistics can explain a lot but also hide some of the information about words. His independent contribution to science was initiated in 1971 by publishing, quote: “Ontological status of the concept of information.” This work was in harmony with the state at that time of physics and philosophy of three types of matter: mass (solids, liquid, gaseous, plasma), energies (not separate from the mass as its kinetic, potential, radial properties), and the third type of matter – information, because a particular structure is always a source of information. Unfortunately, this work was not published despite its acceptance as a philosophy exam in his doctoral procedures. It was also thought that neither mass nor energy could appear or disappear, but that is history. Speaking of information as a third type of matter from a bio-cybernetic perspective, Prof. Tadeusiewicz even considered the principle of entropy to be artificial. But later, he became the first in the world who illustrated it not only by the mathematical presentation.

A while ago, I documented both the existence of information radiation and the time-space information field or Biocosmos in the formula $E=^i mc^2$. Thus, raising the quantum equivalence of energy (E) and mass (m) to the power of information, I added the information ($=^i$) to the existing two properties: energy and mass. This cheng combines the two measurable values of mass and energy, including isolated being, by integrating it into the environment. The boundary separates each being (the isolated part of the cosmos) from the rest of the Biocosmos. The informational space-time is unavoided, but we see the same information, for example, as a horizon line that defines the space still visible by the observer from the part already obscured by the Earth. The boundary line is variable because the horizon plane is perpendicular to the local vertical axis and depends only on its height. After all, every person in the mirror can see his/her

informative multi-dimensional figure. Scientists could recreate the silhouette of the crucified man based on a three-dimensional image fixed on the heavy canvas, the creation of which could be understood after the rediscovery of information radiation as the possible mechanism of the creation of this image on the shroud.³

Our theory of cosmic existence has recently been institutionalized by the news that my pupil Prof. Adam Ostrzenski from the USA has been awarded the title of “Visiting Professor” at Padua University, Italy. It is one of the most recognized and sanctified 800-tradition universities globally, where he will teach students and doctors undergoing internships and specializing in gynecological surgery. Padua University also entrusted him with conducting scientific research with the university teams. So, Prof. Ostrzenski, your scientific achievements have contributed to the progress of world medicine, clinical knowledge, and new operating techniques put you firmly into multiple tasks in the Padua University programs and again on the global stage.

AO: May I ask how you, as my mentor, how did you react to this nomination?

RK: Your scientific achievements establish your unquestionable reputation of contributing to the progress of medicine worldwide; your outstanding clinical knowledge and new surgical techniques that you developed gave sound, international clinical recognition by offering you a Visiting Professor position at the Padua University; although, you had held this position in several universities in the globe. I accepted your appointment at such a premier university in Europe with a great deal of emotion and satisfaction. Many scientific and didactic centers around the world have unbridled respect for your scientific and clinical achievements. Respect in the world for achievements is the biggest prize for the mentor and his student.

What was your reaction to the news of your elevation to the rank of a Visiting Professor?

AO: I declined many invitations from different universities for various reasons, but knowing from the literature that Padua University is proud of having Nicolaus Copernicus as a Polish student. I could not resist such an opportunity to be an educator and clinical-scientific researcher in this institution. Before my final decision, I asked you, dear teacher, what do you think about it, and received a short reply: “there is no

³ See the “Additional materials to the Socratic Dialogue”, previously held with Prof. Rudolf Klimek; devoted to “*Man’s self-portrait image on Turin Shroud*” : *BCnA_Vol.10(1&2),2020:299*. Also, see another publication : Klimek R. *Turin Shroud and $E=mc^2$* (DOI/doi.org/10.33140/ATCP.04.01.02)

reason to wonder”; and at this point, I knew that it was the correct distinction. Padua University included and embraced me in the academic faculty family and didactic staff of this unique university with great traditions. Today I thank you for another valuable piece of advice.

RK: Padua University Faculty of Medicine is one of the world’s oldest universities with enormous scientific and didactic accomplishments and traditions. It was in this institution that Professor Alexandro Benedetti, specializing in human anatomy and surgery who first described the urogenital organs in women and published it in 1493. By doing so he put an end to anatomical comparisons of the urogenital organs in women as underdeveloped male structures. His anatomical works were continued by famous successors such as Gabriello Fallopius (in the XVI century he discovered fallopian tubes) or Giovanni Battista Morgagni (in the XVIII Century he developed a surgical treatment for vaginal fistulas). Today, Prof. Ostrzenski changed the traditional belief anatomy by combining it inextricably with the information that directs every visible being. What is more, you will be collaborating with the well-known the Department of Human Anatomy at Padua University that is headed by Prof. Rafael De Caro, a well-known anatomist, patho-morphologist, and pathologist in the field of forensic medicine. Additionally, you have been working with Prof. Erich Cosmi from Padua University, the son of my friend late Prof. Ermolando Cosmi. Prof. R. De Caro with his team are researching to verify your new anatomical discoveries. You and Prof. Erich Cosmi conducting a study on how to modify the classic episiotomy and episiorrhaphy. Today traditional episiotomy is responsible for 40% of serious postpartum diseases, particularly superficial dyspareunia. Also, you are one of the lecturers of electronically conducted education by Padua University that These international educations are broadcast all over the world!

AO: With Prof. Erich Cosmi, we are in the process of introducing my new concept of episiotomy that differs from the traditional incision of the perineum and the vagina during natural vaginal delivery. My new surgical idea is to make a small excision of the tissue ring, which creates resistance during the delivery of the fetus. In this method, no perineum muscle is incised, and the hymeneal ring and occasionally the hymeneal plate participate in this excision. Preliminary results of our study indicate excellent surgical outcomes of this new method. Additionally, we evaluate tissue resistances using 5-D ultrasound (manufactured by GE) and recording changes occurring before and after the traditional episiotomy and the new one.

RK: In the middle of the 20th century, I introduced perineum protection at birth using mechanical compression on the perineum while determining the exact one day of the delivery by using the neurohormones and enzymes rather than statistically the week of expecting childbirth, and now you, Prof. Ostrzenski effectively solve the problem with functional anatomy. Congratulations!

How did you arrive at such a surgical concept to replace traditional episiotomy and episiorrhaphy?

AO: My documentation supports the fact that Professor R. Klimek from Poland was ahead of us with understanding the functional processes of the posterior perineum during natural vaginal delivery. You genuinely touch me, Prof. Klimek, noticing my anatomical documentation of this natural event. Furthermore, at a very early stage of my scientific-clinical carrier, you taught me a simple principle: “to look and to see,” which are two separate parameters in clinical science. Without their understanding, it is impossible to do much in clinical research. I want to share with you, dear mentor, that I have been implementing this simple principle to this day.

And what is more, I have passed it on to my students, and I am sure they are implementing it in their clinical-scientific life. Once again, I sincerely thank you for surrounding me with fatherly care when I needed it at most. Your bits of advice, which were highly relevant in my new scientific discoveries, contributed, as you say – to the progress in medicine and the development of mentioned at the beginning (and referring to the work of Prof. K.S. Khroutski) – the era of integralism and human civilization!

Closing remarks (by Rudolf Klimek)

You correctly stated that only human gross anatomy vision could create an inadequate or fouts picture. Additionally, interpreting the human body through the prism of cell morphology is also an inadequate representation. The proper understanding of human gross, topographic, functional, and surgical anatomy is very demanding. In 1980, utilizing the US advanced technology of nucleus magnetic imaging, I introduced the clinical differentiation between normal and the premalignant and malignant human cells. This observation led me to form quantum theory in which I connected the morphology, energy, and information that built the foundation for the new informative medicine field. In this theory, a surgeon plays an unusual role because she/he is an individual, regardless of the surgical team and available equipment, who makes the decisions, initiates a surgery within the body of another human being. For instance, transverse stretching of the posterior perineum with fingers in a woman increases neurohormones’ secretion. Unnecessary episiotomy and inadequate repair

(episiorrhaphy) lead to permanent dysfunction of the perineum and pain. It requires adequate reconstruction of all fourteen anatomical structures that episiotomy creates; however, the posterior perineum, perineal body, and vaginal anatomy must be mastered by surgeons.

A similar situation is with long-lasting conservative medical treatment of polycystic ovarian syndrome (Stein-Leventhal syndrome). This method leads to ovarian, hypothalamic, and pituitary dysfunction and potentially to ovarian cancer, as the preliminary pathomorphological study demonstrates. A very simple ovarian wedge resection by mini-laparotomy approach or laser vaporization of the tunica albuginea (the technique you Prof. Ostrzenski developed) is correct. Additionally, a Caesarian section performing without establishing and verifying indication for this abdominal surgical delivery is responsible for implantation of endometriosis, a devastating illness. I used those well-known facts to promote your, Prof. Ostrzenski, principles of cosmetic-plastic gynecologic surgeries and connect them with information medicine.

A surgeon is responsible for providing care for a woman's healthy life, including esthetic gynecologic surgery. I also emphasized the surgeon's role as a person in my cosmic being theory, which avoids qualifying human beings with artificial intelligence. For the first time in the Swiss mountains, I observed how human beings' artificial intelligence functions within cheese production industries. With this observation, I transfer it to a surgeon who executes a Cesarean section without medical indication and how he isolates himself emotionally from an established medical indication for this procedure. Furthermore, a patient has the privilege of a comfortable life due to the freedom to choose a lifestyle and overcome internal and external obstacles. Thank the rediscovery of information rays and fields. Peoples are most effectively protected by living according to theological principles, which means that man acts by own and socially acceptable ethical and moral values, which are directly connected with the art of the possible protection of life and restoring people's health. The scope of the means for this purpose is vast, ranging from single words or gestures and ending with space equipment. In this perspective, medicine seems to be "the queen" of all sciences, which obliges doctors and patients to track general knowledge and its technological use continuously. Medicine is one of those unique areas of human activity. Not only is its subject but also, at the same time, the subject of interest, mainly all the theoretical (cognitive) achievements are directly connected with the art of the possible protection of life and health. In 1971, it was predicted that the incidence of cancer would be reduced by half before the end of the 20th century. Later on, it would be eliminated, but instead only increased the fear of the lethal disease.

Tverdislov, symmetries and dynamic complexity

Georges Chapouthier¹

Твердислов, симметрия и динамическая сложность

Жорж Шапутье

Abstract. Research by Tverdislov et al. has presented findings explaining the steady, successive levels of development of living beings through chiral switching ensuring stability throughout the stages leading to their ultimate complexity. These hypotheses form a useful complementary approach to the present author's mosaic theory of natural complexity, providing a mechanism that could explain the principle of integration underlying the mosaic theory. The dynamic development of symmetrical forms as argued by Tverdislov et al. may be seen as one of a number of processes involved in the integration of successive stages in the evolution of a living being and in the emergence of complexity.

Keywords: Chirality, Complexity, Enantiomorph, Living being, Evolution, Integration.

Резюме. В работе Твердислова и др. представлены результаты, объясняющие устойчивые, последовательные уровни развития живых существ посредством хирального переключения, обеспечивающего их устойчивость на всех эволюционных этапах; и что приводит к их предельной сложности. Эти гипотезы формируют полезный взаимодополняющий подход к современной авторской мозаической теории естественной сложности, обеспечивая механизм, который мог бы объяснить принцип интеграции, лежащий в основе мозаической теории. Динамическое развитие симметричных форм, как утверждают Твердислов и др., можно рассматривать как один из целого ряда процессов, вовлекающих интеграцию последовательных стадий в эволюцию живого существа и в возникновение сложности.

Ключевые слова: хиральность, сложность, энантиоморф, живое существо, эволюция, интеграция.

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*Заключение***Introduction**

The concept of natural selection, covering variations such as sexual selection, dates back to Darwin, but the basic question raised since Darwin is whether natural selection can account for *all* the dynamics of evolution. This gives rise to two major arguments, one being that natural selection can explain all the findings observed in the evolution of living species [Dawkins, 1976; Williams, 1966], and the other and opposite argument being the existence of more general processes in parallel with natural selection to account for the evolutionary development of living beings tending towards complexity. For example, the American biologist Stephen Jay Gould postulated that Darwinian selection left scope for relatively long phases of equilibrium with very little change occurring in species, but which were punctuated by more abrupt phases of speciation [Gould, 2002]. Many researchers have taken this further than Gould, arguing for what is called *orthogenesis*; an excellent chronological review of orthogenesis has been published by Igor Popov [Popov, 2018]. To quote Popov, orthogenesis means that “organisms are predisposed to vary in certain directions” (p.1). Disregarding extreme arguments presented by certain proponents of orthogenesis who reject Darwin’s theory of evolution, orthogenetic processes are not incompatible with Darwin’s natural selection, although they clearly go *beyond* natural selection [Chapouthier, 2019].

1. Complexity in mosaic form

Based on anatomical observations of animals, the present author developed a thesis [Chapouthier, 2018] that is clearly in line with the second approach described here, making it possible to look beyond processes of natural selection and include more general processes contributing to the complexity of living beings. In other words, this is “Darwinism beyond Darwin” [Chapouthier 2014].

The mosaic theory of complexity can be summarised as follows. The basic idea is that all and any complex living structure has been produced through two basic principles that are compatible with, but different from, Darwinian selection: the *principle of juxtaposition* of similar elements, followed by the *principle of integration* where similar elements integrate with one another to form an entity of greater complexity in which the original elements then stand as component parts. For example, individual cells can juxtapose and then integrate to form organs; living organisms can juxtapose and then integrate to establish a society of animals. The same process applies to a mosaic art work, being formed as a unit in which the component parts have a certain degree of autonomy, and where the overall visual image of a mosaic does not cancel the autonomy of form, colour or sheen of the tesserae comprising it. And so the operation can be repeated, with entities thus formed as component elements being subsequently juxtaposed one against the other and ultimately integrated to form entities at an even greater degree of complexity, as entities comprised of entities. Ever increasing levels of complexity thus appear, developing from cellular organelles into communities of animals, having covered intermediate stages, for example, as cells, organs and individual organisms.

One important clarification is needed here. While all the arguments contributing to the mosaic theory are based on anatomical data from living beings with their complexity as observed, there are at present no further arguments to support any hypotheses on what exact processes might be involved and what causes could make it possible for integration to occur at a given stage.

2. The work of Vsevolod Tverdislov et al.

Research by Vsevolod Tverdislov et al. has hypothesised one of a number of processes to explain the way a system shifts towards complexity, and which could be behind integration in the mosaic theory. This is therefore an interesting approach to examine.

The starting point of the hypotheses developed by Tverdislov is *chirality*, i.e. the existence of right/left organisational symmetry in living beings, one feature being a morphological mirror image of the other, as with the left hand and the right hand. The etymology of the term “chiral” is the Greek word for “hand”. At a molecular level,

such symmetrical forms are optical isomers. “They form mirror isomers – enantiomers possessing optical activity – ability to rotate the light polarization plane (L – left, D – right)” [Tverdislov *et al.*, 2012, p 121]. But mirror-image morphological features or symmetrical “enantiomorphs” can also be observed macroscopically; e.g. a snail may have a shell that spirals in the opposite direction to most snail shells; a human heart can be on the right (*situs inversus*), and the brain of a left-handed person can be the mirror image of the brain of a right-handed person (although this is not always the case). Whether at a microscopic or macroscopic level, and unlike mineral formations, at any given stage in a living system, there is an overwhelming majority of entities with one enantiomorph, i.e. right or left, and there is almost invariably an imbalance in relation to the other enantiomorph.

Working then on the hypothesis that the initial state is unstable, that the two enantiomorphic forms (left and right) are found in equal proportions, the development to a majority occurrence of one of the two forms could therefore be seen as the achievement of a higher level with greater thermodynamic stability. Development with one enantiomorph prevailing over the other could be a partial adaptation for greater stability. But for Tverdislov *et al.*, in general in living units a shift through successive stages where integration can occur (stages of formation which they refer to as strata or stratification) is not a shift from a stage without chirality to one with a given type of chirality, but rather from *one chirality to another*, as if alternating in what is described as *switching the chirality sign*: “Switching the chirality sign of macroscopic objects provides irreversibility of stratification. The known chirality of biological structures at different levels suggests that the chiral L/D stratification should be universal and the hierarchical paths are stable and determined” [Tverdislov *et al.*, 2012, p. 120]. For the mosaic theory of natural complexity, the establishment of a steady stage of a certain form of chirality, either left or right, could be one of the processes involved in integration and which is henceforth irreversible, precluding any possibility of reverting to lower-level entities. For Tverdislov *et al.* the attainment of stability with a new form of chirality is not necessarily a stage of greater complexity, but the irreversibility and inherent stability involved for new stages means such greater complexity can occur. “The structural complexity grows (...) upon stable stratification of the system. Complexity rises inside one level, and is fixed upon formation of the next one and its gaining stability.” [Tverdislov *et al.*, 2012, p. 126]. For Tverdislov *et al.*, chirality shifting between levels could thus be one of the key elements behind the dynamic complexification of biological systems. For the mosaic theory, chirality shifting would be one of the processes of integration in living beings.

3. Validation

Tverdislov et al. conducted experiments to validate their theses, testing both artificial macromolecules [Zlenko *et al.*, 2020] and natural macromolecules [Sidorova *et al.*, 2019]. The artificial macromolecules were from N-trifluoroacetylated α -aminoalcohols (TFAAAs) and were “able to form quasi-one-dimensional supramolecular fibers (strings) when chirally pure” [Zlenko *et al.*, 2020]. The formation of strings produced tension, i.e. a type of molecular motor not found before the string fibres were formed, and thus gave rise to what could be called a new stage of integration. The analysis of natural macromolecules focused on the chiral features of proteins and nucleic acids. With proteins, for example, a number of levels of complexity can be identified, starting with amino acids as the primary structures, helices as secondary structures, then distortions and spatial arrangements of the helices as third and fourth-level structures. Going through these different stages as reported for demonstrations presented by the authors, successive inversions of chirality, i.e. symmetry switches, can be observed, showing that stability has been achieved at each of the new levels of complexity.

The analyses of experiments and the conclusions made by the authors obviously only apply to macromolecules and have not been extended to the wide range of anatomical structures of complex organisms as described in the mosaic theory of complexity [Chapouthier and Maurel, 2021]. With that reservation, Tverdislov’s approach still stands as an interesting example of what may be a process of integration and complexification unrelated to, yet compatible with, Darwinian selection.

Conclusion

Tverdislov et al. have presented theses on the successive stages of complexity explained by chirality switching. Such original theses provide complementary arguments supporting the mosaic theory of complexity when taken as a mechanism to explain the principle of integration in the mosaic theory. The dynamic evolutionary development of symmetries as argued by Tverdislov et al. could be one of a number of processes facilitating integration in successive stages of developing life forms.

As the validation of the model only concerned molecular structures, either artificial or natural, there is obviously no answer yet to the broader question of macroscopic structures as with multicellular organisms. Only further research can lead to conclusions on the validity of the processes as theorised by Tverdislov et al. to apply them in a broader context to the countless forms of animal morphology.

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New Integralist Time : New (True – Organicist) interpreting, understanding and applying of Aristotle’s *Organon* Kosmology – to bringing successes to the contemporary world science

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Новое Интегралистское Время :
Новое (Истинное – Органицистское) осмысливание, понимание, перевод и
применение *Органон* Космологии Аристотеля –
для привнесения успехов в современную мировую науку
Константин С. Хруцкий и Милана Тасич.

Abstract. The authors substantiate in the paper the depressing conclusion that Aristotle, Father of Science and author of the phenomenal Organicist cosmology (a comprehensive rational knowledge) : his *Organon* Kosmology is contemporarily “lost in translation” and beyond the intellectual grasp of the modern scientific community. Such a situation is completely unacceptable, in our current time of change and global transformation. As a way out, the authors propose an immediate (true – Organicist) rehabilitation of Aristotle’s scientific heritage : in this, beginning with reviving the true meaning of the Stagirite’s basic concepts and notions; and then realizing the first-priority rehabilitation of the Organicist aetiology and, further, all other foundational constituents of Aristotle’s *Organon* Kosmology.

Keywords: *organon*, *entelecheia*, Entelechist cause, Aristotle’s *Organon* Kosmology, naturalist Hylemorphism, Organicist aetiology.

Резюме. Авторы обосновывают в статье удручающий вывод о том, что Аристотель, отец науки и автор феноменальной Органицистской космологии (всеобъемлющего рационального знания): его *Органон* Космология в наше время «потеряна в переводе» и находится вне интеллектуального восприятия современного научного сообщества. Такая ситуация совершенно неприемлема в наше современное время перемен и глобальных трансформаций. В качестве выхода авторы предлагают немедленную (истинную – Органицистскую) реабилитацию научного наследия Аристотеля : в этом, начиная с возрождения истинного значения основных концепций и понятий Стагирита; а затем осуществляя приоритетную реабилитацию Органицистской этиологии и, в дальнейшем, всех других основополагающих составляющих *Органон* Космологии Аристотеля.

Ключевые слова: *органон*, *энтелехия*, энтелехистская причина, *Органон* Космология Аристотеля, натуралистический гилеморфизм, Органицистская этиология.

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Introduction

The Aristotelian *Organon* Kosmology is now “lost in translation” and is beyond the comprehension of the world scientific community: this is the disappointing conclusion the authors come to in a special study. There is no doubt that such a result in world cultural development is totally unacceptable, especially in the current ‘time of change’ (of ‘tectonic shifts’ in world evolvement) : all this requires a decisive correction of the present state of affairs. In their approach the authors argue for a primary clarification of the cosmological foundations in the existing (polar) opposition between the two great (super)systems of rational knowledge – of Plato’s *transcendentalist* Static (*Top-Down*) Dualism and Aristotle’s *naturalist* Dynamic (*Bottom-Up*) Organicism.

On this basis, the authors see and pursue a fundamental opportunity to project a strategy for correcting the current grave situation : the latter lies in realizing the primary task of restoring the true (in scientific meaning) names for the main Aristotelian conceptual notions; with further disclosing the true significance of *entelecheia* – a cornerstone concept in Aristotle’s *Organon* Kosmology, and eventual introducing the notion of *Entelechist cause*. The final task (level) on this way is the realization of the scientific returning – but for the emerging jump “Back to the Future of the Aristotelian Aetiology and Organicist Science, as a whole”. We cannot but agree with Demetra Sfondoni-Mentzou’s conclusions that the era of rejection Aristotle’s physics is ending, when a preference to “Newtonian Mechanics, for at least three centuries” drastically dominated : with its general aim that pursued the main task of realizing “the description of experienced phenomena, rather than explanation referring to a deeper level of reality,” in this entirely relying on the modern “language of Mathematics”; however, nowadays, we are faced with the challenge of urgent reviving the significance of “the Aristotelian world of real qualities, qualitative transformations and the becoming of nature.” [Sfondoni-Mentzou, 2018, p. 27]³

1. The Big Three of Greek philosophy and science: Socrates, Plato, and Aristotle

Socrates, Plato, Aristotle are the pivotal figures in the history of Ancient Greek, Western and world culture, firstly relating to rational knowledge evolvement. Socrates (469–399 B.C.E.) is credited both as one of the founders of Western philosophy; and as a great cultural figure in the world history. Karl Jaspers defined him as a

³ See: Sfondoni-Mentzou, Demetra (2018). “Aristotle’s Dynamic Vision of Nature. A Neo-Aristotelian Perspective on Contemporary Science.” *In: Aristotle – Contemporary Perspectives on his Thought: On the 2400th Anniversary of Aristotle’s Birth*. Walter de Gruyter GmbH & Co KG. Pp. 27–56. DOI: <https://doi.org/10.1515/9783110566420-003>

“paradigmatic individual”, together with Buddha, Confucius and Jesus [Jaspers, 1957, p. 95]⁴. Socrates’ way of life, character, and thought generally exerted a historical influence of incomparable scope and depth onto the cultural and intellectual development of the whole world. His deeds have changed the type of philosophical thinking itself (starting with moral philosophy and ethical tradition of thought), with further transforming rational thought (into) and becoming of the modern Western type of philosophizing. However, Socrates did not leave behind any conceptual constructions of his mode of thinking. Moreover, as it is known, the definition of each concept was always a difficult task for him.

As a matter of fact, the act of determining essence of things and beings, thereby significantly differentiating each one from all other things and beings – this is, every time, a really difficult task. However, Aristotle succeeded in this way. In the *Topics*, he arrives at the conclusion: “A definition is an account (*logos*) that signifies the essence.” (*Top.* 101 b 38). At the same time, substantially, Aristotle’s (who is a student of Plato, at the Academia in Athens) : his concept of *definition* is fully opposite (polar) to his teacher’s cosmological attitude to this issue. In Plato’s approach, the organic order is unified, the universal for everyone; and ultimately is reducible to the Transcendent (divine) Realm of Forms (or Ideas). The latter are precisely the highest and the only real (eternal, immortal, unchangeable Forms-Eidos-Ideas’) entities that are the real bases and tools for a Demiurge to creating an actual, sustainable and flourishing (but founded in the Realm of Forms’ ultimate Righteousness and Goodness) world. Fundamentally, these transcendent “*eternal patterns*” and “*immortal forms*” that are located in the Realm of Eidos – they omnitemporally pervade the entire space. In a substantial way, in turn, the creative activity of a Demiurge constantly is based on the knowledge (of) and direct access to this Realm of Forms (the shortest approximation to which is mathematical knowledge).

Demiurge (creator) essentially is using this knowledge for its implanting into the things and construction of (and harmonizing) the entire created cosmos and the living world of a human being. Fundamentally, all this creation process is realized in the Top-Down mode – in the position of an external actor – *from without*, to the studied and created objects : of the whole space – by a Demiurge; but in the earthly life and particular space and time – by Human Being’s (who is the likeness of God) and human Societies’ activities; i.e. by creative processing and constructing-transforming (through mathematical manipulation) the entire elemental (chaotic, quantitative, mechanistic, aimless) material space into the harmonious living order. Lloyd P. Gerson, responding to the question “What is Platonism?” – arrives at the same main conclusion that we

⁴ See: Jaspers, Karl. (1957). *Socrates, Buddha, Confucius, and Jesus: The Four Paradigmatic Individuals*, tr. by Ralph Manheim. New York, A Harvest Book.

should understand Platonism historically as consisting in fidelity to the principles of «top-downism» [Gerson, 2005, p. 269]⁵.

In his in-depth analysis of Plato's "theory of Ideas", Karl Jaspers firstly points out to his notion of "good (*agathon*)" that has "the highest authority" for Plato; the scholar stresses:

From the very outset Plato searched for the supreme authority, knowledge of which first lends meaning to all thought and action. He calls it the highest science (*megiston mathema*). To attain it, no effort is too great. It is the only important thing. Its object is the good (*agathon*). [Jaspers, 1962, p. 28]

Further, Karl Jaspers, developing his substantive analysis of ancient genius' theorizing : he reveals the significance of Plato's "theory of Ideas"; and "its eternal being from the good, from that which is above being" [ibid., p. 29]. In the conclusion, Plato's conception expresses the existence of the "Two worlds", wherein Plato discerns and learns "the world of Ideas and that of the senses, the world of being and that of becoming, the noetic (intelligible) world and the world of appearance." [Ibid., p. 30] In an obvious way, here, "the world of ideas" serves as the main basis of acquiring a way of knowing the world by a cognizing subject (human being; and this is her mathematical competence); while "the world of becoming" is always an object for the objective study, in this relying on the factual, sufficient database of the object under research – for its further mathematical processing and analyzing. As for grasping "*the relation between the two worlds*": Jaspers explains that "the fundamental form of this Platonic thinking is the cleavage (*tmema*) between the changing world of temporal things and the eternal world of enduring things (and again between the world of Ideas and the realm beyond it, where the formidable knowledge that dwells in the world of Ideas soars to ineffable contact with the One and the good)." [Ibid., p. 30]

As for understanding "*what is an Idea?*": Jaspers notes that "Plato gives us a rather confusing picture. Some of them are: form (*eidos*), shape (*morphe*), type (*genos*), essence (*ousia*), unity (*monas, henas*) «what,» «what it is,» «self» (beauty itself; the horse itself), «as such»; «what is,» «what beingly is» (*ontos on*)." [Ibid., p. 30] In a generalizing view, however, throughout Plato's dialogues – his core philosophical conception of "forms beneath appearances" is obvious. Not surprisingly, as it is well known, Plato was deeply influenced by Pythagoras – a thinker who introduced the concept of form as distinct from matter; and that the physical world is an imitation of an eternal mathematical world. Among the many opinions that exist, Francesco

⁵ See: Gerson, Lloyd P. (2005). "What is Platonism?" *Journal of the History of Philosophy* 43: 253-276.

Ademollo's⁶ conclusion seems significant that Plato's "sensible particulars as we ordinarily conceive of them – i.e. as continuants endowed with a temporal career which has a beginning, a duration, and an end – strictly speaking do not exist." [Ademollo, 2018] Thereby, author stresses the foundational "contrast between forms and sensible particulars in terms of a contrast between being and coming" (otherwise, between "immortal forms" and "sensible particulars"); and, in conclusion, that all this is "against which Aristotle intends to react when he promotes sensible particulars to the rank of (primary) ousia, which Plato had conferred on the forms, and declares it a distinctive mark of ousia that it remains numerically identical through time and change." [Ibidem]

Plato's theory of Forms and Dualist conception of "the two worlds" existence, as it is stressed throughout the BCnA-articles – all these are the fundamental elements of Plato's, substantially Transcendentalist (Dualist – *idealist/materialist*) cosmology. The latter reveals to us the existence of the Platonic cosmos (space), we are living in : this space unites both the world of all the sensible particulars (that come into being, undergo changes, and disappear), including living beings (firstly, human beings; and who are carriers of immortal souls); with the world of eternal beings – the immortal and unchangeable Forms (from the Transcendent Realm of Ideas) that are atemporal (transcendent to time), aspatial (transcendent to space), and transcendent to a human being and her mind (but who is a carrier of immortal soul). Another BCA-fundamental position, as we see it in the *BCnA*-papers: Plato is highlighted as a philosopher of science; and that "Plato has exerted a greater influence over human thought than any other individual with the possible exception of Aristotle" [Demos, 1927], as we learn from the article by K.S. Khroutski [2015]⁷. The following quotation from the author (Raphael Demos) is noteworthy:

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

⁶ Who studied Plato's conception of change; *see*: Ademollo, Francesco. (2018). On Plato's Conception of Change, *Oxford Studies in Ancient Philosophy* 55: 35–83.

⁷ *See*: Khroutski KS. (2015). "In defense of Aristotle's Biocosmology as the comprehensive supersystem of knowledge: Eight critical comments on the article of M.Benetatou." *Biocosmology – neo-Aristotelism*, Vol.5, No.1 (Winter 2015), c. 28–50.

properties of geometrical figures along with inquiries as to the nature of the good life. [Demos, 1927]⁸

2. Plato's Static (*Top-Down*) Dualism and Aristotle's Dynamic (*Bottom-Up*) Organicism

With deep correspondence to the Aristotelian *Organon* Kosmology, BCA-associates strive to introduce, as a cornerstone : a Dynamic *naturalist* (Bipolar and Cyclic – Triadic) – thus Triadological (and Triune) view on (approach to) studying the substances, events, and processes of reality. Even in terms of natural logic, inasmuch as the real Kosmos is factually Bipolar – Plato's Dualist cosmology ought to (and naturally has) its polar equivalent; and this opposite cosmology is evidently the Aristotelian *Organon* Kosmology. Both cosmologies are comprehensive; both are essential; both approaches are equal in their importance for a deeper and more complete study of the actual world. However, so far, since the 17th century (in Modern era), especially in recent centuries – the Platonist Dualism (and its mathematical physicalism) is sharply predominant, factually dictates all the conditions of scientific activity.

As BCA-members are convinced, and in Anna Makolkin's expression, after “the centuries of the cult of Plato, genuine fear of Aristotle's wisdom and misrepresentation of his works,” [Makolkin, 2013]⁹ – Biocosmologists now meet the challenge to vigorously redressing the imbalance; and making a start to harmonious applying (in the current scientific activities) of both cosmologies and their types of science (that are outlined in this work); and despite the fact that they are foundationally opposite to each other): of Plato's (*Top-Down*) Dualism and Aristotle's (*Bottom-Up*) Organicism.

The key point in Aristotle's position is that scientist's (Father of science) “organic” basically corresponds to the word *organon* (ὄργανον) that means in Greek “instrument” (“tool”, “function”); and Biocosmologists fully agree with the essential note of Mariska Leunissen that:

The term ἐντελέχεια was coined by Aristotle, and designates a completed state resulting from an internal movement towards this state [see Ritter (1932; 1934) and Johnson (2005), 88–90]. The traditional reading of ὀργανικόν as “having organs” or “being composed of organs” [see, e.g., Ross (1961), 51, 313; Hamlyn (2001), 85] must certainly be wrong: elsewhere in the

⁸ See: Demos, Raphael (1927). Introduction. In: *Plato Selections*, ed. Raphael Demos, New York: Charles Scribner's Sons (Available online – <http://www.ditext.com/demos/plato.html> – retrieved: 14.01.2021)

⁹ See: Makolkin, Anna (2013). “America discovering Aristotle.” *Biocosmology – neo-Aristotelism*, Vol.3, No.4 (Autumn 2013), c. 685–687.

Aristotelian corpus, the term *organikon* (coined by Aristotle; see Byl (1971), 132) always means “instrumental,” and there is no reason to assume it means something different here. [Leunissen, 2010, p. 53]¹⁰

The conclusions of the scholar Abraham Bos are no less important to us: concerning the meaning of the term. The scholar emphasizes that the Stageirite uses the concept *organikon* in his definition of the soul (412a28 and b6) – “Arguing step by step, he (Aristotle. – **Authors**) arrives at the following definition of ‘soul’: ‘(the soul is) the first entelechy of a natural body (*sôma physikon*) which potentially possesses life and which is *organikon*’.” [Bos, 1998]¹¹

The scholar makes a number of significant conclusions and statements, beginning with the assertion that “the psychology of Aristotle has never been understood in a historically correct way”; and that “*De anima* has been interpreted in a way that runs completely counter to Aristotle's intentions”; in this, primarily, “the incorrectness of the standard interpretation is also shown by the fact that the psychological theory it has produced is incompatible with Aristotle’s position in the other works of the extant Aristotelian *Corpus*, (...).”¹² The main conclusion of Abraham P. Bos is the following:

This brings me to what I regard as the crowbar for tackling the traditional interpretation of *De anima* II, 1. It is the term *organikon* which Aristotle uses in his definition of ‘the soul’. This term is also original to Aristotle and is used very frequently by him. And in his work it never means ‘equipped with organs’ but always: ‘serving as an instrument’! Only in the two passages of *De anima* II, 1 where Aristotle uses the term *organikon* in the context of his definition of the soul have interpreters since antiquity taken the word to mean ‘equipped with organs’. But from a philological point of view this is totally unacceptable. One cannot, precisely at the place where Aristotle formulates the heart of his psychology, translate a crucial term in a way which has no parallel in Aristotle’s entire oeuvre, while the term itself is used on countless occasions by Aristotle *in a different sense*. Aristotle’s definition of the soul must therefore in any case be corrected to: ‘the first entelechy of a natural body which potentially possesses life and which is instrumental’. [Abraham Bos, 1998]

¹⁰ See: Leunissen, Mariska (2010). *Explanation and Teleology in Aristotle's Science of Nature*. Cambridge: Cambridge University Press.

¹¹ See: Bos, Abraham P. (1998). Aristotle’s Psychology: The Traditional (hylomorphic) Interpretation Refuted. URL.: <https://www.bu.edu/wcp/Papers/Anci/AnciBos.htm> (last retrieval – 15.02.2021)

¹² All references are to Abraham Bos's 1998 paper on Aristotle's psychology; and which follows the scholar’s report to the Twentieth World Congress of Philosophy.

In his other work, Abraham Bos confirms his main conclusion that in the whole of Aristotle's oeuvre '*organikon*' never means 'equipped with organs' but always '*servicing as an instrument*', 'instrumental' [Bos, 2002, p. 278]¹³ In this general approach, and concerning the issue of *the soul* : the scholar states that Aristotle essentially disagreed with his teacher Plato; Abraham Bos concludes that "Aristotle specified the condition of the soul as being inextricably bound up with a *soma physikon organikon*." [Ibid., p. 277]

The central issue is, therefore : What would be the essence of a thing? After all, essence is something that belongs to a thing as the inherent property, and which always persists, remaining unchanged, although it is an undeniable fact that everything is a subject to constant changes without end, which can be very different; thus fitting a maxim of Heraclitus "Everything flows, everything changes". Not surprisingly, philosophers have expressed themselves on this topic in very various ways. Appreciably, in the Biocosmological approach : two great figures (of Ancient Greek philosophy and science) are distinguished, and who are the central figures of Axial age, denoted by Karl Jaspers – they are Plato and Aristotle. Their conceived and developed (super)systems of rational all-round knowledge on the world (cosmos) : significantly, these great comprehensive cosmologies are rationalized (conceptually grounded). In other words, both cosmologies have their own substantive conceptual and categorical frameworks, key concepts and notions, with the definitions of basic terms. It is essential, however, that these (of Plato and Aristotle) cosmologies are opposite to (incompatible with) each other. At the same time, we follow the theory of Pitirim Sorokin¹⁴ that confirms the coming of the Integralist epoch in the world (dynamic, bipolar and cyclic – Triadic) cultural evolvment, in the current time (21st century).

In this attitude, scholars and cultural figures in the world : now they have no right to miss the convenient historical chance and its natural (evolutionary) grounds – for the efficient using the potentials of both great (although opposite) cosmologies in achieving the goals of the world Integralist evolvment (of course, in terms of the eternal principles contemporary interpretation). In fact, in the case of a naturally Integralist epoch that is actually self-evolving, and if truly basing on the leading foundations of Integralism (as follows from Pitirim Sorokin's Dynamic theory of cyclical sociocultural development) : in this way, drawing from the *naturalist*

¹³ See: Bos, Abraham P. (2002). "«Aristotelian» and «Platonic» dualism in Hellenistic and early Christian philosophy and in Gnosticism," *Vigiliae Christianae*. Vol. 56, No. 3 (Aug., 2002): pp. 273–291.

¹⁴ See (for instance): Sorokin, Pitirim (1970 [1957]). *Social & Cultural Dynamics. A Study of Change in Major Systems of Art, Truth, Ethics, Law and Social Relationships* (Revised and abridged in one volume by the author). Boston, Parter Sargent Publisher. The legacy of the outstanding Russian-American scholar P.A. Sorokin is also widely studied in the BCA and reflected in the *BCnA*-publications of its members.

scientific-theoretical substantiation – the prospects of successful practical building a common, safe and prosperous peaceful future on Earth look quite real, and which are urgently demanded. At least, under the conditions of sufficient (sound) scientific-theoretical justification of this (world Integralist sociocultural) process – cultural humanity obviously gets an excellent perspective to overcome the current world crisis.

2.1. Naturalism vs. Transcendentalism : *as the most basic polarization and critical framework*

The Greek genius of Aristotle made an irreplaceable (Organicist) scientific-theoretical and general philosophical contribution to world culture – a subject of never ending interest to the cultural community of Earth, throughout the last 2400 years. At the same time, the content of perceiving the Aristotelian scientific approach – as an integral all-encompassing (cosmological) system of knowledge; and which initially had an essentially Organicist meaning : the subsequent (in world history) perceiving the Aristotelian *Organon* Cosmology was consistently subject to the spirit of successive historical epochs. As Charles W. Tolman makes clear [1994]¹⁵:

Critical sorting (italics is ours. – **Authors**) began already with Aristotle’s pupil and literary executor Theophrastus. The Stoics made Aristotle’s naturalism into a deterministic materialism. The Sceptics accepted and developed his logic while abandoning his realism. In the centuries that followed, Plotinus, Boethius and Avicenna would attempt to reconcile Aristotle with Plato, creating what we know as neo-Platonism. During the Middle Ages Maimonides successfully appropriated Aristotle for Judaism, Averroës for Islam and Thomas Aquinas for Christianity. [Tolman, 1994, p. 434]

The scholar also notes that the recent centuries are characterized by “the enormous prestige attained by science”; in turn, if we refer to the authoritative judgment of Alfred North Whitehead, modern Western rational thought is fundamentally Platonic: “The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato.” [Whitehead, 1978, p. 39]¹⁶ Furthermore, Whitehead provides an essential definition of the notion of ‘matter’ that exists in the contemporary Western cultural (scientific) milieu:

There persists, however, throughout the whole period of the fixed scientific cosmology which presupposes the ultimate fact of an irreducible brute matter, or material, spread throughout space in a flux of configurations. In

¹⁵ Tolman, Charles W. (1994). “What is Living and What is Dead in Aristotle’s Psychology,” *Theory & Psychology* Vol. 4(3), Aug 1994; pp. 433–446.

¹⁶ Whitehead, Alfred N. (1978 [1929]). *Process and Reality*. New York : The Free Press. P. 39.

itself such a *material is senseless, valueless, purposeless* (italics is ours. – **Authors**). It does what it does, following by a routine imposed by external relations which do not spring from the nature of its being. [Whitehead, 1948, p. 18]¹⁷

In addition to the judgement of Tolman, regarding the issue of “critical sorting” over the Stagirite’s comprehensive Organicist rational knowledge (cosmology) : herein it is also appropriate to give the finding of the Aristotelian scholar Helen Lang; who states, in relation to the naturalistic foundations of Aristotle’s *Physics* – that Aristotle’s “position stands in sharp contrast not only to Plato but also to later philosophy, including the Stoics and Philoponus.” [Lang, 1998, p. 64]¹⁸ Tolman himself reveals the main gist of the issue : all this world cultural-historical movement (a natural; but seemingly the process that is irreducible to common grounds) – therein, Tolman essentially discovers the existence of the two poles of rational knowledge, i.e. the principle of natural Bipolarity (Bivalence, Twoness, Universality) in the ongoing knowledge management; and formulates that “in the course of time the poles of debate became more clearly defined as *naturalism* vs. *transcendentalism* (italics is ours. – **Authors**).” [Tolman, 1994, p. 434] Continuing his reasoning, the scholar states that “the naturalists and the transcendentalists did not alternately replace each other; they have existed side by side, only varying in relative historical status and influence.” [p. 434] Tolman’s general conclusion – “this polarization thus provides the most basic critical framework in which new works on Aristotle can be judged.” [Ibidem]

We should recognize the value and importance of Tolman’s conclusions. In fact, the dichotomy (and the unity) of the poles *Naturalism* vs. *Transcendentalism* : this disposition allows us to use a deeper (hence broader) basis and possibility for knowing the ongoing world processes of life and cultural evolvment. For example, during the Soviet period of Russian cultural history, the so-called “main question of philosophy” was put forward, on the metaphilosophical level : the one that asserted the main problem of philosophy (throughout its history) – the question of the relation of consciousness to matter, thinking to being, spirit to nature; thus – of Materialism to Idealism. In fact, as follows from the afore stated Bipolarity of the real world, i.e. of the Bipolar existence of *Naturalism* vs. *Transcendentalism* : firstly, our world (Biocosmos – Kosmos) is naturally Self-realized in the Dynamic, Bipolar and Cyclic – Triadic (and Triadological) way; wherein all the Three Types (of reality; and its rational understanding) are autonomic (to the needed extent) in their organization, mode of existence and evolvment. Secondly – the binary opposition of Materialism

¹⁷ See: Whitehead, Alfred N. (1948). *Science and the Modern World*. New York: Pelican Mentor.

¹⁸ See: Lang Helen S. (1998). *The Order of Nature in Aristotle’s Physics: Place and the Elements*. New York, Cambridge University Press.

vs. Idealism is artificial (ideological). The gist is that both the Marxist Materialist world and the Platonic Realm of Ideas (or Realm of Forms) : both they belong to the Transcendentalist (but not to the Naturalist) essences; hence both belong to the sphere of a Transcendentalist pole (thus, to only one of the two equal poles). Therefore, the foundations of the Soviet scientific-philosophical approach can in no way claim to correspond to the category of “the main question of philosophy”.

Moreover, the failure of Soviet scientists and philosophers to grasp the true (Bi)polar essence of the real world : all this has caused considerable harm by depriving society of the true foundations for scholarly endeavors; but has instead trapped the cultural process in the actual (albeit indirect) service to the interests of its ideological opponents. The reason for this is obvious : Russian and Soviet scientists have not sufficiently studied and mastered the knowledge of Aristotelian *Organon* Cosmology (as a result, they were thrown back to the foundations of Marxism and its materialism). All the more essential today is the goal of an immediate study of the true Stagirite’s Organicist cosmology : so that it can successfully act as a conceptual framework (basis) for references – for all scholars who are ready to embark on the path of the Organicist and Integralist study of the real world; thus following the true Aristotelian principles of Entelechism and Hylemorphism, etc. It is clear that Aristotle’s *Organon* Kosmology (over the past 2400 years, since its inception) has completed the full cycle (turnaround) of its existence and activity in the history of world culture : to re-enter, in the current Integralist era – into the perception by the world scholarly community of its original (genuine, true) meaning.

In this way, basing on true Organicist foundations : each scientist (scholar – explorer; already without division of spheres of knowledge into science and philosophy) finds a basis for his own conceptual perception and comprehension of natural processes as processes of life – in the existence and evolvment of the real world (including anthropological and social processes). In such an approach, each scholar is given an opportunity, for example, in relation to mental processes – to relate his findings and conclusions to the whole Aristotelian cosmological edifice (reducible to underlying principles), thus conceptually revealing and justifying his own approach (and making it comprehensible to others). For instance, Svend Brinkmann calls colleagues to treat “Aristotle’s idea of the soul (or mind) as a life principle.” [Brinkmann, 2020, p. 3]¹⁹ : the scholar herein emphasizes that, in one way, psychology “has been a science of life since Aristotle,” [p. 15] but not in a way that has defined the discipline, at least in modern times; and, ultimately, Brinkmann speaks of the

¹⁹ See: Brinkmann, Svend (2020). “Psychology as a science of life,” *Theory & Psychology* Vol. 30(1); pp. 3–17.

perspective that psychology “can finally change now in the age of the Anthropocene?” [Ibid., p. 15].

3. Plato’s *transcendentalist* essence versus Aristotle’s *naturalist* essence

Essentially, Plato’s space (of the constructed cosmos) is filled by things created by a Demiurge – through his access and knowing the unchangeable Realm of Forms, and applying this *formal* (Idealist) knowledge to the myriads of primordially chaotic aimless (material, changeable) things (so-called sensible particulars; or particulars of appearance). In other words, a Demiurge, in the *Top-Down* world : herein Demiurge gains a result through combatting aimless chaotic material world (where chance rules) with the help of intelligence and soul – for imposing (bringing) order onto the world, out of a primal chaos. Therein, “bodily things, or what Plato calls the particulars of appearance, participate in the intelligible Forms which constitute reality.” [Clegg, 1976, p. 57]²⁰ Also, for animate chaos (produced by living particulars), as J. Clegg notes, “Plato’s vision of chaos would seem to be a vision of the world guided by the appetites only and directed to an endless pursuit of pleasure the reason leaves unchecked” [Ibid., p. 59] (thus, as it is interpreted in the *Timaeus*, Chaos is given a teleological origin).

On the contrary, Aristotle’s cosmos is existing quite in the opposite way. A student of Plato: but Aristotle has conceived and presented the opposite (to his teacher’s) – *Bottom-Up* Organicist cosmology; wherein the essences of the real world are given by Nature, but are “hidden” within the things, in their inherent substances – ingenerate *dunamis*-potencies. Precisely the natural dynamic substance-potency of a living thing (subject of life) generates the subject’s *morphe*-functionalist (*morphe*-organicist) activities (*energeia*); and, ultimately, leads to (reaches) the thing’s ontogenetic (life entelechial) Self-actualization. Significantly, Aristotle’s theory of *substance* and the Dynamic (Bipolar and Cyclic) *potentiality/actuality* theory, coupled with the *Organon* Kosmological foundational principles, as Entelechism and Hylemorphism, etc. : all this essentially is a core of the Stagirite’s scientific approach to studying the actual (tangible) things and the real subjects’ processes in the actual world. That way, in a naturalist mode, realizing the understanding and explanation of the actual state and natural change (present, historical and the future) – *naturalist* changeability and Self-evolution of all active subjects in the cosmos is becoming a common subject-matter and methodology in science.

Significantly, in the Aristotelian world-viewing, the notion of “essence” : Aristotle’s essences relate to the inherent unchanging-permanent (and objectively

²⁰ See: Clegg, Jerry S. (1976). “Plato’s Vision of Chaos,” *The Classical Quarterly*, New Series, Vol. 26, No. 1 (1976), pp. 52–61.

invisible) thing's *substance*, throughout its entire ontogenesis. The substances (essences), as the ultimate indemonstrable principles, in turn, are given to things by Nature; and which constitute the things' "properties in itself". The latter, coupled with the environmental factors – precisely determine all the successive features and manifestations of a thing, during its entire life span (ontogenesis). Aristotle, similar to Plato, uses several terms to designating the essential (unchangeable) properties of substances and describing their *naturalist* features, these are : *hypokeimenon* – υποκειμενον; *to ti en einai* – το τι ην ειναι; *arche* – αρχη; *genos* – γενος; *eidos* – ειδος; *katholon* – καθολον; and, of special significance – *entelecheia* (έντελέχεια); we argue its cornerstone significance below.

In "by nature" we apply the meaning "from birth"; given "through inherent nature". Herein, "nature" means the entire universe (Kosmos, with all its phenomena and the natural Organicist universal laws, including human subject and human-social activities first of all); but not, as it is explained in modern dictionaries – not the natural (material) world as it exists without human beings or civilization; especially as surrounding humankind and existing independently of human activities; and which are regarded as a kind of object for human cognition and consciousness. In general, these definitions are completely and demonstrably executed within exclusively the Dualist framework of Platonic cosmology. On the contrary, from the Biocosmological (Organicist) standpoint : a human subject (naked ape) is primarily the *naturalist* entity, the result (product) of the Self-ascending Kosmic (living) Evolutionary Process (EvoProcess); and wherein the level of humanity (human subject) and its societal organisation is the indispensable point and era of the Kosmic EvoProcess.

It should be stressed, once again, that the Aristotelian *Organon* Kosmology is fully opposite and essentially incompatible (in its aetiological, gnoseological, methodological, anthropological, etc. Organicist basic principles) to the Platonic Dualist cosmology. However, as is evidently the case : modern interpreters and translators of the texts of both geniuses, Plato and Aristotle – they apply one the same terms for realizing their translations; and the latter is clearly the unacceptable approach. For instance, the philosophical notion (and term) "being" directly relates to the Platonic theory of Forms : for it essentially (ultimately) signifies a thing's relation to Plato's permanent and eternal Realm of Forms; with its absolute timeless (of eternal "being") unchangeable Ideas; and which are recursive-circulating between the highest perfect Idealist World and the earthly mortal, changeable material world. In this, we here immediately see the fundamental difference (with the opposite foundational essences) between the Platonic *material-(non-living)-physis*²¹ (i.e. materialist nature – the

²¹ The word *nature* is borrowed from the Old French *nature* and is derived from the Latin word *natura*; the latter, in turn – is the Latin translation of the ancient Greek *physis* (φύσις), which

physical world or universe-space, that is a mechanical world without purpose or human consciousness); and the Aristotelian *natural-(living)-physis* – that relates to the living Nature of the Self-evolving Kosmos; wherein each subject, including a man is the *naturalist* element of the one-whole Kosmic EvoProcess. Substantially, the former is explored nowadays in the forms of currently dominating (Western conventional – Platonist) *mathematical-physicalist* (*Transcendentalist*, thus Dualist – *idealist/materialist*) science; while the latter is the basis for the (undeservedly absent from modern scientific life – Organicist, Hylemorphist) *natural-Entelechist* science.

4. In the present, Aristotelian *Organon* Kosmology is “lost in translation” and beyond the comprehension by the world scientific community

While Platonic cosmology (in studying a thing and its events and processes) answers to the question : *What is it* (in respect to its Idea); and how to artificially improve it (by bringing it closer to its perfection) – the Aristotelian Organicist cosmology, on the contrary, strives to find the answer to the question *What for is this thing-subject* : what this thing is intended for “*by nature*”; therefore what is its inherent place in the Kosmos; and what is its natural (*by nature*) Organicist (Functionalist) mission in the Self-evolving Cosmic EvoProcess. In this light, it becomes clear that already by applying the term “being” (and not ‘telic life activity’, for example) to translating the Aristotelian texts – we involuntarily attach the Static (made *from without*)-significance to the things (subjects) and their activities, that are studied and discussed; and, thereby, unwittingly denying the Dynamic (Self-evolving, *from within*) essence of the Aristotelian theorizing and scientific Organicist foundations, as a whole.

Appreciably, we remember and agree with the conclusions of renowned Aristotelian scholars such as John Herman Randall Jr. and David Charles – with their expressing doubts as to whether “Aristotle can survive translation into the Latin substantives of the scholastic tradition” [Randall, 1960, p. iv]²²; and Charles’ arguing that the true Aristotle is not “the type of Aristotelian essentialist they (modern scholars. – **Authors**) attack.” [Charles, 2000, p. 3]²³ J.H. Randall likewise stresses that modern scholars “have come at Aristotle from the standpoint of the later medieval developments and problems”; and that the early modern scientists (including Bacon, Descartes, and Kant) had “discarded Aristotle in rebellion against his religious interpreters.” Randall also seriously doubts, “whether it is possible to state his (Aristotle’s. – **Authors**) *fundamental functionalism* (italics is ours. – **Authors**) in the

originally related to the intrinsic characteristics that plants, animals, and other features of the physical world develop of their own accord.

²² See: Randall, John H. Jr. (1960). *Aristotle*. New York, Columbia University Press.

²³ See: Charles, David (2000). *Aristotle on Meaning and Essence*. Clarendon Press, Oxford.

Latin tongue.” (Ibid.) Significantly, we likewise ought to pay attention to the conclusion of John Monfasani²⁴:

In translating history, one should wish to replicate the *res* of the original, not the *verba*. But in translating scientific texts, especially Aristotle, one must follow the Greek as closely as possible within the limits of literate Latin, neither adding or subtracting anything lest the translator substitute his understanding of the material in place of Aristotle’s or of readers more insightful than the translator. [Monfasani, 2006, p. 291]

At the same time, of course, we know that some terms in Plato and Aristotle overlap (at some extent) in their meaning; and this is natural, since both masters study and explain the same real world (but which is substantially Triadological-Triune), although doing this from the opposite cosmological positions. Moreover, both titans of world science produced their masterpieces during the Integralist era (as Pitirim Sorokin substantiates this historic period²⁵). In turn, the situation changes radically when scholars apply the Latin terms (like) “form” and “matter” (that have the substantive significance in the Platonic Dualism) to interpreting the Aristotelian texts (and which, “form” and “matter”, are used ubiquitously (!) in modern scholarly translations of Aristotle) – such an approach inevitably leads to a deadlock (when the paradox becomes a trap). In other words, a scholar who studies Aristotle (from his, in this way, translated texts) – in this case he finds himself utterly incapable of correctly perceiving the true (Organicist) meaning of Aristotle’s *Organon* Kosmology.

Metaphor of *the acorn and the oak tree* attracts attention; for its origin is attributed to the Stagirite. It is noteworthy that throughout the major cultures of Europe people have held the oak tree in high esteem. Moreover, throughout mythology, the acorn and oak tree analogy was linked to gods of power. Not surprisingly therefore, this analogy is widely used in philosophy too; and, here, its origin is attributed precisely to Aristotle, but not associated with the name of Plato. Paradoxically, however : on the one hand, although this example is widely used in textbooks and scholarly articles – we are unable to find this metaphor applied anywhere in Aristotle’s texts (in line with the Bekker numbering); but, on the other hand – this analogy usually is interpreted in a Platonic (Dualistic) way. For instance, in the book of S.E. Frost, Jr., entitled as “*Basic Teachings of the Great Philosophers : A Survey of Their Basic Idea*”, the author argues that in all

²⁴ See: Monfasani, John (2006). “George of Trebizond's Critique of Theodore Gaza’s Translation of the Aristotelian ‘Problemata’.” In: De Leemans P. and Goyens M. (eds.), *Aristotle's Problemata in Different Times and Tongues*, Leuven University Press, pp. 275–294.

²⁵ For more details, please see the section “3. Integral type of the “Classical Greece” cultural period”; in the paper, “In defense of Aristotle’s Biocosmology as the comprehensive supersystem of knowledge: Eight critical comments on the article of M. Benetatou.” *Biocosmology – neo-Aristotelism*, Vol.5, No.1 (Winter 2015), c. 28–50.

cases “we have matter and form” : “the acorn which we hold in our hands is matter”; and “the oak tree is matter,” as well as “the oak boards” (from this tree) are the material for furniture production. “In every case, the acorn, the oak tree, the piece of furniture, we have matter and form,” as he concludes [Ibidem]²⁶.

Cosmologically (etiologically) Frost makes the following (Platonist) explanation:

Thus, forms never change, but are eternally the same. The form “acorn” is always the same and never becomes the form “oak tree.” But matter takes on different forms as it changes. First it took on the form of an acorn, then the form of an oak tree, and then the form of a piece of furniture. And the process goes on indefinitely as change takes place. Matter is always taking on, striving to realize, forms. [Frost, 1962]

But it does “becomes” (it is an evidence based fact that an acorn naturally self-evolves into the oak tree, and categorically not to other “forms”) : an acorn-*morphe* (with its inherent potencies-*dunamis*) naturally (ontogenetically) self-evolves into the mature fruiting oak tree-*telos*. Therefore, we can in no way be satisfied with the Platonist approach to interpreting this metaphor. On the contrary, and in an obvious way : we do need (meeting the evident challenge) of emergent rehabilitation of Aristotle’s naturalism – his *naturalist Organon* Kosmology. Herein, the starting point evidently is the restoring of Aristotle’s true aetiology true significance (within his *Organon* Kosmology, for a scientific-*naturalist* understanding of the driving forces in the Kosmos). On this path, correcting (returning original) names to Aristotle’s basic concepts and notions is the primary task.

5. The primary task of restoring the true (in scientific meaning) names for the main conceptual notions of Aristotle’s science

In the joint paper on “Challenging Integralism” [2018], BCA-scholars discuss (referring to Aristotle’s *Physics*) the important point : of the Stagirite’s emphasizing the decisive role of analogy in realizing scientific pursuits – that “there will only be the ‘ultimately underlying’ factor in Nature [υποκείμενο φυσικ].... And of this ‘underlying’ factor we can form a conception by analogy; (191a7-11).” As we also know well, Aristotle placed sufficient emphasis on the differentiation of the notions “natural” and “artificial”; and “he never proposed an explanatory theory of organisms that would make artificial products of them, as is really the case with the modern mechanistic theory of life.” [Ritter, 1932, p. 388]²⁷.

²⁶ See: Frost, S.E. (1962). *Basic Teachings of the Great Philosophers: a Survey of their Basic Ideas*. New and Enlarged ed. Garden City, N.Y.: Doubleday.

²⁷ See: Ritter, William E. (1932). “Why Aristotle Invented the Word Entelecheia,” *Quarterly Review of Biology* 7, no. 4 (1932): 377–404.

In turn, we can find (in Aristotle's texts) not only naturalist analogies, but the examples of “bronze,” “silver,” and “marble,” etc., i.e. which represent themselves the artificial objects – in the course of explaining his naturalist concepts by means of analogy. In regard to this paradox, we must first recall that Stagirite lived in the era with little or no objective biological knowledge, and he knew nothing about the advances of modern biology (especially, of biochemistry, molecular biology, and integrative physiology – to use effectively his basic “method of analogy”²⁸). Therefore, it is possible to assert that Aristotle (having the modern information available) – would certainly prefer (for demonstrating a true *hyle*) the examples of nitrogenous bases (nucleotides), or amino acids, or chemical elements; or the “functional blocks” (referring to A.M. Ugolev’s conception of “universal functional blocks”)²⁹ – as the genuine analogies of *hyle*.

There is no doubt, had Aristotle the knowledge of modern science’s results (achievements) : he would surely have taken the analogy, as an example to his cosmological constructs – for instance, the analogy of protein synthesis (or a similar *naturalist* example, from the great set that modern integrative physiology contains). In this attitude, *hyletic* things-subjects, who are *morphe*-organs themselves) : their natural *dunamis*-potencies are essentially *telic* (goal-oriented – organised at the actual needed Functionalist result-effect) – in the *Entelechist* (ontogenetic) self-contribution to the successive *morphe*-organisation at the higher (organising) level of living Kosmos. Thereby, naturally, in (and to) this *bottom-up* Kosmic Self-ascending Evolutionary (ontogenetic – for each subject of life) Process (EvoProcess) participating and, as the engaged entities, ultimately, contributing to the emergence of a new (higher level) *morphe*-structure (physical *organon* – Functional organ) : herein, *hyle* and *morphe* are inextricably linked (the foundational principle of *Hylemorphism*) – over the subject’s entire *Entelechist* ontogenesis (the principle of *Entelechism*).

Strikingly, the example with protein synthesis vividly demonstrates that *hyletic* units (like nucleic bases, or amino acids), but in no way Platonist uniform (homologous and aimless) material particles : *hyletic* entities have equal importance (as subjects of the universal evolutionary process); and, by realizing their natural *dunamis*-potentials – exercise the vital activity and fulfil the indispensable functions in the upward evolvement of the EvoProcess. “*Hyle*, – as Francis Peters concludes in his *Historical Lexicon* (of the Greek philosophical terms, 1967)³⁰, – *Hyle*, a purely Aristotelian term

²⁸ Equally to Aristotle’s “analogy” (in studying the intrinsic naturalist principles) – the method of “essential metaphor” has been introduced; for instance, see: Khroutski, 2015.

²⁹ See: Ugolev, Alexander M. (1987). *Estestvennye tekhnologii biologicheskikh sistem* [Natural technologies of biological systems]. Leningrad, Nauka. 317 pp. (In Russian).

³⁰ See: Peters, Francis E. (1967). *Greek Philosophical Terms: A Historical Lexicon*. New York: New York University Press.

(italics is ours. – **Authors**), does not have its origins in a directly perceived reality...” [p. 88]. “*Hyle*, then, – he continues – is the primary substratum of change (*hypokeimenon*, q.v.; Phys. 1, 192a) (...) *Hyle* is like a substance (...)” [p. 89] Substantially, as F. Peters deduces : Aristotle’s *hyle*-concept is opposed to the meaning of a similar (in scientific focusing) concept – to Plato’s term *hypodochē* for the primal stuff or receptacle which is equi-primordial with the perfect Forms; and which (the Forms, according to the *Timeaus*) are being embedded on this stuff (*hypodochē*) by the Demiurge (the artisan or creator); thereby, causing the sensible world of appearance (*Kosmos Aesthetes*) coming [Peters, 1967].

The Aristotelian conceptions (and their terms), first introduced into science, are essential; and cannot be replaced by other concepts (and their terms) used in the (adequate) explaining of alternative cosmologies and theories. These Aristotelian (essential) neologisms, should certainly include those concepts that have to do with the Stagirite’s aetiological (Organicist) thought and his main theoretical foundations; such as the notions of *physis*, *hypokeimenon*, *organikon*, *hyle*, *morphe*, *dunamis*, *energeia*, and, of course – *entelecheia*.

Above, we already considered the meaning of the two concepts – *hyle* and *morphe*; and, having analysed their meaning : we derived the conclusion above (and emphasized) that it is completely impossible to replace them by the terms “matter” and “form” – for translating the texts of the Stagirite, without completely losing their true meaning. The reason for this is obvious : both (among others) terms (*hyle* and *morphe*) are essential for the conceptual construction of Aristotle’s entire (super)system of rational (scholarly) knowledge – the all-encompassing *Organon*Kosmology; therefore, as they have the foundational significance – they cannot be replaced by other terms, in principle (it was precisely for this reason that Aristotle produced them) – to achieving the stability and consistency of his entire cosmological edifice. Otherwise, if replacing these key concepts (*hyle* and *morphe*) with the terms of *matter* and *form*, which belong to Plato’s *Transcendentalist* cosmological system and its Dualist *idealist/materialist* opposition; which is a clear anti-Naturalism) – we, then, will get a new version of Platonism, and nothing more.

Therefore, the Biocosmological approach primarily aims at rehabilitating the true Organicist aetiology, within Aristotle’s entire *Organon*Kosmology (of the essentially *Organicist* essence; wherein *organon*³¹ is a thing’s effective functioning). In the

³¹ Curiously, Aristotle never used the word “*organon*” : but this name was given to the collection of Aristotle’s six works on logic (made by Andronicus of Rhodes around 40 BC). It should be noted that Aristotle also never used the word “logic”, but, referring to these works – he called the study of correct reasoning and valid inferences as “analytics”. Nevertheless, as we referred above to the conclusion of Mariska Leunissen: “elsewhere in the Aristotelian corpus the term *organikon*

collective work (“*Challenging Integralism*” [2017])³², BCA-scholars meet the challenge (due to scientific methodological necessity; and after continuous discussions) – to giving new names to Aristotle’s four (well-known) aetiological causes (held by him in *Physics* II.3 and *Metaphysics* V.2). In this endeavour, the BCA-proposal was realised to change the existing (Latinized) terms of the Stagirite’s four “κατα φύσιν”-causes – into, scientifically, the more consistent ones with the Aristotelian theory:

- to **Hyletic** (instead of *material*) cause, thereby stressing the process of a living thing-body’s filling (with the necessary constituent elements-entities) and building of the body, both by virtue of their inherent goal-oriented activities and due to integral interaction with the *morphe*-basis;
- to **Generative** (instead of *efficient*) cause : the resulting genesis (ontogenetic emergence) and the natural appearance of a viable subject of life – “the Functionalist organ” as *organon*, the living thing itself;
- to **Morphogenetic** (instead of *formal*) cause : relating directly to a tangible subject and its body existence, with the given shape (*morphe*) under genesis – its concrete optimal configuration and structure, and that is carrying the due (mature) *dunamis*-potencies to actualizing the inherent Functionalist (effective) activity;
- to **Telic** (instead of *final*) cause : that realizes the inherent goal-oriented effective activity itself; with, eventually – the effective enjoyment (fulfilment, carrying out, exercising) of a needed effect (product) – the efficacious result of action.

In the main, as held in BCA : the aetiological forces in Aristotle’s *Organon*Kosmology are essentially *telic* (goal-oriented, intrinsically and ontogenetically – teleological, in a *naturalist* sense), including the four aetiological forces-causes, discussed above. In this light, we meet with full understanding of the Aristotelian scholar, Helen Lang’s findings; in particular, with her conclusions that, firstly, “although the term «teleology» is regularly applied to Aristotle, it is a modern one, and is quite definitely fixed in meaning by contemporary use.” [Lang, 1998, p. 36]³³ 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.” [Ibid., p. 274] Helen Lang reveals, in Aristotle,

(coined by Aristotle; see Byl 1971, 132) always means «instrumental» and there is no reason to assume it means something different here.” [Leunissen, 2010, p. 53.]

³² See: Bremer, Josef; Khroutski, Konstantin S.; Klimek, Rudolf and Tadeusiewicz Ryszard (2017). “Challenging integralism, Aristotelian entelechy, hyle and morphe (form), and contemporary concepts of information, touching upon the etiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasic and Dariusz Szkutnik),” *Biocosmology– Neo-Aristotelism* Vol. 7, No. 1 (Winter 2017), pp. 8–111.

³³ See: Lang Helen S. (1998). *The Order of Nature in Aristotle's Physics: Place and the Elements*. New York, Cambridge University Press.

“the active orientation of potency toward actuality”, and that it is crucial to the account of “things that are by nature.” [Ibid., p. 47] 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.” [Ibid., p. 64] The scholar 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.” [Ibidem]

In a significant way, the Aristotelian aetiology conceptually is much deeper and broader (than the above four causes, conventionally distinguished) : all this, therefore, needs its fuller presentation and development. For instance, an essential moment is, referring to F. Peters : *hyle* has the direct relation to *steresis* (privation). The scholar’s characterization is the following: “*Steresis*, which Aristotle defines (*Meta.* 1011b) as the «negation of something within a defined class,» is one of the three essential elements in Aristotle’s analysis of genesis in *Phys.* I: the permanent substratum (*hypokeimenon*) and the passage of one form to its opposite (*enantion*) demands the existence of a lack of that second form in the substratum (*Phys.* I, 191a191b).” [Peters, 1967, p. 180] Thus, the scholar continues, “*steresis* both permits *genesis* and solves the Parmenidean problem of nonbeing.” [Ibidem] In fact, the Stagirite substantiates the essential (Naturalist) reality in the transition (shift) of the subject’s life activity from one order of organization to another (opposite) one. In the *BCnA*-paper entitled “Discussing the hypothesis of «spatial homeostasis» by Oleg I. Epstein : On the Biocosmological parallels and terminological corrections, and general foundations of the Organicist – *Organon*Kosmological – science in Russia”³⁴ – the concept “Aether-Noetic (*steresis*-gravitational) physical cause” – of the attractive, evolutionary-ontogenetic acting, among other major aetiological forces in Aristotle, is substantiated and advanced.

In another joint paper (devoted to the contribution to WIU-evolvement), the WIU³⁵-fundamentals for aetiology are conceived to have a deep correlation (as to the essential reference basis) with the Aristotelian *κατὰ φύσιν* (by Nature) – intrinsic telic causes (*hyletic, generative, morphogenetic, telic*); as well as, substantially – with the *steresis* (*steresis*-gravitational) physical cause : in all this, deeply correlating with the Stagirite’s teleological physics, based on his authentic Dynamic *naturalistic* Organicism – *Organon*Kosmology, as a whole. Likewise, the priorities are designated for the Aristotelian “*κατὰ συμβεβηκός αἰτίον*” – the *resonance* cause (or the

³⁴ Khroutski K.S. (2019). “Discussing the hypothesis of «spatial homeostasis» by Oleg I. Epstein : On the Biocosmological parallels and terminological corrections, and general foundations of the Organicist – *Organon*Kosmological – science in Russia,” *Biocosmology – neo-Aristotelism* Vol. 9, Nos. 1&2, (Winter/Spring 2019); c. 21–136. (In Russian)

³⁵ The WIU – World Information University – is launched in Krakow, in the 2016; its founder and the first President is Prof. Rudolf Klimek.

circumstantial, or *convenient case* cause), which is essential as for the reintegration of a subject into the surroundings, as for the Three-valued logic and Ternary informatics³⁶; concurrently and equally (on an equal footing) with the currently dominating Two-valued logic and Binary informatics – for the benefit of their Integralist unity. Basically, as a Russian scholar Nikolai Brusentsov concludes (cited in the paper):

By a misunderstanding, Aristotle was proclaimed the father of two-digit logic, whose authority unwittingly served to strengthen the principle of the excluded third and the formal system of inferences based on it. But the numerous attempts to reflect Aristotle's syllogism in this «fundamental» system are futile, and it cannot be otherwise, because syllogism represents a three-valued dialectical logic, incompatible with the principle of excepting the third. After all, as the third is excluded a distinct (one more), the middle-intermediate basis between «yes» and «no», that renders to logic a living, adequate to reality quality. [Brusentsov, 2002]³⁷

Naturally, in respect to the WIU-activities – the main priority is given to Information and the Information cause. The definition of the *Information cause* given here (based on the Aristotelian matrix and Biocosmological perspective, as well as Professor Klimek's basic formula – $E = i mc^2$) is as follows:

Information cause is essentially the Naturalist cause, which, by nature (the “κατα φυσιν”-causality), by testing and receiving (resonating with) all the needed essential contacts and messages – thus naturally is realizing (disclosing, discovering) the inherent (substantive) solution for uniting the congeneric polarities (opposite substances) – for the given subject of life effective Homeostatic existence and the entire Functionalist (Entelechist, Ontogenetic) Self-evolvement. [Khroutski & Klimek, 2018, p. 221]³⁸

³⁶ For more details, see: Kudrin V.B. & Khroutski K.S. (2017). “Three-valued logic and ternary informatics of N.P. Brusentsov: their Aristotelian foundations,” *Biocosmology – neo-Aristotelism* Vol. 7, Nos. 3&4, (Summer/Autumn 2017); pp. 337–388. (In Russian)

³⁷ See: Brusentsov N.P. *Ot Aristotelya do komp'yuterov (From Aristotle to Computers) // Kibernetika – ozhidaniya i rezul'taty. Politekhicheskie chteniya (Cybernetics – expectations and results. Polytechnical readings). Vol. 2. Moscow: Znanie, 2002. P. 104–105.*

³⁸ See: Khroutski, Konstantin S. & Klimek, Rudolf (2018). “Biocosmological definition of Information and its Naturalist causative significance, approaching to evolve the World Information University (WIU),” *Biocosmology – neo-Aristotelism* Vol. 8, No. 2, (Spring 2018); pp. 203–261.

6. The true significance of *entelecheia* – a cornerstone concept in Aristotle’s *Organon* Kosmology : the notion of *Entelechist cause*

Finally, the *Entelechist*³⁹ *cause* (in the Organicist scholarly approach) occupies a crucial (the ultimate vital) place for a thing-subject of the real world (Biocosmos). We fully agree with Will Durant who, showing *The Story of Philosophy*, essentially concludes that “ἐντελέχεια – having (ἔχω) its purpose (τέλος)⁴⁰ within (ἐντός); one of those magnificent Aristotelian terms which gather up into themselves a whole philosophy.” [Durant, 1962, p. 69]⁴¹ In a similar manner, Wilhelm Windelband, in his *A History of Philosophy*, comes to a conclusion:

Being is that which comes to existence in the processes of Nature. This self-realization of the essence in the phenomena, Aristotle calls entelechy. The central point of the Aristotelian philosophy lies, therefore, in this new conception of the cosmic processes as the realization of the essence in the phenomenon, and the respect in which it is opposed to the earlier explanation of Nature consists therefore in carrying through in conceptions of the teleology which Plato had only set up as postulate, and developed in mythical, figurative form. [Windelband, 1914, p. 140]⁴²

In a striking way, however, the key concept (of the “*entelecheia*”) in Aristotle’s genuine *Organon* Kosmology is hardly used in modern scientific life. Moreover, modern scholars (in interpreting the notion *entelecheia*) – they use the term “actuality” to translating the Stagirite’s concept of crucial significance; and this approach can in no way correspond to the (true) Dynamic Telic (inherent and goal-oriented) *ontogenetic* meaning of the subject’s *entelecheia* (directly given to it by the Greek genius) – within the entire Aristotelian Dynamic naturalist approach to a scientific understanding of the world. In fact, “actuality” comes from Latin *actualitas*, and its normal meaning in Latin is “anything which is currently happening” (thus, the “actuality” essentially rejects any relationship to the inherent *dunamis*-potencies of a

³⁹ The application of the term *Entelechist* (and not *entelechial*) immediately addresses to the gist of the issue : the Aristotelian concept of *entelecheia* relates to both as to the internal driving forces of a subject, that are predisposed to actualizing its inherent (ontogenetic Functionalist) life destination (mission), and what is the subject’s substantive Self-realization and Self-actualization (efficient carrying out) its naturalist *dunamis*-potency; as well as in relation to the surrounding (external) factors, which the subject’s ontogenetic Functionalist process undergoes, receiving its concretization under to the environmental factors and circumstances impact.

⁴⁰ But we cannot agree with the translation of τέλος as “purpose;” for τέλος, in Aristotle’s meaning, is rather “the needed result of life activity.”

⁴¹ See: Will Durant (1962 [1926]). *The Story of Philosophy: The Lives and Opinions of the Greater*, New York: Time Inc.

⁴² See: Wilhelm Windelband (1914). *A History of Philosophy: With Especial Reference to Formation and Development of its Problems and Conceptions*, trans. J. H. Tufts, 2nd edition; London: Macmillan & Co. Ltd.

subject). Therefore, in principle, “actuality” cannot serve as a true translation option for the Aristotelian *entelecheia*, with its Dynamic Telic and Ontogenetic essence.

In the author’s paper to the “*Proceedings of the World Congress: Aristotle, 2400 Years*”⁴³ : its second section is devoted to the evidence that “Aristotle’s ἔντελέχεια Cannot Be Translated by the English «Actuality»”. The paper concludes that ἔντελέχεια can never be identified with “actuality.” Significantly, the concept *entelecheia* is conceived by the Stageirite to define the natural force (cause) that is existing by Nature (thus being *naturalist* – inherent), and which works ontogenetically – throughout the life of a subject. In the real world, therefore, we naturally have the hierarchy of a subject’s life *entelecheia* – for realizing the successive and ascending, through the intermediate tasks and levels (cycles and circles) of the life Self-evolvement – up to achieving and Self-realizing the main (Functionalist) goal-mission of the entire life’s journey. In fact, ἔντελέχεια (*entelecheias*) of a thing (in all the variety of actualized and realized goals and tasks) exist synchronously in the *dunamis*-potencies and *energeia*-activities of a living subject. In this order, *the former*, i.e. the Self-realization of a subject’s inherent (endogenous) potencies for individual growth and the establishment of mature functionality – naturally is serving for the inherent Self-actualisation of *the latter*, i.e. the Telic (goal-oriented) actual approaching (to) and achieving the needed result of activity, thus satisfying the essential need. All the more, due to Aristotle’s basic conception that “*soul is the entelecheia of the body*” (see references below), and as Soul cannot be present only in activity (*energeia*), and (at the same time) be absent in potency (*dunamis*) – the subject’s ἔντελέχεια naturally falls as much onto telic *energeia*-activity, as to the initial *dunamis*-potency.

As well as the statement that “substance is actuality” is a direct logical contradiction in reasoning : i.e., this is an assertion that ‘the invisible is visible’ (and this is an oxymoron). Or that “there are two kinds of actuality” (‘two incompatible entities’ given the same term “actuality” – an obvious unacceptable violation of elementary logic : all this makes modern translations of Aristotle completely unacceptable to current scientific (and philosophical) theory and practice. However, for instance, in J. Barnes’ edition of *The Complete Works of Aristotle*, we see:

But, substance is actuality (ἔντελέχεια), and thus soul is the actuality (ἔντελέχεια) of a body as above characterized. Now there are two kinds of actuality (ἔντελέχεια) corresponding to knowledge and to reflection. (*De an.* 412a21-23)⁴⁴

⁴³ See: Khroutski K.S. (2019). “Aristotle’s *Organon* Kosmology – Teleological Organicist Naturalism – As the Type of Rationality and Its Actual Position.” In Demetra Sfendoni-Mentzou (ed.), *Proceedings of the World Congress: Aristotle, 2400 Years*: pp. 680–685

⁴⁴ See: Aristotle (1984). “De Anima,” in: *The Complete Works of Aristotle*; The Revised Oxford Translation, trans. J. A. Smith, vol. 1. Princeton: Princeton University Press.

On the contrary, the position of the BCA-scholars is the exact opposite : that Aristotle's *entelecheia* cannot be interpreted by the word "actuality" by no means; but the need is to preserve the original name for the most important concept in Aristotle's scientific edifice.

In general, the *naturalist* essence (substance, *essentia*) of things and beings is a basic concept in his physics, to which he assigns the first (most important) place in the list of ten categories within the science. It becomes clear, therefore : unless we return the original name and meaning to *entelecheia* (and other key Aristotelian concepts) – it will remain extremely difficult (rather, impossible) to comprehend the foundational principles of the Aristotelian essential *Organon* Kosmology's framework. For instance, as it is given in the sample: "The soul must be a substance in the sense of the form of a natural body having life potentially within it." [Aristotle (1), 412 a 20]⁴⁵ : in such a statement, wherein, again, an internal quality (substance) is equated with an external (form) property – in such a case, it seems impossible to understand such a statement from the standpoint of the world's existing statement (sentential) logic. All this fully applies to other main conceptual constructs of Aristotle's comprehensive Organicist scientific approach to studying the real world.

Aristotle opens the Book III, of his *Physics*, with the crucial statement: "Nature has been defined as a "principle of motion and change" (ἀρχὴ κινήσεως), and it is the subject of our inquiry" (*Phys.* 200b10-11).⁴⁶ He concludes further that: "The fulfilment (ἐντελέχεια) of what exists potentially (δυνάμει), in so far as it exists potentially, is motion (κίνησις) –" (*Phys.* 201a10-12). In Robert Drew Hicks' edition of Aristotle's *De anima*,⁴⁷ the word "actuality" likewise replaces "ἐντελέχεια"; however, therein, the translation is more conform to Aristotle's original *Organicist* (archetype of) rationality that has been developed and introduced into the world culture by the Stagirite:

Such substance is actuality (ἐντελέχεια). The soul, therefore, is the actuality (ἐντελέχεια) of the body above described. However, the term 'actuality' (ἐντελέχεια) 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 (ἐπιστήμη): for *sleep, as well as waking, implies the presence of soul* (highlighting is ours. – **Authors**); and, whilst waking is analogous to *the exercise of knowledge*, sleep is analogous to the possession of knowledge

⁴⁵ The excerpt is taken from: Aristotle. *On the Soul*. The Internet Classics Archive. URL: <http://classics.mit.edu/Aristotle/soul.html> (last retrieval – 2021.02.03)

⁴⁶ 10. The translation is taken from: Aristotle (1930). "Physics," in *The Complete Works of Aristotle*, trans. R. P. Hardie and R. K. Gaye, vol. 2. Oxford: Clarendon Press.

⁴⁷ See: Aristotle (1907). *De Anima*, ed. R. D. Hicks. Cambridge: Cambridge University Press.

without its exercise; and in the same individual the possession of knowledge comes in order of time before its exercise. (*De an.* 412a21-28)⁴⁸

Thus, in respect to the Aristotelian *potentiality/actuality* foundational principle : we are dealing with the Bipolar existence of the two opposing worlds of life activity; which are fully incompatible, but essentially equal in their importance for the consistent organization of healthy effective vital functioning of an organism (living thing-subject) and all its organs (that are the *Entelechist*-functional elements). At the same time, the Aristotelian notion of the soul as the “*first entelechy of the body*” reveals the existence of the Third life order : thus, the Triunity and Triadic (Triadological) essence of a subject’s life organization (within the conceptual framework of his *Organon*Kosmology) – a Type of Integrating foundation. The latter is organized on the basis of (around) the ontogenetic axis of homeostatic stability, which we call the *Information cause* : the vital basis that ensures the stable existence of ontogenesis as a life process, thus – the subject’s eventual Self-realization of its inherent life goals. Summarizing the study of this physical issue, Aristotle states: “it was said first that only the contraries were starting points, but later that something must also underlie them and that they must be three;” (191a17-18)⁴⁹; and, in general terms, Entelechial kinesis (movement and activity) is the actualization of the (Entelechial) potency (201a).

6.1. To defend the original meanings of the Aristotelian concepts of *Entelecheia* and *Energeia* – from the use of the term “actuality”

Strikingly, but the term “actuality” is also often used to translate another original (invented by Aristotle) concept – *energeia*. This is all the more surprising because both terms are easily distinguishable and essentially different from each other: *energeia* does not correspond in any way to the qualities of the soul of a subject of life – both in the process of sleep and in the cycle of wakefulness. Essentially *energeia* expresses the very process of actual realization of a subject’s life forces in the surrounding real world. That is to say, the Aristotelian concept means the realization of vital activity by a subject : i.e. movement and development, as well as impact (on) and interaction with other surrounding objects and subjects; but *energeia* exists solely with the sufficiency of (Dynamic) resources-potentials for action in a living subject. Therefore, when these potentials are exhausted : the continuation of carrying out the *entelechist* activity becomes impossible; then a need is for the organ(on)-subject’s sufficient *dunamis*-potentials re-production, in this way of restoring possibilities to action – for the continuation of successive goal-(result-)organized efforts.

⁴⁸ The Italics and extra bold are given by authors.

⁴⁹ Cited from: Aristotle. (1957). *Physics*, ed. by P. H. Wicksteed and F. M. Cornford, Loeb classical library, Harvard University Press.

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The Aristotelian scholar Thomas Olszewsky [1997]⁵⁰ speaks about the total obviousness in existing controversy about the understandings of Aristotle’s terms ‘*energeia*’ and ‘*entelecheia*’. He cites the opinion of Stephen Menn that Aristotle needs this concept for “using ‘*entelecheia*’ as a notion of the product of work,” as well as Olszewsky quotes the Stagirite’s definition given for *kinesis*, as “the *entelecheia* of what exists in *dunamis*, insofar as it exists in *dunamis*” (201a10). Another reference to Aristotle’s grounding [Olszewsky, 1997] is how *dunamis* and *energeia* are one: “For the *ergon* is the *telos*, but the *energeia* is the *ergon*, on which account the name *energeia* is drawn from *ergon*, and exerts all of its powers toward *entelecheia*.” (1050a22) Essentially, *energeia* is a concept completely opposite (but equal in significance, and inextricably linked) – to *dunamis*, which denotes the natural potentialities and vitality of a given subject, likewise taken in a general sense (as a whole). Substantially, as stated above, due to the foundational principle of Bipolarity : a thing-subject’s *entelecheia* integrates and unites the meanings and forces of both *dunamis* and *energeia* – in organizing the vital activity of a whole subject towards achieving its specific (as the results of activity) goals. The ultimate life goal, as a result of entire endeavors : is the subject’s highest Functionalist Self-actualization and wholesome contribution to EvoProcess’ ascending Self-movement.

The opinion of William E. Ritter, a prominent American biologist, is likewise important to us. Ritter contributed a lot to Organicist approaches in biology and science. The scientist left his mark on science by attempting “to work out some

⁵⁰ Olszewsky, Thomas (1997). “Energeia and Entelecheia: Their Conception, Development and Relation,” *The Society for Ancient Greek Philosophy Newsletter*. 277.
<https://orb.binghamton.edu/sagp/277>

naturalistic *Weltanschauung* in keeping with the methods of the zoologist, the biologist, the naturalist” [Lunau, 1955, p. 192]⁵¹; in this approach he evolved the concept “about man as an element in the natural order” [Ibid.]. It is essential that Ritter refutes to follow (already accepted) either “vitalism” or “mechanicism”; but evolves the conceptual building of *organicism*. In this way, he realized his preferences for a multitude of natural causes⁵² : “Ritter closes his book with a chapter on Multiple Causes in Organic Evolution.” [Hall, 1920, p. 95] Another valuable statement, already given in the “OBITUARY – to William Emerson Ritter: Naturalist and Philosopher” : is highlighting the essential Ritter's affirmation that “every living individual organism has the value, chemically speaking, of an elementary chemical substance” [Sumner, 1944, p. 337]⁵³ – which is a direct correspondence to Aristotle’s foundational principles of Entelechism and Hylemorphism!

Immediately, we relate this approach to the scientific achievements of a BCA member (and leading scholar) Georges Chapouthier, author of the *Mosaic theory* [2018]⁵⁴; wherein he realizes precisely the combination of the (opposing and competing) principles of *Elementalism* (in Chapouthier’s approach we meet with the analogous principle of Juxtaposition) and *Organismalism* (the Mosaic principle) into a general order of life existence and evolvment. Among the results achieved by the American biologist and philosopher, Chapouthier singles out an important point, exactly that “contrary to arguments put forth by Hans Driesch, Ritter saw the correct concept of entelechy as being based on the actualization of potential (potential to act) and not on action alone (*energeia*)” [Chapouthier, 2018, p. 423]⁵⁵; thus revealing the Dynamic essence of the *entelecheia* as a natural evolutionary (ontogenetic) force (cause). Another significant aetiological point is (as Chapouthier reveals) that “in Aristotelian entelechy, the telos (or purpose) involves the idea of fulfilment, of a being achieving full development as a final, functional whole.” [Ibid., pp. 423-424] In his book on “*The Mosaic Theory of Natural Complexity*” (2018), the scientist (in the

⁵¹ Quoting the review of H. Heinz Lunau, in the *Theoria*, 1955, Vol. 21; Iss. 2-3, pp. 191–195 : on William Emerson Ritter’s book “*Charles Darwin and the Golden Rule*”; compiled and edited by Edna Watson Bailey; Science Service, Washington and Storm Publishers, New York, 1954. XXI, 400 pp.

⁵² What is noted by reviewer Edwin H. Hall, in the *Harvard Theological Review* / Volume 13 / Issue 01 / January 1920, pp 93–96; on William Emerson Ritter's “*The Probable Infinity of Nature and Life*,” The Gorham Press. 1918. Pp. 164.

⁵³ See: Sumner, Francis B. (1944) “William Emerson Ritter; Naturalist and Philosopher,” in *Science*, 99: 335–338;

⁵⁴ See: Chapouthier, Georges (2018). *The Mosaic Theory of Natural Complexity: A scientific and philosophical approach*. New edition [online]. La Plaine-Saint-Denis: Éditions des maisons des sciences de l’homme associées.

⁵⁵ See: Chapouthier, Georges. (2018). “Aristotelian entelechy and modern biology,” *Biocosmology – neo-Aristotelism*, Vol.8, Nos.3&4 (Summer/Autumn 2018), pp. 421–430.

Conclusion to the Chapter 3) speaks about “extending the Aristotelian belief in the universality of biological processes to these (nature and culture. – **Authors**) ontic levels, with complexity of culture being built according to the same processes as apply to complexity in living organisms.” [Chapouthier, 2018, p. 38]

Ritter’s close attention to the relationship between Aristotle's key concepts (entelechia and energia) deserves special attention. He emphasizes that the concept of *Energeia* is likewise a notion that has been invented by the Stagirite, and further introduced by him into scientific practice as a basic principle. In his seminal work, “*Why Aristotle Invented the Word Entelecheia*,” (which appeared 13 years after the publication of the book on “*The Unity of the Organism, or the Organismal Conception of Life*”, thus reflecting the more mature stage of his theoretical activity) : Wm. Ritter makes an important point – he brings into focus the fact that Aristotle already had the term ἐνέργεια (i.e. that this key concept already existed) – before the *entelecheia* emergence. The scholar’s explanation is, therefore : the Stagirite felt “the need of a new term”– ἐντελέχεια [1932, p. 380]⁵⁶, especially in discussing “the actual as contrasted with the potential”. Eventually, Ritter revealed (in his work of the 1932) the essential point that ἐντελέχεια is the term of the entire process of ontogeny and the issue of ontology [Ibid., p. 386]; and that, paradoxically (but essentially), ἐντελέχεια is used more frequently in the *Physics* (as well as *Metaphysics* and *De anima*) than in his zoological treatises [p. 383]. The scholar speaks about “the deplorable perversion of Greek, especially of Aristotelian,” and emphasizes Aristotle’s “intrinsic ‘principle of motion’ (growth and differentiation)”[p. 390] – “a whole series of stages till the fullfledged, functionally mature organ is present, i.e., has come-to-be.”[Ibidem] In conclusion, Ritter speaks of ἐντελέχεια (and Aristotle’s aim of its invention) as “«the entirety» the «complete reality» – germ, material, motion, form and whatever, if anything more, there may be that is «not separable from the things themselves.»” [Ibid., p. 390]

To sum up (from the Biocosmological disposition) : the term “actuality” is completely unacceptable in interpreting the original texts of the Stagirite; wherein the references to *entelecheia* and *energeia* are used (despite significant differences in the meaning of the Aristotelian concepts of *entelecheia* and *energeia*). The same refers to all other scholarly texts (that address these concepts); while *entelecheia* and *energeia* are to be used themselves, in their original meaning. The Aristotelian scholar Joe Sach clearly argues this point, that “the word «actuality» already belongs to the English language, and has a life of its own which seems to be at variance with the simple sense

⁵⁶ See: Ritter, William E. (1932). “Why Aristotle Invented the Word Entelecheia,” *Quarterly Review of Biology* 7, no. 4 (1932): 377–404.

of being active.” In fact, he continues, “by the actuality of a thing, we mean not its being-in-action but its being what it is.”⁵⁷ In fact, as the scholar explains:

Some commentators explain it (*entelecheia*. – **Authors**) as meaning 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* (bolding and italics is ours. – **Authors**). [Sachs, 1998, p. 245]⁵⁸

This is all the more important because the Aristotelian concept (and notion) of *energeia*-activity is inextricably linked to the corresponding inherent *dunamis*-potency in the subject; and both concepts are combined (in ontogenetic *bottom-up* growth) in the notion of *entelecheia*. The latter (*entelecheia*), as the scholar explains in his book on “*Aristotle’s Physics: A Guided Study*” : Aristotle’s *entelecheia* has a cornerstone significance – it lies “at the heart of everything in Aristotle’s thinking, including the definition of motion.” [Sachs, 1998, p. 245] Thus, the translation of *entelecheia* has a special (foundational) meaning. Herein, being at stake : the correctness of understanding the whole edifice (essence of the entire cosmology) – of all the sciences generated by Aristotle; and wherein any substantive misinterpretation, including the use of the term “actuality,” is wholly unacceptable.

Similarly, another Aristotelian scholar – Abraham P. Bos, relating to his exploration of the *De anima* : he concludes that “the psychology of Aristotle has never been understood in a historically correct way”; and that “the qualification «*organikon*» should not be understood as «equipped with organs» (as it always has) but in the sense of «serving as an instrument to the soul».” [Bos, 1998]⁵⁹ All thus, the scholar concludes: “Aristotle’s definition of the soul must therefore in any case be corrected to: «the first entelechy of a natural body which potentially possesses life and which is instrumental».” [Ibidem]

⁵⁷ See: Joe Sach, *Aristotle: Motion and its Place in Nature*. URL.: <https://iep.utm.edu/aris-mot/> (last retrieval – 15.02.2021)

⁵⁸ See: Aristotle, Sachs Joe (trans., ed.) *Aristotle’s Physics: A Guided Study*; Publisher: Rutgers University Press, 1998.

⁵⁹ See the *Paideia Project On-Line* that gives access to the nearly 1000 papers presented at the Twentieth World Congress of Philosophy, including: Bos, Abraham P. *Aristotle’s Psychology: The Traditional (hylomorphic) Interpretation Refuted*. URL.: <https://www.bu.edu/wcp/Papers/Anci/AnciBos.htm> (last retrieval – 15.02.2021)

6.2. William Emerson Ritter's Organismalism : his aetiological quest for the Ultimate Cause

In Wm. Ritter's *magnum opus*, the two-volume "The Unity of the Organism, or the Organismal Conception of Life" [Ritter, 2019]⁶⁰, as a reviewer stresses from the beginning: "These volumes urge a conception of living things that is denominated *Organismalism*, as opposed to one characterized as *Elementalism*" [Jennings, 1921, p. 616]⁶¹. In this profound (on "The Unity of the Organism") observation, and herein referring to the previous essay "The Higher Usefulness of Science" (1918) : William Emerson Ritter raises and tries to answer the query, "What is nature because man is a part of it?" [Ritter, 1919, II, p. 337]⁶² He also raises the question in a different, less ambiguous way: "What must nature be in order that it may produce such an animal as man?" [Ibidem].

An essential feature of Ritter's *organicism* is its *anthropocosmist* approximation and similarity to the Russian natural science tradition⁶³. Thus, the American scientist concludes in his study that:

The "self" which I am suggesting does indeed imply "another" no less unequivocally than does the "self" of advanced social psychology. But the "self" and the "other" implied by my hypothesis differ from those of current philosophical theory in that the roots of both are not only in the social relationships of the human species, but extend right on through these into sub-human relationships, *even down into the very constitution of inorganic nature*. The "self" and the "other" of my conception are more personally objective, and more *cosmic* (italics are ours. – **Authors**) in their affinities, than are the "self" and the "other" of social psychology. [Ritter, 1919, II, pp. 306-307]⁶⁴

With obviousness, Ritter's approach is also compatible with the conceptual achievements of Russian scientists within the theoretical sphere of functional systems' studies (Anokhin, 1980; Simonov, 1984; Ugolev, 1985; Poletaev, 2008; et al.)⁶⁵; which

⁶⁰ See: Ritter, Wm.E. (1919). *The Unity of the Organism, or the Organismal Conception of Life*. 2 vols. Boston: Gorham Press.

⁶¹ See: Jennings, H.S. (1921). "Review of The Unity of the Organism, or the Organismal Conception of Life; by W.E. Ritter," in *The Philosophical Review*, Vol. 30, No. 6 (Nov., 1921), pp. 616–624.

⁶² See: Ritter, Wm.E. (1919). *The Unity of the Organism, or the Organismal Conception of Life*. 2 vols. Boston: Gorham Press.

⁶³ For instance, the interested reader can find a characterization of Russian *organicism* (cosmism) in the *BCnA*-publications : Bremer et al., 2017; Khroutski and Klimek, 2018; et al.

⁶⁴ See: Ritter, Wm.E. (1919). *The Unity of the Organism, or the Organismal Conception of Life*.

⁶⁵ For instance, see the works: Anokhin, Pyotr K. (1975). *Ocherki po fiziologii funkcional'nyh system* (Essays on the Physiology of Functional Systems). – M.: Medicina, 1975. (In Russian); Simonov Pavel V. (1984). "The need-informational theory of emotions," *International Journal*

are goal-oriented (*telic* – teleological); and, wherein, Self-realizing the goal, thus the final efficient needed result (*telos*) of a subject’s living – this goal-driven potency and energy is the leading substance and cause of a subject’s life activity; herein naturally relying on the Aristotelian principles of Entelechism and Hylemorphism (noteworthy, these Organicist principles that continue to remain in a status of non-recognition in a current scholarly milieu : they still are applied in the default mode, as if taken for granted). At the same time, by nature, since any form of life is teleologically (hence, functionally and holistically) organized; and this is a natural scientific (irrefutable) truth : consequently, scientific (Organicist) efforts to revealing and accepting into academic practice the natural Organicist (*telos*-oriented) laws and aetiological basic principles – should become of high priority for scientists and scientific institutions (however, such a task still is off the agenda for the scientific community).

At any rate, we are to take into consideration Ritter’s conclusion (made through studying the relationship between the nucleus and the cytoplasm of a cell) that “«Back» of this, in the chromosomes, which, be it specially noticed, cannot be seen to take any active part in the operations, we must conceive is the «organization» which is «definite, determinate and primary» in other words which is The Ultimate Cause, so far as heredity is concerned.” [Ritter, 1919, II, p. 28] Nor can we avoid the judgments of H. Jennings (the reviewer of Ritter’s *The Unity of the Organism*,) who emphasized (with Ritter) “the fact that the two organisms as unified entities are diverse; each is «ultimate in causal power»; and also that “there is a «causal power of the whole organism over its parts»” (I, p. 49); and that the individual is “«ultimate both as to structure and as to causal power» (II, p. 149); etc. etc.” [Jennings, 1921, p. 620]

We are confident that the scientist followed the right (*Organismal*, in Ritter’s term) path in studying the biological questions he posed: including the search for answers to the issue of the Ultimate Cause that determines the natural self-evolvement of the bio-organism (and man, as well). First of all, let us note that central to Ritter’s etiological attitude (as in his naturalist gnoseological, methodological, anthropological disposition too) – is the correspondence and correlation of his academic studies with the conceptual (Organicistic – *Entelechist*) foundations of the Aristotelian type of scientific pursuits.

of Psychophysiology Volume 1, Issue 3, March 1984, Pages 277–289; Ugolev, Alexander M. (1985). *Evolyutsiya pishchevareniya i printsipy evolyutsii funktsiy: elementy sovremennogo funktsionalizma* [*Evolution of digestion and principals of evolution of functions: elements of modern functionalism*]. Leningrad, Nauka. 544 pp. (In Russian); Poletayev, A. B., Stepanyuk, V. L., & Eric Gershwin, M. (2008). Integrating immunity: The immunculus and self-reactivity. *Journal of Autoimmunity*, 30(1-2), 68–73. doi:10.1016/j.jaut.2007.11.012.

It becomes obvious to us that the American scientist [Ritter, 1919–1932] has reached in his works a high level of essential penetration into the Biological issues under his studying. As a result, the scientist's efforts led him to achieving a deep grasping and rational representation of the fundamental (Organicist) meaning of Aristotle's concept of *entelecheia* (and this is a very rare case in the practice of Western science). Essentially, Ritter clearly outlines the significance of the *entelecheia*-concept as the ontogenetic (cosmic evolutionary) life force and power – the cosmic natural cause that is inherent in all cosmic subjects and their life ontogenetic Self-evolving processes realizing.

Represented in Ritter's exploration, the *entelecheia* naturally integrates (as discussed above) the meanings of both *dunamis* (*telic* inherent potencies) and *energeia* (*ergic* – the task-oriented activities, driven by inner strivings-powers). All of this is incorporated in a *bottom-up* (full-fledged) process of organizing the vital activity of a living thing (subject of life) towards (upward to) achieving its specific goals (as the needed results of activity) – ultimately essential for the subject's Self-actualization (within the entire ontogenesis), in its contributing to the surrounding current and future levels (places-*topos*) – of holistically organized environment and the subject's wholesome coexistence (with all other cosmic subjects of life). In so doing, substantively, a subject is achieving its whole (wholesome) sustainable integration into the world around him through the full and efficient Self-realizing of its inherent natural potentials : in the autonomic ontogenetic way of Self-evolvement – of growth, Functionalist maturation, and the ultimate goal-*(telos)* efficient realization (Self-completion).

7. Rehabilitating the original true Organicist (but already well-forgotten) Aristotelian aetiology : as an essential basis for the contemporary Biological (scientific, in general) knowledge

BCA-scientists fully acknowledge and support (as strong) the Aristotelian scholars' essential conclusions stated above and below (Ritter, 1932; J.H. Randall Jr., 1960; J. Sachs, 1998; A.P. Bos, 1998; D. Charles, 2000; A. Makolkin, 2018; et al.) : first of all, that it is hardly “possible to state Aristotle's fundamental functionalism in the Latin tongue”; and that the question full of doubt is “whether Aristotle can survive translation into the Latin substantives of the scholastic tradition”; as a result – “misinterpretation of Aristotle's terms simply due to mistranslation.” Other noteworthy substantive conclusions are that, since Antiquity, on the part of his commentators and translators : “Aristotle has never been understood in an historically correct way”; thus, “Aristotle's psychology has remained unknown up to now”.

John Herman Randall, Jr., in his reviewing the book on Aristotle⁶⁶ : the scholar here firstly emphasizes the book's valuable "suggestive and illuminating" materials. On the other hand, however, Randall stresses that what is needed is the ability to "to detect unconscious Platonizing," as well for this book, among others : and that the given book is just as much an example of "a rather Platonized version of Aristotle" [Randall, 1962, p. 523]; as also imposing a view of "Aristotle's «departmentalized» thinking" [p. 520]; and "with only incidental references to his (Aristotle's. – **Authors**) system of *animate nature* (italics is ours. – **Authors**), so obviously the center of his vision." [Ibid.] In general, the scholar concludes, in respect to Aristotle's science : the evidence is that "the rupture with Plato is complete: natural teleology has nothing to do with mind, and «purpose,» which in English suggests «conscious intent,» is an erroneous translation of *hou heneka* and *telos*." [p. 522] J.H. Randall concludes his judgments with the thesis that "*Physis* for Aristotle is not a Platonic «soul»: it is something «completely new»" [Ibidem].

In our main conclusion, as it clearly follows : the current standard interpretation of Aristotle is erroneous due to the accepted wrong conceptual (cosmological Platonized) bases; and, as a result, with accepting the foundation that "is demonstrably incorrect because it is based on a mistaken interpretation of the words". The latter refers to the meanings of Aristotelian key concepts, as *organikon* (*organon*), *entelecheia*, *hypokeimenon*, *dunamis*, *energeia*, *telos*, *steresis*, *hyle*, *morphe*, *aether*, et al.; and as are the basic Aristotelian (of foundational significance) principles – of *Organicism*, *Dynamicity*, *Entelechism* and *Hylemorphism*, *Bipolarity* and *Cyclicity* – *Triadicity of a Subject's Functionalist Ontogenetic Self-evolvment*, etc.

A constant point accompanying the incorrectness of the standard interpretation (as Aristotelian scholars conclude), and applied to an individual text or question in Aristotle (but never to Aristotle's *OrganonKosmology*, in general) – is that the reasoning produced by commentators "is incompatible with Aristotle's position in the other works of the extant Aristotelian *Corpus*,...". Especially striking (with respect to the destruction of Aristotle's *Organicism*) is the use of the term "actuality" ("which misses the point entirely," immediately in relation to two key concepts of Aristotle: *entelecheia* and *energeia*) : and after which, "everything is lost in translation, just at the spot where understanding could begin."

The output, therefore, as it imminently follows : Aristotle (Father of Science) and the enormous (vital) conceptual potential of his *OrganonKosmology* – all this inevitably falls into a state of profound incomprehension on the part of the vast majority

⁶⁶ See: Randall, John Herman Jr., (1962). "Aristotle's System of the Physical World: A Comparison with his Predecessors by Friedrich Solmsen," *The Philosophical Review*, Vol. 71, No. 4 (Oct., 1962), pp. 520–523.

of modern scholars. The latter, however, is absolutely essential at present as a reference base for all scientists around the world, in their way of interaction and mutual understanding – to ultimately pursuing the goals of modern grandiose Organicist and Integralist (reasonable, purposeful, and uniting all the involved heterogeneous subjects-organs) transformations in modern peace-building – all this, however, turns out to be unattainable for modern scientists (due to their misunderstanding the Aristotelian Organicism; in turn, wherein the misunderstanding occurs because of the, so-called in BCA ‘*cosmological insufficiency*,’ in the current world culture). Thereby, because of the profound and persistent incomprehension among scientists in the world concerning the bases and essence of the contemporary (in the 21st century) Organicist and Integralist approaches (and their *OrganonKosmological* foundations) : all this can have the most disastrous (catastrophic) consequences for the world evolvment.

The contributors to the Biocosmology Initiative are fully committed to the task of rehabilitating Aristotle’s scientific (*OrganonKosmological*) heritage. In their works they aim at developing (weaving them into the fabric of modern scientific approaches) Aristotle’s true (Organicist) conceptual scientific bases. Along with the evolving Mosaic concept of the French biologist Georges Chapouthier (noted above), as well as in his other research projects wherein the Organicist approaches to studying the real world are taken into account : we are to mention the original efforts of other BCA-associates. Beginning with a brief listing of some notable achievements, we turn our attention to the attitude of Arthur Saniotis, an Australian scientist, who states that “in evolutionary terms entelechy may be related to ontogenetic processes” [Saniotis, 2010, p. 103]⁶⁷. Likewise, the rationale of the Japanese philosopher Makoto Ozaki draw attention; he successfully develops the connections of Eastern philosophies with “the Aristotelian concept of *entelecheia* as a dynamic unification of potentiality and actuality in the self-realizing movement” [Ozaki, 2019, p. 142]⁶⁸

The work of Canadian scholar Anna Makolkin, who is a specialist in semiotics, has a notable influence on the current process of studying the Organicist scientific foundations in Aristotle’s theory. In an article entitled “*Aristotle’s doctrine of signs and semiotic reading of his «Physics»*” : we learn that “Aristotle always keeps in perspective both semiospheres (natural and cultural), constantly emphasizing the Wholeness of Cosmos, and the complicated realm of human existence simultaneously in both universes – Nature and Culture,” and that “Aristotle creatively combines the areas outside the natural philosophy with those inside it. His neologism *entelechia*

⁶⁷ See: Saniotis Arthur (2010). “Evolutionary medicine: A Biocosmological approach for informing future biomedicine,” *Biocosmology – neo-Aristotelism*, Vol.1, No.1 (Autumn 2010), pp. 99–111.

⁶⁸ See: Ozaki, Makoto (2019). “Kyoto School Philosophy in relation to Neo-Confucianist metaphysics,” *Biocosmology – neo-Aristotelism*, Vol.9, No.1&2 (Winter/Spring 2019), pp. 137–152.

alludes to the inner semiosis in both spheres.” [Makolkin, 2020, p. 181]⁶⁹ In her another work, entitles “*The new world overcoming Platonism in the 20th century: John H. Randall’s Aristotle*” : Anna Makolkin specifically notes that “J.H. Randall perceptively dwells on the linguistic problems and misinterpretation of Aristotle’s terms simply due to mistranslation.” For instance, “alluding to the canonical term ENTELECHY he suggests to interpret it as a tripartite unit: EN = IN + TELOS = END + ELCHEIN = TO HAVE” [Makolkin, 2018, p. 15]⁷⁰

Chinese scholar Xiaoting Liu, who is President of the Biocosmological Association : he sees a special purpose in the study of Aristotle’s scientific and philosophical heritage because “a profound return to Aristotle’s philosophical tradition is a new movement back to the past, but, thereby, due to a natural Dynamic Cyclic Ascending evolvement – to the Naturalist (of wellbeing) Future.” [Liu, 2018, p. 367]⁷¹ In turn, the Greek scholar Spyridon A. Koutroufinis performs an in-depth analysis of contemporary neo-teleological approaches and compares them with the metaphysical foundations of Aristotle’s teleology. The author’s main conclusion here is that neo-teleologism and Aristotelian teleology are based on entirely different metaphysical assumptions. [Koutroufinis, 2016]⁷² In another approach, Austrian scientist Walter Kofler tackles the problems of “the increasing inhomogeneity of the power of science and an «Aristotelian» proposal to cope with” [Kofler, 2018]⁷³ In a different perspective, from Germany, another representative of biology and medicine : a physician Peter Heusser explores questions of “active information” (Aristotle’s “formative cause,”) and other “active causes” that are “a natural part of physical explanations” [Heusser, 2011]⁷⁴. Another in-depth study performed by experts in biology and medicine, and

⁶⁹ See: Makolkin, Anna (2020). “Aristotle’s doctrine of signs and semiotic reading of his «*Physics*»,” *Biocosmology – neo-Aristotelism*, Vol.10, No.1&2 (Winter/Spring 2020), pp. 167–183.

⁷⁰ See: Makolkin, Anna (2018). “The new world overcoming Platonism in the 20th century: John H. Randall’s *Aristotle*” *Biocosmology – neo-Aristotelism*, Vol.8, No.1 (Winter 2018), pp. 7–20.

⁷¹ See: Liu, Xiaoting (2018). “On deep-seated organic property of universe,” *Biocosmology – neo-Aristotelism*, Vol.8, No.3&4 (Summer/Autumn 2018), pp. 367–379.

⁷² See: Koutroufinis, Spyridon A. (2016). “Modern biological neo-teleologism vs. Aristotle’s genuine telos,” *Biocosmology – neo-Aristotelism*, Vol.6, No.3&4 (Summer/Autumn 2016), pp. 414–426.

⁷³ See: Kofler, Walter (2018). “The increasing inhomogeneity of the power of science and an “Aristotelian” proposal to cope with,” *Biocosmology – neo-Aristotelism*, Vol.8, No.3&4 (Summer/Autumn 2018), pp. 431–448.

⁷⁴ See: Heusser, Peter (2011). “«Active information» – a modern revival of Aristotle’s «formative cause», applicable in physics, biology, psychology and medical anthropology,” *Biocosmology – neo-Aristotelism*, Vol.1, No.2&3 (Spring/Summer 2011), pp. 161–166.

devoted to exploring the “information cause” has been discussed above [Khroutski & Klimek, 2018]⁷⁵.

The works of other authors also attract attention and occupy their own separate place. Italian physicist Leonardo Chiatti, in constructing his “*A new concept of archetype in the physics of self-organization*”; and realizing a study of the process “*From the ‘quantum providence’ to entelechies*” – the scientist here uses and reformulates the concepts of “archetype” and “entelechy,” in this starting from modern notions of microphysics. [Chiatti, 2014]⁷⁶ Romanian scholar Ana Bazac, in comprehending the answer to the difficult question: “What is natural and what is non-natural in cancer?” – she turns to the study of the action of “the constitution of the body’s peculiar telos, the *entelecheia*.” [Bazac, 2018, p. 399]⁷⁷ Physicist from Moscow, Sergey N. Grinchenko, in his study of the “Aristotelian goal-driven cause and biological modeling” [Grinchenko, 2012]⁷⁸ : the scientist here takes typical Aristotelian concepts of hierarchical self-regulating system, purposive approach and *causa Finalis*, as the bases for his scientific construction. To conclude (in briefly listing the most outstanding contributions), we should note the achievement of Alexander I. Orlov, one of the most cited Russian economists. He presented (for BCA, on the subject of Aristotle’s Organicist principles evolvement) his concept of the “*Functionalist-Organic Information Economy*” [Orlov, 2013]⁷⁹ – an innovative theory of Organizational-Economic development. The latter is aimed at future research, and where the author asserts the Aristotelian essence – against “*chrematistics*”; and which is embodied in the contemporary (for the 21st century) functionalist-organic information approach to creating a new economy of the coming future.

8. Back to the Future of the Aristotelian Aetiology and Organicist Science, as a whole

In line with the main goal and objectives of the exploration, and in the light of the above argumentation : it becomes possible to assert the task of constituting Aristotle’s

⁷⁵ See: Khroutski, Konstantin S. & Klimek, Rudolf (2018). “Biocosmological definition of Information and its Naturalist causative significance, approaching to evolve the World Information University (WIU),” *Biocosmology – neo-Aristotelism* Vol. 8, No. 2, (Spring 2018); pp. 203–261.

⁷⁶ See: Chiatti, Leonardo (2014). “A new concept of archetype in the physics of self-organization,” *Biocosmology – neo-Aristotelism*, Vol.4, No.3 (Summer 2014), pp. 271–283.

⁷⁷ See: Bazac, Ana (2018). “What is natural and what is non-natural in cancer?” *Biocosmology – neo-Aristotelism*, Vol.8, No.3&4 (Summer/Autumn 2018), pp. 391–420.

⁷⁸ See: Grinchenko, Sergey N. (2012). “Aristotelian goal-driven cause and biological modeling,” *Biocosmology – neo-Aristotelism*, Vol.2, No.4 (Autumn 2012), pp. 319–325.

⁷⁹ See: Orlov, Alexander I. (2013). “Functionalist-Organic Information Economy – the Organizational-Economic Theory of Innovation Development,” *Biocosmology – neo-Aristotelism*, Vol.3, No.1 (Winter 2013), pp. 52–59.

aetiology (as an organization of the basic aetiological principles and notions in general) – which would serve as a convenient primary step (stage) on the way to full rehabilitating (as a whole) the forceful *OrganonKosmology* of the Stagirite (to become applicable in the contemporary scientific life). It is noteworthy that the scholar Aristotle had not created during his lifetime a separate work entirely devoted to the issues of aetiology. Thereby, the Stagirite did not execute the possibility of uniting all his concepts in a general construction of all the existing Organicist aetiological forces (causes) : the causes that determine the real (Organicist Dynamic, Entelechist and Hylemorphist) physical existence of the subject of life, and its realizing the subject's sustainable (ontogenetic) Self-evolvement, aimed at the ultimate Functionalist (efficient and wholesome) integration into the surrounding world (equally holistic and self-evolving) – the living Self-ascending (in the complexity of organization) world of the Kosmic Evolutionary Process (EvoProcess). All the more reason is, therefore, to carry out this task in the present, as an important and urgent one – and which is fully essential to meeting the challenges of future life (human, as well) prosperous evolvement on Earth.

As it follows from our evidence above : at present, Aristotle and his *OrganonKosmology* are completely “lost in translation”; as a result, modern scientists are unable, in principle, to understand and use (apply) in their daily scientific activities the powerful potential of the Aristotelian (*Organicist*) Type of scientific knowledge. At the same time, as it is established in the life of the BCA : Aristotle's *OrganonKosmology* (as a model of an Organicist comprehensive Type of rationality and knowledge) – it serves as a necessary (indispensable) reference base for all scientists of the world. The latter is essentially a kind of an Organicist ‘*conceptual language*’ : for academic communication and mutual understanding – in the concerted efforts of scientists to realizing the contemporary Organicist and Integralist approaches to scientific pursuits, so vital for the current world (with its ongoing era of change – global transformations, so-called ‘tectonic shifts’).

At the same time, in their attitude, BCA scholars emphasize two essential cornerstones : first is the task of maintaining continuous awareness of the essential oppositeness (but equal autonomic realness) – between the Platonic reality and rationality (mentality); and the opposite Aristotelian reality and rationality (mentality). Therefore, we always have a Platonist (Static) Dualist cosmology with its Top-Down essence (of the objective mathematical-physicalist research and the consequent practical world-building); and wherein all is created by a Demiurge (and further on – by a society or man); i.e. created *artificially* – over nature as an object. On the contrary, the eternally existing opposite Organicist (*naturalist*) world is rationalized in Aristotle's *OrganonKosmology* : this is the *naturalist* Dynamic, Organicist Bottom-

Up world – that is essentially Self-evolving and Self-Ascending, through the consistent Hierarchical (in complexity) evolutionary levels of wholly organization.

On the other way around, another foundational BCA-disposition and its main task is to realize the integration (into Organismal unity) of both essential opposites (and their Types of reality and rationalities) – Plato’s and Aristotle’s. The basis for setting and implementing this task is the BCA-scholars’ understanding of the universal existence of the Third Approach – the Integralist Type of reality (hence, the Third Type of scientific knowledge, as well). This Type is essentially Integralist and Homeostatic, thus being basal and axial (for the entire subject’s ontogenesis), for it naturally unites both polarities into a stable (homeostatic) life ground for a subject’s (organism’s) entire ontogenesis. Edward Alam, in his “Soul Reflections”⁸⁰ : here the author primarily notes the significance of the two scientific revolutions of the 20th century – the revolution in physics (in the first half of the century); and the revolution in genetics (in the second half). His conclusion is that both revolutions have brought about “the new insight into the nature of matter, the crucial philosophical result of this revolution is the revival of Aristotle’s conception of matter as *potency*.” [Alam, 2008] His other valuable inference is that “the age-old question of the soul is again back on the table – with only a few brave anthropologists willing to take it up.” [Ibidem]

In this light, the Aristotelian concept of *Entelecheia* and the proposed (in the paper) notion of *Entelechist cause* (as the cornerstone of Aristotelian aetiology) : it precisely requires the ending of “*ist*” at its denoting word. In its essence, *entelecheia* is a universal (Organicist) cause that unites all the Three Types of realities : Organicist, Dualist, and Integralist; and which is active through the entire ontogenesis of a subject. In an integral way, during the life time, *Entelechist cause* operates in the sequential order of a subject’s Self-climbing the consistent (by Hierarchy) steps (stages) of its Functionalist inherent maturation; and, in the end (*telos*) – it (*entelecheia*) executes the subject’s carrying out of a need-based functional wholesome contribution to (the evolutionary, in complexity) a higher organization. In other words, this is a subject’s ontogenetic functional efficient incorporation into the integrity of a higher (in complexity) evolutionary whole (that as well is organized around the realization of its ultimate *telos*) : and wherein everything exists for the sake of functional (wholesome) integration and needful contribution to the successful (successive) self-evolvement of the EvoProcess – all-in-one and end-to-end Kosmic evolutionary life organization.

Substantively, *Entelechist cause* (by virtue of its physical properties) most closely corresponds to the sought-for (by William Ritter) the Ultimate Cause. At the same time,

⁸⁰ See: Alam, Edward J. (2008). “Soul Reflections: Apes, Anthropology, and Aristotle,” *Metanexus*. URL:<https://metanexus.net/soul-reflections-apes-anthropology-and-aristotle/> (last retrieved – 2021.02.25)

naturally, *Entelechist cause* exists and operates only within the Organic complex unity with other naturalist causes, that are discovered and defined (or, at least, outlined) by Aristotle, in his *Corpus*. In listing them, these causes definitely are : the four ‘classical’ causes (*hyletic*-Material; *morphogenetic*-Formal; *generative*-Efficient; *telic*-Final); and also the afore stated *Information cause* (likewise of ontogenetic, basal and integrative significance); *resonance cause* (“κατά συμβεβηκός αιτίον”; usually termed in English translations as “incidental” cause); and the foundationally significant – *steresis-gravitational* (Aether-Noetic) physical cause.

Aristotle reveals that the structural scheme of natural processes has a fundamental commonality: in all cases we have; first, something arising; second, that which is opposite to the arising; and, third, that is out of which something arises. To these three principles the Stagirite gives the names of *morphe* (“form”), *steresis* (“privation”), and *hyle* (“matter”). He explains the following: “For we distinguish between ‘matter’ and ‘shortage’⁸¹ (or absence of form) and assert that the one, namely matter (ύλην) as such, represents the incidental (κατά συμβεβηκός) non-existence of attributes,⁸² whereas the other, namely shortage (στερησις) as such, is the direct negation of the form of which it is the shortage.” (*Physics*, I. 9. 192 a 4-8)⁸³

The aetiology of the real natural Organicist world, holistic and self-evolving, which is presented to the world by the Stagirite, but is currently “lost in translation” : now an obvious task is in urgent restoring the Aristotelian aetiology (as stated above). At the same time, such goals will require serious research efforts. According to the BCA’s standpoint, the focus on the primary application of aetiological theory to current issues of biological knowledge – such a strategy could be effective and double-edged : both in terms of the speedy restoration of the true Aristotelian Organicist aetiology (and theory in general); and in addressing the pressing issues of biological knowledge.

At the end of this section (and the work as a whole), we should point out a few important points. First, to stress the uniqueness and universality (in relation to the living Cosmos, in general) of the *Entelechist* and *Information* causes. Both leading causes are determining the existence and self-evolvement of each living thing (subject of life) : their uniqueness and universality is expressed in the ability to integrate (in the life process – ontogenesis) all the Three world (cosmic) Types of life order and processes, starting with their controlling systems – thus ultimately uniting both polar spheres *dunamis/energeia*; and the third (or the first, in significance) basal-carrying

⁸¹ These words of translation : ‘matter’ and ‘shortage’, are spelled out in the original text as «ύλην και στερησις» (*hyle* and *steresis*). – **Authors**.

⁸² In the original text – «και την εγγυς και ουσιαν πως» : which can be translated as: «and that *hyle* is close to essence and in some sense is essence, but *steresis* – by no means.»

⁸³ Cited from: Aristotle. (1957). *Physics*, ed. by P. H. Wicksteed and F. M. Cornford, Loeb classical library, Harvard University Press.

(*axial*) intermediate Integralist (Homeostatic) foundation and binding force of the organism – for undergoing all ontogenetic events and processes in the subject's life. At the same time, the *Entelechist cause* acts on the Dynamic (Bipolar and Cyclic – Triadic) grounds; while the priority for the *Information cause* is the Homeostatic grounds (but also having the Triadic essence). It is essential that processes of Self-ascending (cyclic) evolvement of the subject of life are controlled by its *Entelecheia*; but the effective functioning of the latter is impossible without proper activity of the subject's *Information cause*.

The next most important moment involves the recognition of both the opposing essences and the equal importance (for science) of both great rational systems of knowledge, Plato and Aristotle. The recognition of their equal importance and challenge to their uniting is really crucial. At the same time, it should always be kept in mind that the Aristotelian *OrganonKosmology* is founded on a *naturalist* Dynamic Triadological basis, while the system of Plato is Dualistic and Static. But in the long run, what essentially is needed : this is the comprehension that the world we are living in is factually Dynamic, Bipolar, Cyclic and moving round a Circle (thus, Triadic and Triadological). On the basis of this scientific truth, it is in fact time for us to become resolutely aware of Biological (Biocosmological) laws, with their subsequent recognition and acceptance into scientific theory and practice.

First of all, the issue concerns the laws of natural Dynamism, Bipolarity, and Triadicity of the real world, with the natural cyclic alternation (and alternating dominance) of the two polar Types of reality and knowledge (*Transcendentalist* and *Naturalist* – Dualist and Organicist; initially rationalized respectively by Plato and Aristotle) : the Platonic *Transcendentalist* (*idealist* – mathematical-physicalist) – *Dualist* – Top-Down reality that is essentially Static (and knowledge of it, with the consequent practical action); and the Aristotelian *naturalist* (Functionalist, Self-evolving) – *Organicist* – Bottom-Up reality that is essentially Dynamic (and the consequent natural-Organicist science theory and practical activity).

Conclusion

The point of departure for this study is the fact that Aristotle's (the Father of Science) *OrganonKosmology* turned out (in the world history) to be "lost in translation". Confronted (with) and in an attempt to rectify this utterly unacceptable situation : the authors have chosen the course, initially – at decisive rehabilitation of the true (Organicist) Aristotelian aetiology (in the general direction of rehabilitating the whole *OrganonKosmology* of the Stagirite). As a result, in addition to the already rehabilitated *naturalistic* (physicist) aetiological causes of Aristotle (carried out in the works of the BCA-scholars) : the authors in this study substantiate and introduce the

concept of *Entelechist cause*. The latter is asserted as a unique (the subject's) and universal *Organon* Kosmic physiological force. In general, in their study the authors sought as much the recognition of the opposing (Plato's vs Aristotle's) cosmological essences, as the equal importance (for science) of both two great rational comprehensive systems of knowledge, Plato's and Aristotle's.

In such a way, authors aimed at meeting the challenge, concurrently, of both disuniting and uniting the great cosmologies of Plato and Aristotle. The latter means, (A) the revealing of their primary essential opposition, by distinguishing and appreciation of Plato's *Transcendentalist (idealist) Static Top-Down Dualism*, and Aristotle's *naturalist Dynamic Bottom-Up Organicism*; but, concurrently, (B) authors pursued the goal of eventual integration (uniting) the potentials of both polar (super)systems of rational knowledge. Such a possibility is provided on the grounds of modern Integralist efficacious approaches : of all, based on the foundational Kosmic (Biocosmic) Dynamic Triunity of the real world; and, respectively – reality of the Three Types (and their Triunity) of knowledge (rationalities) about it.

The authors carry out in their work the position that all the Three Types of cosmological (all-encompassing) knowledge – Organicist, Dualist, and Integralist : each (of the Three) Type has the same naturalist importance and should be equally considered in the world scientific process; but their importance must be directly (and clearly) correlated with the (Integralist) essence of the current historical epoch (in the 21st century). Essentially, in the 21st century, in our current “time of change” and global transformations – the significance of the Organicist (and, consequently – of the efficacious kinds of Integralist) cosmologies increases essentially. Otherwise, without taking into account (and not following) the Naturalist-scientific (Organicist) laws : thus, without the urgent development of the Organicist (neo-Aristotelian) and Integralist (in Triunity with Transcendental Dualism) scholarly approaches – the cultural world will inevitably face the inability to meet and overcome the current crisis issues and challenges.

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Philosophical aspects of biological information, in the course of organic regeneration

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Философские аспекты биологической информации, в процессах органической регенерации

Дариуш Адам Шкутник

Abstract. The fundamental element of developmental processes is the category of information, which gives the dynamic character to the existence of an organic whole. The manifestations of its causal action were noticed already in antiquity by Aristotle, while observing the development of organisms. Today, it manifests itself clearly in the field of experimental research on organic regeneration. Still, however, information as a causal developmental parameter requires an unequivocal definition in the context of its “controlling action” in relation to matter and energy.

Keywords: information, matter, energy, thermodynamics, biocybernetics, embryology.

Резюме. Фундаментальным элементом процессов развития является категория информации, придающая динамический характер существованию органического целого. Проявления ее причинного действия были замечены еще в древности Аристотелем при наблюдении за развитием организмов. Сегодня оно отчетливо проявляется в области экспериментальных исследований по органической регенерации. Однако информация как параметр причинно-следственного развития требует однозначного определения в контексте ее «управляющего действия» по отношению к материи и энергии.

Ключевые слова: информация, материя, энергия, термодинамика, биокибернетика, эмбриология.

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Выводы

Introduction

Universe is a complexity which includes static and dynamic organic processes running in living organisms. Reality as a whole, it gives the impression of a material-energetic-informative order. However, information is its most important element because it gives it the purpose of existence as a perfect whole. The above dependencies can be symbolically expressed using an equation $E=imc^2$ [Klimek, 2014].

The main task that scientists and philosophers have set for themselves is the final understanding of the mechanism on the basis of which complex causal processes take place within the formation and functioning of living structures. In Antiquity – Aristotle – postulated the existence of a substantial form, which gave the appropriate causal content to matter [Aristotle, *De Anima*, II, 413b 22; 414a 13; 414a 14; 414b 10].

Aristotle wrote:

Now the soul is cause and origin of the living body. But cause and origin are terms used in various senses: accordingly, soul is cause in the three senses of the word already determined. For the soul is the cause of animate bodies as being in itself the origin of motion, as final cause and as substance. Clearly it is so as substance, substance being the cause of all existence. And for living things existence means life, and it is the soul which is the cause and origin of life. Furthermore, actuality is the notion or form of that which has potential existence. Manifestly, too, the soul is final cause. For nature, like intelligence, acts for a purpose, and this purpose is for it an end. Such an end the soul is in animals, and this in the order of nature, for all the natural bodies are instruments of soul : and this is as true of the bodies of plants as of those of animals, shewing that all are means to the soul as end; where end has two senses, the purpose for which and the person for whom. Moreover, the soul is also the origin of motion from place to place, but not all living things have this power of locomotion. Qualitative change, also, and growth are due to soul. For sensation is supposed to be a sort of qualitative change, and nothing devoid of soul has sensation. The same holds of growth and decay. For nothing undergoes natural decay or growth except it be nourished, and nothing is nourished unless it shares in life [Aristotle, *De Anima*, II, 415b 3; 416a 6].

Aristotle's substantial form had (in itself) integrating abilities of a dynamic character. Beside other conceptual categories coined by Stagirite, i.e. *entelecheia*, *dunamis*, *energeia*, *hyle*, *morphe*, *topos*, *telos*, *organon*, it constituted a fundamental element of his conceptual matrix which systematically included dynamic organic specificities. Today, it is often forgotten and the specificity of dynamic processes is reduced to the simple form of static-machine phenomena. Consistent systemic thinking of Aristotle (the conceptual aspect and the causal aspect of mutual relations and connections) should be an example for modern scholars and the basis for research in general [Khroutski & Klimek, 2018].

In general, it can be said that information as a causative factor of nature is omnipresent. In certain cases, it is expressed by a dynamic norm of action, integrating the physical and chemical material foundations. Its abilities and manifestations of action should be discovered through a "dynamic causal scheme" founded by Aristotle. Additionally, the mathematical description – despite its shortcomings – should be used as a tool for quantitative expression of the material-energetic-informational properties. In the longer term, should be used to constructing cybernetic models and predict organic events. Although, it will take into account only static quantitative dependences, but it can be experimentally applied on real dynamic development. In this sense, it will provide a static explanatory foundation for the overall measurement of development, especially dynamic exchange of matter, energy and information. With such a research assumption, the static description itself becomes only a tool for formalizing certain

aspects of dynamic development. The specific regenerative effect becomes a specific informative purpose, which requires the examining from side of qualitative dynamic dependences (using formal static tools, i.e. mathematics, physics, biocybernetics).

Despite the fact that today information is considered as a control parameter all physico-chemical processes, its essence of working is not sufficiently understood. The most important issue that needs to be solved is the final explanation relationship between matter energy and information in the area of organic regeneration. The main task of the present work is an attempt to methodological capture the possible way of working of information and its relationship with the material and energetically basis of the regenerated structures of the organism.

1. On the types of internal information in living systems

At this point, I'm only showing on general division of the categories of internal information which is adopted in biology as a science. However, in this paper I will refer to a certain aspect of information in the field of organic regeneration. I also insist, along with other scholars², that information (as a working causal factor) can not be divided on individual subcategories. Information is a kind of unity and constitutes unity, which is seen in the various classes of the physical and organic order. Experimental research shows, that it always enters into the system whenever it is activated³ by the structures of the material body (temporarily suspending the action of these material structures). I will discuss the methodological issues related to the "suspending" action of information in further parts of the text. The living organism manifest a certain way of interconnection and interaction of elements and the possibility of maintaining a perfect order through the exchange of matter and energy with the environment in static and dynamic structures. In other words, living systems to their creation (also regulation) require the exchange of matter, energy and information. The dynamic complexity in a certain class of organic phenomena Weiss described as follows:

Small molecules go in and out, macromolecules break down and are replaced, particles lose and gain macromolecular constituents, divide and merge, and all parts move at one time or another, unpredictably, so that it is safe to state that at no time in the history of a given cell, much less in comparable stages of different cells, will precisely the same constellation of parts ever recur (...). Although the individual members of the molecular and particulate population have a large number of degrees of freedom of behavior in random directions, the population as a whole is a system which restrains those degrees of freedom in such a manner that their joint

² Professors: R. Klimek. R. Tadeusiewicz, K. Khroutski.

³ Professor Tadeusiewicz claims, that the information work where there is demand for it.

behavior converges upon a nonrandom resultant, keeping the state of the population as a whole relatively invariant". [Weiss, 1962]

While matter and energy itself are used to “power” the developmental processes, information is already a fundamental parameter that controlling this power in the course of morphogenesis. Living organisms, at a certain stage of their development, maintain the quantum equivalence of matter, energy and information. The whole organization in a living system runs on basis controlling role of information. Usually, the information (as a cause) responsible for the course of the dynamics of life is divided as follows:

- Genetic information contained in nucleic acids and preserved in reproducible macromolecular structures, stored in the genetic code, carrying information about the type and time of synthesizing specific proteins. It is claimed that it is present in the simplest living organisms. Its deficiency causes the process of protein synthesis and, consequently, the cessation of all life processes.
- On the molecular level, the immune information is indicated, which is carried by antigens and antibodies in serological reactions. It is considered a type of information which is present only in certain living beings. It also states that it is not essential information. However, where the organism is adapted to receive it, it is indispensable there. This means that adapting to receiving immunological information is tantamount to the lack of other safeguards, “alarm systems” warning against the threat leading to the damage or destruction of the organism.
- The cellular level reveals information that is related to the construction and regeneration of damaged parts of the body of plants and animals. Some scholars point out that this is a much “deeper” level.

It is worth noting that, for example, Ewa Jabłonka considers the following “dimensions of evolution”: genetic, epigenetic, behavioral and symbolic. That is 4 channels of hereditary information, which include the possibility of a further, smaller divisions. Hereditary information precisely determines the structure of the organism. The form of this information changes in the process of ontogenesis until the target form of the phenotype is “established”. It is a very complicated process, best described by a network of mutual dependencies [Gecow, 2010, 34–37].

2. Information as a dynamism integrating organic development

Information is closely related with phenomenon of totipotency, in both plants and animals. In antiquity, Aristotle observed the development of plants and knew that they could be divided and thus reproduced, releasing the prospective potency, contained in the individual parts of a divided organism.

... even many animals that are not insects ... can also live ... after dividing their into numerous parts ... Plants live separately after dividing into parts – from one primordial tree many trees are born ... some plants reproduce by means of scions [Aristotle, *De Juventute et Senectute*, II, 468 a 26-468 b 3].

The phenomenon of totipotency is not as well visible in the case of animal organisms as in plant organisms. Rather, this is the issue that requires intensive research and definitive solution to the problem is: How (in special cases) information, as a dynamic parameter of the universe, can *de novo* trigger regenerative processes in living systems?

The above issue has been attempted to be solved on the basis of various methodological strategies. There's been such scholars who began their studies starting from the experimental data, moving into areas metaphysical generalizations, i.e. they started from the physico-chemical causes of development and came to a metaphysical concept (entelechy) [Driesch 1921]. Other researchers explained the complexity of the natural world on the basis of metaphysical foundations, e.g. soul as the cause of becoming [Aristotle, *De anima*, II, 412 i 20-22]. Today, the reality of the organic world is often studied solely on the basis of physico-chemical causes, taking into account the developmental “response” of the organism itself⁴. In each of the above methodology can be found an attempt to explain the complexity of the regenerative processes on the basis of postulated causes explaining that conceptually can be replaced by general category of information. However, metaphysics itself has more causal inspiring value in scientific research and less in terms of causal explanation of biological development⁵. Metaphysical positions, although not falsifiable, can be the subject of rational criticism and argument. They can also express the metaphysical belief in the existence of certain regularities occurring in our universe, without which practical scientific investigation is impossible [Popper, 1997, p. 209]. The frontier of metaphysics is constantly changing. Often, the scientific discoveries derived from metaphysical ideas take a strictly scientific form. The road leading to scientific discovery is often difficult and complicated. It can only be described by someone who has been through it at least once. Koenigsberg writes:

I am fain to compare myself with a wanderer on the mountains who, not knowing the path, climbs slowly and painfully upwards and often has to retrace his steps because he can go no further-then, whether by taking thought or from luck, discovers a new track that leads him on a little till at length when he reaches the summit he finds to his shame that there is a

⁴ The comprehensive historical view of various research positions in the field of experimental methods, and the searching of physico-chemical causes of development, can be found in the works of Joseph Needham [see: *A history of embryology*, New York 1959, *Chemical embryology*, vol. I, New York 1931.

⁵ It's here mainly about experimental research.

royal road, by which he might have ascended, had he only had the wits to find the right approach to it. In my works, I naturally said nothing about my mistakes to the reader, but only described the made track by which he may now reach the same heights without difficulty [Koenigsberg, 1906].

3. On the possibility of “temporary action” of information, in the course of organic regeneration

Based on the experimental data, it can be assumed that information is capable to "controlling" the material and energetic reality of every living organism. During the biological experiments with the use of various types of chemical substances or whole tissues introduced into organisms, observed a change in the course of development of the organism [Spemann, Mangold, 1924, pp. 99–638]. In this research approach, we can say that substances introduced into an experimentally damaged system interact in such a way that they “induce” information dynamics, which in turn activates their potential and developmental possibilities. In every living organism, take place specific physical and chemical relationships between cells. Every cell interacts with every other cell in holistic dynamic development. Therefore, information “control” developmental processes, not only during undisturbed experimentally development, but also during the repair of damaged body structures. In these phenomena occur gradually reducing the physical growth of entropy. If it is assumed that the introduced chemical substance (during experimental research) causes changes in a living system, it can be treated as one of many components of matter that is triggered by information – as an integrating factor *in actu*. On this basis, we can conclude that information is the causal essence of the material-energetic system, and is a specific parameter responsible for the course of the dynamics of life.

In this way, it overcomes material and energetic passivity, reducing the increase of entropy in studied thermodynamic system. Information is activated to action when only the normal state of the organism has been changed by the development of external events. This fact is confirmed by embryological experiments carried out on living animal organisms⁶. Information considered in this research context is a “constant carrier” of the changing material-energetic properties of the organism, and its gradual decrease of intensity determines the dysregulation of processes taking a place in living systems. In this sense, it can be said that the decrease of information activity, as shown by experimental studies, is equivalent to an increase of thermodynamic entropy.

⁶ The experiments carried out by T. J. King’s and R. Brig’s show that not only the first sixteen cells of the embryo, as in the experimental research of H. Spemann’s, but also thousands of cells of the later stages have a “totipotent” nucleus inside, which is informatively open to later structural changes in organisms, see King, Briggs 1956: 271-279 T. J. King, R. Briggs, *Serial transplantation of embryonic nuclei*, „Symposia on Quantitative Biology”1956, 21, pp. 271-279.

Therefore, information = negentropy. In general, information, as a fundamental factor of development of living organisms, but also in the functioning of the entire universe, strives to maintain quantum material, energetic and informative equivalence through its laws $E=mc^2$ [Khroutski & Klimek, 2018, p. 210].

An open question is when and how does information begins its parametric control over individual parts of physical matter? Information, generally speaking, as the most important parameter of the universe is something operating in relation to what is inorganic.

Information as the elementary part of nature has its own fundamental laws which are based on its own primary parameters by analogy to physical ones. Information acts on matter and energy by means of determination of the range of their possible reactions to develop into functionally complete being which embraces the future potency of the each and every cosmic system. It is a medium that functions to organize, accommodate, and affect all of the elements and forces of nature, formed prior to matter and energy as antecedent estate. [Challenging Integralism, 2017]⁷

There must exist something in this type of relationship that is comparable to the principle of interaction in its general logical sense, but beyond the scope of “inorganic causation”. Not only the “inorganic causation” but the whole development of events should be understood in relation to the interaction of the components of the organism on the basis of the exchange of matter, energy and information and the quantum equivalence of these elements. In simple words, if factor **A** affects on **B**, then not only factor **B** is under his influence, but also **A**.

The resource of information, as a peculiar parameter of the organic world, is on purpose directed towards a specific organic system. Therefore, in this methodological context, information is conceptually identical with the information purposeful. It is able to adapt to material and energetic actuality as a result of the specific abilities of controlling action. One can speak of a dynamic interaction of information and a specific material and energetic system. Information entering the system (as a living organism) is able to direct its functioning, without continuous impacts⁸. An example would be the physical increase in entropy in living organisms, which is reduced by the temporal

⁷ Bremer, Josef; Khroutski, Konstantin S.; Klimek, Rudolf and Tadeusiewicz Ryszard (2017).

“Challenging integralism, Aristotelian entelechy, hyle and morphe (form), and contemporary concepts of information, touching upon the etiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasic and Dariusz Szkutnik),” *Biocosmology – Neo-Aristotelism* Vol. 7, No 1 (Winter 2017), pp. 8–111.

⁸ The concept of the “temporal action” of the integrating factor was developed by Hans Driesch. It was a speculative-metaphysical approach, trying to reconcile the action of the extra-spatial factor (entelechy) with the general principle of conservation of energy in living organisms.

entering of information⁹. Data on medical imaging techniques using Shannon's theory show that information is the opposite of entropy. Each increase in the amount of information is associated with an increase in the degree of ordering of a given structure and a decrease in the entropy of the system under consideration. Conversely, where entropy increases, order decreases [Hodorowicz, Jasiczek, Klimek, Tadeusiewicz 2011, pp. 117-118].

In the course of organic regeneration, each cell configuration follows a specific developmental principle. The point is that the cells after reaching a certain population density, suspend their further division. It is therefore necessary, not only to establish information links between them, but also to establish the controlling effect of the information-parameter that has a “limiting” effect, i.e. by informatively “selecting” individual chemical components of the regenerated organic material. The assumption that the inhibition of cell division occurs solely through the accumulation of metabolic end products should be excluded. Experiments clearly show that a starving yeast cell, after adding a glucose solution to its structure, does not undergo (immediately) the process of biochemical changes. At first, it checks the concentration of the solution and the current density of the cell population. If the amount of solution in relation to the cells density is too low, it results in little or no metabolic efficiency. The same applies to the process where the cell density is very low with sufficient glucose solution loading. If these two input variables are in the optimal range, metabolism begins with energy production and cell division, while keeping information pathways active. Thus, even with a continuous supply of chemical substances and removal of metabolic products, the specified cells density is not exceeded [Klitzing, 2000, pp. 215-216]. Therefore, the essence of working information is based on a specific “suspending” mechanism, involving the physico-chemical material foundations, together with the material-energetic potentials of a living organism¹⁰.

It can be added that information is directed at its object of action on purpose, because its causal “influencing” produces a specific effect. In this sense, a causal metaphysical idea can be refined, ultimately formalized and expressed as a specific cybernetic model.

4. On the need to conduct further system research in verifying the essence of information

A systemic approach to the studied phenomena should take into account all possible causal factors, which may affect on a developing organism in a combination

⁹ An example is the process of morphogenesis.

¹⁰ Information, from Latin *informatio* – image; informare – formation. In the presented approach, information means – “limiting”, through suspension, the processes taking place on the material-energetic foundation.

way. A comprehensive research approach to the considered physico-chemical processes may contribute to increasing the experimental effectiveness in determining the scope of information activity. Consequently, such a methodological approach during the conducted experimental research will not lose the fundamental relationships taking place on the material-energetic-informative level of the organism. On the foundations of systemic thinking, Bertalanffy wrote:

Since the fundamental character of the living thing is its organization, the customary investigation of the single parts and processes cannot provide a complete explanation of the vital phenomena. This investigation gives us no information about the coordination of parts and processes. Thus the chief task of biology must be to discover the laws of biological systems (at all levels of organization). We believe that the attempts to find a foundation for theoretical biology point at a fundamental change in the world picture. This view, considered as a method of investigation, we shall call "organismic biology" and, as an attempt at an explanation, "the system theory of the organism". [Bertalanffy, 1934, pp. 46, 64, 190]

Considering individual processes in a relational statement may also, to a large extent, contribute to the establishment of the fundamental task of the controlling parameter, influencing the development of events in the living system, primarily affecting the course of organic regeneration. It is additionally, this type of methodology could finally confirm that information, as a fundamental parameter controlling the potentiality of individual organism structures, has a comprehensive effect on them, based on a specific suspending capacity. This type of interaction of information is aimed at creating a quantum material-energetic balance in the organism, which serves life and biological organization. Such a research methodology should focus on mutual morphogenetic relations in the field of multifaceted causal interactions. It should also include comprehensive models of the phenomena and changes taking place in the organism, and not only concern individual organic processes¹¹. The complex system cannot be treated as something that exists structurally independently, but it should be understood as something that remains in a special type of dynamic relationship with many causal factors, including information as a controlling parameter. The basic components of reality are not only material particles, but complex structures and causal relationships within it. Therefore, when explaining and describing this type of relationship, the key concept, information, should be taken into account, expressing its overall dynamism in relation to individual organic processes and the universe in general [Campbell, 1974, pp.179–186].

¹¹The study of individual structures of biological phenomena is valuable insofar as they are included in a comprehensive relational juxtaposition, where individual elements exert mutual influences and dynamic interactions.

5. Biocybernetic look at the category of information

As mentioned above, information is purposely directed towards a given system because its causal action produces a specific effect. The manifestations of its action (within certain limits) can be modeled, explained and formalized.

Life phenomena can be considered at the level of atomic structures, molecular structures, macromolecular structures, multi-molecular complexes, cell organelles, etc. One can strive to capture the informational regularities occurring in intra-atomic structures, i.e. somewhat “lower”, or in multicellular structures, i.e. “higher”. Man is not able to observe the world of phenomena at all “depths” of its structure and dynamics simultaneously. Our basic tools of observation, i.e. the senses, record information phenomena only in layers. By observing the details, we lose sight of the whole. When we observe the whole, we stop noticing the details. By observing the inside of a cell through a microscope, only thanks to the ability to remember, we are able to combine certain facts with the category of information in a dynamic aspect and then we can relate the results of our observations to the right point of the whole organism. Further, by observing the whole organism, we lose the ability to perceive what is happening on the molecular level. Only thanks to memory, we then combine two different layers of phenomena into one multi-layer image. The same problem applies to time dimensions. By registering “fast” dynamisms, we stop registering the dynamics of “slow” phenomena and vice versa. Only thanks to the ability to remember, the elements of our observations can be combined into a multidimensional conceptual matrix¹², reflecting the real, full structure and dynamics of life phenomena.

Selye expressed the human ability to combine certain organic phenomena as follows:

In order to learn something about the human kidney we must first recognize its subunits (cells, chemicals) and the role the principal unit (kidney) plays in relation to the other units (organs) in man. Then comparative studies will show as that, in most of these respects, the human kidney resembles that of other animals. Therefore, by determining how the animal kidney react to remedies against certain experimental diseases, we will be able to formulate theories that can forecast, with reasonable probability, what remedies have a chance to cure similar diseases in man. [Selye, 1964, p. 270]

Although in biocybernetics the category of information may be an element enabling the modeling of events and processes occurring inside a living organism, such a

¹² K. Khroutski, R. Klimek (2018), “Biocosmological definition of Information and its Naturalist causative significance, approaching to evolve the World Information University (WIU),” *Biocosmology – neo-Aristotelism* Vol. 8, No. 2, (Spring 2018); pp. 203–261.

reconstruction of the specific regenerative process is only a fragment of “complete” organic development. The reconstruction of the dynamics of reality in the model always leads to simplification. Considering information in this sense leads to a specific reduction of the wealth of unknown physico-chemical processes to the requirements limited by the needs of biocybernetic control. This type of research approach generates another problem, according to the assumptions of systemic thinking: that it is impossible to precisely define a system as a specific set of elements and feedback between these elements that define the properties of the whole [Tadeusiewicz, 2014, pp. 103–107]. Through such a reductionist approach, it is only possible a general determination of the steering role of information (in quantitative character) during feedback between elements in the course of the emergence of new system properties. However, despite some shortcomings of this methodological approach to the studied phenomena, it tries to give a scientific idea of the facts relating to the regulation of organic processes.

6. Biocybernetic model – as an auxiliary tool in discovering the essence of information

Biocybernetic systems are often considered along with their certain dynamic properties, their behavior over time, and the type of signal they can process. Input signals (operands), reaching the system, are transformed into output signals (transforms). Due to the nature of the information precision, is necessary in such a system, whose input will be a specific set of arguments and also systems capable of processing continuous quantities. In order to describe such a system related to a specific regeneration process, the following should be specified:

- The number of causal inputs and outputs over the course of a specific regeneration process.
- The principle operation of the system, describing the causal relationship of the state of the outputs to the state of the inputs during regeneration.
- The system response time, reflecting the real regeneration process, which determines how long a change of state at the input, will cause a corresponding change at the output.
- The maximum rate of change of output state, describing the maximum rate at which the state of the output signal can rise or fall [see. Warchoń, Świdziński, Jaroszyk 2008, pp.266–269].

The importance of the individual factors describing the system is as follows:

- The inputs should describe the physical state of the causal factors (acting on the system) in a complex combination approach (temperature, pressure, the concentration of chemical substances, time).
- The outputs should describe the physical state of the factors directly affected

- by the system; their form, like the inputs, need not be the same.
- The principle operation of the system should describe the mutual combinational relations of outputs and inputs states; for systems processing continuous values. It is usually presented as a function (system of equations of many functions) whose arguments are states at the input of the system, and the result is the state of the output or the state of outputs (if there are many). In the case of biological systems, the functions that describe them are complex and non-linear, therefore, various degrees of simplification are used to describe them.
 - The system response time is the delay time between the input state and the appearance of the output reaction; it is generally not constant and can be described by a complex relationship.
 - The maximum output state change rate determines how quickly the system output state can change; its meaning is revealed when the state at the input quickly changes – then the state at the output will not immediately (after the reaction time) assume the value resulting from the function describing the system, but will achieve it by changing the speed of which depends on the described parameter. [Warchoń, Świdziński, Jaroszyk 2008, pp. 266–269].

The advantage of this methodological approach is the possibility of combining a determination of probable causal relationships on the material-energetic-informative area in the course of organic regeneration¹³. In turn, in the case of the human body, such a methodological approach increases the chance of discovering the foundations of the morphogenetic mechanism (within a specified regeneration process) explaining the essence of the control in the process of restoration of damaged structures within a living organism. The difficulty of this approach is the subsequent description of the established phenomena. In the case of biological systems, description in the form of a function is postulated. They usually have a rather complicated form and non-linear character, therefore, in order to describe them various degrees of simplification are used, which depend on the accuracy of the required approximation [see Karch, Marciniak-Czochra 2014, pp. 3–20]. In the longer term, however, simplifications may lead to cognitive discrepancies in predicting and describing experimental results.

For example, in a constructed cell model it can be assumed that the signals x , at all inputs and the signal y at the output of the cell, are digital signals¹⁴ with

¹³ I mean the course of organic regeneration in organisms that are naturally programmed to reproduce copies of their parts. (e. g. the tail of a Zebrafish).

¹⁴ The main difference between analog and digital signals is that in analog technology, information is translated into electrical waveforms of different amplitude. In digital technology, information is translated into a binary signal – it takes values conventionally called “0” and “1”, which correspond to two different voltage ranges (usually extreme voltage – mass and power level), and usually the forbidden area separating the ranges for “0” and “1”. It can also be added that the digital signal, with appropriate coding, can have more than two values, e.g. coding on 4 voltage intervals will make it possible to store 2 bits in one state.

appropriately determined measurement values. In this sense, the presence of a causal pulse is determined signal value of 1, and its absence is expressed as 0. In this situation, the description of the functioning of the cell containing developmental potential may be given by a logical function with arguments x , ($i = 1, \dots, u$) and the value of y . The most important task is to determine the form of the function that binds all x with y , and it is obvious that this function must depend on certain parameters characterizing a given cell, because each cell at each development stage performs a different function and takes over from other cells different tasks in the holistic development of the living organism.

Such a research assumption leads to taking into account the relevant dependencies between the input and output signals of the cell in the network.¹⁵ The causal impulse, transmitted from one cell to the other, can have different effects on the behavior of the recipient cell. These differences can be of two kinds. Some signals coming through certain links have an excitatory effect on the cell, i.e. they cause it to generate a new causal impulse, while others, introduced through different connections, inhibit the process of generating impulses and make it difficult to send them. In this context – as mentioned above – we can talk about the temporal working of information as an integrating factor *in actu*. On whether the cell will eventually generate the impulse or not is determined by the resultant of stimulations and inhibitions between the positive and negative interactions of individual inputs. Each interaction can be related with a sign – positive for stimulating inputs and negative for inhibitory inputs. Individual inputs differ not only a sign, but the so-called weight. It is a hypothetical concept introduced to describe the fact of the uneven influence of individual inputs on the process of stimulating or inhibiting a given particular cell. Signals from certain specific inputs, corresponding to certain fixed signal sources, have a greater influence than analogous interactions from other inputs and other signals.

Biocybernetics itself can be used in experimental research only as an auxiliary tool. On its foundation, statistical models can be constructed and transferred to the empirical level, improving experimental research.

In this type of problem, the solution is found not in the development of ever more cunning statistical calculations but in improving the experimental technique to a point where the results are self-evident. In the case of an inhibition, for example, all animals of the control group should show

¹⁵ Stuart Kauffman constructed an abstract regulatory network of connections for the description of biological phenomena, which is based on a dynamic working. The nodes of this network have inputs to which input signals are given and outputs to which an output signal appears, the so-called node state as a result of a function whose arguments are input signals. See. S. A. Kauffman (1971), *Gene regulation networks: a theory for their global structure and behavior*, „Current Topics in Developmental Biology” 1971, 6, p. 145.

maximal or near maximal lesions, while the treated group remains unaffected. In other words, such semi-quantitative scales of estimation exclude the possibility of using moderate changes as a basis for conclusions; the laboratory procedure itself must be improved until it is essentially perfect. [Selye, 1964, p. 261]

Statistical science, like biocybernetics, does not fully describe living organisms as a dynamic organic whole, but rather perceives them as summative arrangements, composed of independent elements. Admittedly, they take into account information as an important component responsible for controlling the basics of material-energetic; however, these views are only partially useful for capturing statistical and mechanical of biological phenomena. Only on them are “overbuild” dynamic biological phenomena, often observed during biological experiments. Therefore, it is not possible to fully understand the individual parts of the organism (systems) if they are treated as isolated structural mechanisms. Following Ernst Nagel, two features distinguish biology from the physical sciences in a fundamental way (this canon also includes biocybernetics). Firstly, biology assumes the dominant role of teleological explanation in experimental research. Secondly, it uses the conceptual apparatus necessary to study dynamical systems, whose behavior of which is not a result of the behavior of independent components.

Conclusions

It is known that at the organ level, each cell senses its position and interacts accordingly in relation to the whole organism. At the tissue and cellular level, each cell exchanges information with other neighboring cells. However, in order to fully explain and describe the issues of organic regeneration the searching causal mechanism should aim to explaining the genesis of the informational resource of the cell in relation to the organism as multicellular complexity. A mechanism of this type should capture the way in which the information expresses a dynamic control form. In the above research framework, it should be carefully checked to what extent information working temporarily, “directionally” suspending the development of events in a specific system, and how its “temporary encroachment” releases the potentiality of matter according to the general principles of energy conservation. In this sense, an important task for scientists is to construct cybernetic models, recreate and discover their role in the course of regeneration. At this point, undoubtedly, biocybernetics plays an important epistemological role. Transferring it to real development is the foundation for discovering dynamic relationships, then captured with the help of dynamic concepts and principles. In this spirit, one should work on determining over the way of triggering and transfer information between individual cells. This is exactly, how the impulse of one cell is introduced as an input signal to another cell in a particular regeneration

network. Unambiguous determination of connections between individual cells along with their mutual interactions may significantly contribute to the understanding of information processes taking place in individual cells and in the entire network – as an organism.

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So, you want to understand *Russian soul*? Open Danilevsky's book "*Russia and Europe*"

Vlad Alalykin-Izvekov¹

**Итак, вы хотите понять русскую душу?
Тогда открывайте книгу Данилевского «Россия и Европа»
Влад Алалыкин-Извеков**

Abstract. The relations between Russia and the *West* have never been particularly easygoing or unambiguous, and, presently, they are yet again at all times low. The way to better understand, as well as to successfully communicate and cooperate with another society is through learning about evolution (and revolutions) of their (as well as one's own) history and culture. Are there any important sources in the Russian cultural heritage that could illuminate these ages-old problems, tendencies, and trends? The year 2021 marks 150 years since publication of Nikolay Danilevsky's book "*Russia and Europe*" (1871), while the next one, the year 2022 denotes 200 years from the date of birth of Danilevsky (1822–1885) himself. The paper highlights multiple sociocultural, sociohistoric, geopolitical, and historiosophic layers of the Danilevsky's enigmatic civilizational legacy. Based on that analysis, it suggests ways for improving relations between the *West* and Russia, as well as for overcoming a *social anomie* in the US.

Keywords: Danilevsky, Russia and Europe, cultural-historic type, local civilization, Pan-Slavism, Slavophilism, Pochvennichestvo, Furierism.

Резюме. Отношения между Россией и Западом никогда не были особенно простыми и однозначными, а в настоящее время они вновь и вновь оказываются на низком уровне. Путь к лучшему пониманию, а также к успешному общению и сотрудничеству с другим обществом лежит через познание истории и культурных особенностей их эволюции (и революций), но также и своей собственной истории и культуры. Существуют ли в российском культурном наследии важные источники, способные осветить эти вековые проблемы, тенденции и тренды? В 2021 г. исполняется 150 лет со дня публикации книги Николая Данилевского «Россия и Европа» (1871 г.); а в 2022 г. – 200 лет со дня рождения самого Данилевского (1822–1885 гг.). В книге выделены многочисленные социокультурные, социоисторические, геополитические и историософские пласты энигматического цивилизационного наследия Данилевского. На основе этого анализа предлагаются пути улучшения отношений между Западом и Россией, а также преодоления социальной аномии в США.

Ключевые слова: Данилевский, Россия и Европа, культурно-исторический тип, локальная цивилизация, панславизм, славянофилизм, почвенничество, Фурьеризм.

¹ International Society for the Comparative Study of Civilizations (ISCSC).

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“... This book is based on the idea of the originality lying in the soul of the Slavic world. The book embraces this issue so deeply and fully that it could be called a catechism or codex of Slavophilism.”
Nikolay N. Strakhov

1. Who is Danilevsky?

It is midday on January 20, 2021, and millions are witnessing the inauguration of Joseph R. Biden, Jr. as the 46th president of the United States on TV screens. Despite seemingly festive atmosphere, the historic event is taking place in the midst of profound political, public health, economic, and national security crises. Presently, it is a turn of poetry reading, which is a rare, however welcomed part of this hallowed tradition on the steps of the US Capitol since 1961. This year the honor belongs to a recent Harvard University graduate from Los Angeles Amanda S.C. Gorman. The upright, elegantly dressed poet and civil rights activist descends down colorfully decorated stairs. A dazzling smile, a bright Prada yellow coat, and an embracing her classic style coiffure crown-like red Prada headband make the young genius look like the Ancient Greek muse of poetry *Calliope* herself. Amanda recites her poem “The Hill We Climb” which she completed on the night of the recent storming of this same venerable edifice by a violent mob of insurrectionists. The profound philosophical depth of the poem’s message, the exquisite phrasing, and the unique delivery literally stun the nation and the world.

We've braved the belly of the beast
 We've learned that quiet isn't always peace
 And the norms and notions
 of what just is
 Isn't always just-ice
 And yet the dawn is ours
 before we knew it
 Somehow we do it
 Somehow we've weathered and witnessed
 a nation that isn't broken
 but simply unfinished.

Let us imprint this moment in memory, and fast-rewind history to about 150 years back. Presently, we are in the mid-19th century Russian Empire, on a rocky and rustic, yet hauntingly beautiful Black Sea shore. Perhaps, we are just where the ancient Greek hero *Jason* with the help of beautiful but deadly *Medea* and his fellows *Argonauts* struggled to wrestle the coveted *Golden Fleece* from the cunning *King Aeëtes* of the kingdom of *Colchis*. It is January, however in this mild, sub-tropical climate the sea rarely freezes over in winter, and the peaceful oncoming waves with a quiet rustle caress the glittering grey and bluish-black pebbles.

We see a casually dressed, bearded man in his early forties sitting on the stump of a giant exotic tree. He is handsome, tall, powerfully built, and seems to be deep in thoughts. The sheer monumentality of his brooding presence evokes the heroic, large-scale sculptures by Michelangelo Buonarroti and Auguste Rodin. In front of the stranger, a small fire lazily crackles while licking a few dry, washed out by the sea wooden branches. A couple of freshly caught fishes are sizzling on a skillet, spreading the tantalizing aroma. A large hunting knife, featuring the walrus ivory handle and the skillfully engraved double-barreled rifle are easily within reach, if needed. Two big shepherd dogs are lying around the fire, carefully following every man's move and ready to spring to action.

However, the stranger is hardly paying attention at them. His steely eyes are piercing through the bluish-green waves and the misty line of the horizon. It is as if he is intently gazing at some momentous events happening far away from the Black Sea shores, or even into the yet unknown future. What is it that he is seeing? The fierce bombardment of Fort Sumter? The endless, bloody battles – at Bull Run, Shiloh, Antietam, Fredericksburg, Gettysburg, Nashville, Atlanta, Richmond? President Lincoln signing the *Emancipation Proclamation*? The US Capitol dome stubbornly rising up despite the raging around Civil War? Robert E. Lee surrendering to Ulysses S. Grant?

Presently, the unknown removes a pencil and a notebook out of his green tarpaulin windbreaker's pocket and, oblivious to the whistling sound of the intensifying sea breeze, writes: “ (...) the existence of the United States as an independent state indicates (...) the birth of a newly-formed nationality, completely different from the English. (...) a nationality that has not yet become clear and is still in the period of its ethnographic formation. (...)”²

Meet the prominent Russian biologist, historian, mathematician, and philosopher Nikolai Danilevsky. During the years 1863–1867 this Russian polymath led yet another groundbreaking scientific expedition, this time surveying the geography and the wild life of the Black Sea, as well as its tributaries. From the latter part of 1863 until late in 1867, he conducted a series of six grueling surveys; around the Sea of Azov, to the river Dnieper, to the river Manych, around the Black Sea, to the river Kuban, and to the river Danube. [MacMaster, 1967: 101]. Danilevsky's biographer and translator Stephen M. Woodburn explains:

² The quotes are from Danilevsky's book “*Russia and Europe*” pp. 192; 368. The details of “meeting Danilevsky in person” are, of course, imaginary, however based on author's scholarly knowledge of the period, as well as his personal familiarity with the realities of the region. (Author's note).

In the following year, 1863, Nikolai Iakovlevich ... was assigned as “head of an expedition for the investigation into the fisheries of the Black and Azov Seas.” This expedition lasted five years. In September 1863 Nikolai Iakovlevich took his family down the Volga to Tsarina,³ then crossed the Don by rail and went down to the Black Sea. He tried to arrange a permanent residence for his family, first in Feodosia, then in Nikita, but finally settled in Miskhor on the South Coast [of the Crimea] on 9 March 1864. From Miskhor he made six journeys in the following order: in 1864, around the Azov Sea; in 1865, on the Dnieper; in spring 1866; on the Manych [River, tributary of the Don]; in 1867, from 19 May to 19 June, around the Black Sea; from 10 September to 17 October of the same year, to Kuban, and from 23 November to 26 December on the Danube. ... [Woodburn, 2013: XXXI].

In the year 1866, for an outstanding performance in conducting biological, geological, geographical, climatological, and ethnological research, the scientist and explorer won the highest award of the Imperial Russian Geographical Society – the coveted *Constantine Medal*. [MacMaster, 1967: 101]. During the same years, filled with intense scientific research, field, and administrative work, between 1865 to 1868, Danilevsky wrote his historic, political, and philosophical treatise “*Russia and Europe*.”

Let us now fast-forward, this time only about fifty years. It is Friday, December 7, 1917, and we are in Saint Petersburg, Russia, recently renamed Petrograd.⁴ We are entering the *Smolny Institute* – a neoclassical building designed in the beginning of the 19th century by the Italian-born architect *Giacomo Quarenghi* to house Russia’s (and Europe’s) first women’s educational institution. Presently, however, it is the hub of the Russian October Revolution⁵ and, obviously, the most fiercely guarded edifice in this sprawling metropolis. We walk up the stairs and push on through a motley revolutionary crowd towards an office on the second floor in the right wing of the building. After passing between two stationed in front of the tall white double doors armed guards, we are in a medium size corner room with a high ceiling.

Three large windows, which open onto a large square with a few scattered trees, allow just enough of scarce in these northern latitudes light. The atmosphere is austere, the furnishings simple, businesslike. We see a covered with green cloth writing desk

³ Tsaritsyn (1589–1925), then Stalingrad (1925–1961), and presently Volgograd – a city on the western bank of the Volga river. (Author’s note).

⁴ Saint Petersburg formerly known as Petrograd (1914–1924) and later Leningrad (1924–1991) is located on the banks of the Neva river which flows into the Gulf of Finland on the Baltic Sea. The city has been founded by Peter the Great in 1703 and became capital of the Russian Empire for more than two hundred years (1712–1728, 1732–1918). (Author’s note).

⁵ The October Revolution was a second revolutionary change of government in Russia in 1917. It took place through an armed insurrection in Petrograd (now again Saint Petersburg) on October 25, 1917. (Author’s note).

and a few bentwood chairs. On the desk are books, newspapers, massive ink set, desk calendar, long blade scissors, and a desk lamp. Behind the desk are two groaning from the weight of volumes bookcases and several vintage wall-mounted telephones. In the corner stands emanating warmth tall stove faced with white tiles. At the desk is a compact, lean, yet broad-shouldered man in his late forties, who is intently reading a newspaper. He wears a baggy brown three-piece wool suit with a matching white polka dots tie and a washed out white dress shirt. From the upper pocket of the jacket protrudes a fountain pen.

The stranger's high cheekboned face is adorned with a small reddish beard, a mustache, and crowned with a prominent open forehead. His penetrating eyes are dark-brown, half-squinted, with an ironic sparkle. The facial expressions betray constant and intense mental activity. The man's gaze is serious, concentrated, and the whole demeanor betrays tremendous inner strength and cerebral energy. His uncanny ability of expressing complex utopian ideas in simplistic and bombastic slogans is legendary. While his smile is easy and engaging, and his laughter is contagious, he may be sarcastic and irreverent, and when challenged, utterly ruthless. When talking in Russian on the phone, the stranger speaks very fast, almost without pauses, with a slight lisp.

Indeed, this is Vladimir I. Lenin – the leader of a new Russian revolutionary government.⁶ There is an important reason why he studies the newspaper with intense interest. Just a few days ago, he and another, yet not well known to the world government official by the name Joseph Stalin⁷ signed the “Appeal to all the Working Muslims of Russia and the East.”⁸ In it was disclosed to the world the existence of a secret pact between France, Great Britain, and Russia known as *The Constantinople Agreement*.

It was a “classified” World War I accommodation between Russia, Britain, and France intended for the postwar partition of the Ottoman Empire. According to this notorious arrangement, the Russian Empire would acquire the coveted city of Constantinople (Istanbul) together with surrounding area. It would also allow the

⁶ Vladimir Ilyich Ulyanov (Lenin) [1870–1924] – a Russian revolutionary, politician, and political theorist, who led the government of Soviet Russia from 1917 to 1924, and of the Soviet Union from 1922 to 1924. A fervent devotee of *Marxism*, he developed a version of it known as *Leninism*. (Author's note).

⁷ Joseph Vissarionovich Stalin (1878–1953) – a Georgian revolutionary and Soviet politician who ruled the Soviet Union from the mid-1920s until his death in 1953. After Lenin's demise in 1924, he consolidated power to become the Soviet Union's *de facto* dictator by the 1930s. While formally adhering to the Leninist interpretation of *Marxism*, Stalin ruthlessly introduced his own crude version of thereof, known as *Stalinism*. (Author's note).

⁸ *Appeal to the Moslems of Russia and the East*. Council of People's Commissars. December 7, 1917. Original Source: *Izvestiia*, No. 232, 7 December 1917, pp. 1-2. Electronic source. Retrieved 02/16/21. <http://soviethistory.msu.edu/1921-2/the-muslim-east/the-muslim-east-texts/appeal-to-the-moslems-of-russia-and-the-east/>

Russian fleet an unimpeded access to the Mediterranean Sea by giving it control over the all-important *Turkish Straits* – a series of waterways that connect the Black Sea to the Mediterranean. In return, Russia would consent to British and French plans for territories and spheres of influence in new Muslim states in the Middle Eastern parts of the Ottoman Empire. This arrangement has been followed by a series of other unpublished military pacts designed for the same purpose.⁹

However, shortly after the “hostile takeover” of power by the *Bolsheviks* in Russia, these undisclosed settlements have been discovered in the former government’s archives and immediately published in the newspaper “Izvestiya” during the month of November, 2017. Presently, the direct language of the “Appeal to all the Working Muslims of Russia and the East” is undoubtedly adding to the former allies humiliation by unequivocally proclaiming that “the secret treaties of the deposed tsar to seize Constantinople, confirmed by the overthrown Kerensky,¹⁰ are now torn and destroyed.”

Lenin turns, reaches out, and removes an intricately decorated tome with brown leather spine and gold-embossed engravings from the shelf. This is a fifth edition of Danilevsky's book “*Russia and Europe*,” published in St. Petersburg in 1895. He opens it and delves into reading. “Ilyich”¹¹ possesses a phenomenal reading speed of about 2,500 words per minute, ten times faster than the normal reading speed of a literate person. Pages are flickering with a soft rustle:

Europe accuses us of greedily eyeing Constantinople, and we blush at the accusation as if it is indeed some kind of evil thing.¹² ... Sooner or later, like it or not, a struggle with Europe (or at least a significant part of it) is inevitable, over the Eastern Question: that is, over the freedom and independence of Slavdom, over the possession of Tsargrad.¹³ ... Constantinople must not be the capital of Russia, must not concentrate in itself the whole life of its people and state, and thus must not directly become part of Russia proper. To gain all the advantages enumerated above for Russia without bringing it easily foreseeable harm, a liberated Constantinople transformed into a true Tsar-grad must in and of itself be

⁹ There were three more “diplomatic instruments” for the partition of the Ottoman Empire – *The Treaty of London* [26 April 1915], *The Sykes–Picot Agreement* [April to October 1916], as well as *The Agreement of Saint-Jean de Maurienne* [April to August 1917]. (Author’s note).

¹⁰ Alexander Fyodorovich Kerensky (1881–1970) was a Russian lawyer and revolutionary who was a key political figure in the Russian Revolution of 1917. After the February Revolution of 1917, he joined the newly formed Russian Provisional Government, eventually becoming its second Minister-Chairman. On 7 November 7, 1917 his government was overthrown by the Lenin-led Bolsheviks in the October Revolution. (Author’s note).

¹¹ *Ilyich* is a Russian patronymic meaning “son of Ilya.” It is often informally refers to Vladimir I. Lenin. (Author’s note).

¹² Danilevsky, N.Ya. (2013). *Russia and Europe*. Bloomington, Indiana: Slavica. p. 251.

¹³ *Ibid.* p. 373.

something more than just the capital of the Russian domain, but something less than that in regard to Russia; it must not be too closely connected to it or take on the material significance reserved for Moscow. Simply put, Tsargrad must be the capital not of Russia but of the whole All-Slavic union.¹⁴

A bitter ironic smile touches Lenin's lips. He leans back in the chair and characteristically inserts his thumbs into the armholes of the vest. It is precisely about this ongoing process of the partition of the world among the leading empires that he wrote in his recent work.¹⁵ The public release of these secret diplomatic treaties will undoubtedly achieve its goal, and the overall effect of the exposé ought to be far-reaching, perhaps, long into the future. Especially significant seems to be the exposure of one of the main driving forces behind the still raging “Great War” – the fanatical desire of the old Russian ruling elites to possess Constantinople. And now, this powerful mainspring behind Russia’s stumbling participation¹⁶ in the “War to End All Wars” has been utterly broken. Thus, yet another decisive blow has been dealt to the imperial international and economic policies. The new, class-conscious revolutionary movements will undoubtedly establish a peaceful world order beyond traditional European diplomacy, without contributions and annexations. They will depart from the ages-old European tradition of back-room deals and secret treaties. Transparency will become the fabric of the emerging international relations and diplomacy.¹⁷ As for the Danilevsky’s *Pan-Slavic and Slavophilism* schemas, Karl Marx and Friedrich Engels themselves have been their extreme opponents, branding *Pan-Slavism* as a nationalist, reactionary, petty-bourgeois, as well as a counter-revolutionary ideology. No surprise that these ultra-patriotic, chauvinistic concepts have been adopted as the official tsarist ideology during the reactionary reigns of Alexander III and Nicholas II.

It is time for us to leave¹⁸ the “leader of the world proletariat” to his thoughts about “class struggle” and “world revolution,” and return back to the shore of the Black

¹⁴ Ibid., p. 331.

¹⁵ The essay on political economy titled “Imperialism, the Highest Stage of Capitalism” has been penned in the spring of 1916 in Zürich, Switzerland, and published in Petrograd, Russia in April, 1917. In chapter six Lenin is addressing the problem of the division of the world between the “great powers.” (Author’s note).

¹⁶ On the nearsightedness and inefficiency of the WWI era political leaders see Clark, C. (2012). *The Sleepwalkers: How Europe Went to War in 1914*. NY: Harper. (Author’s note).

¹⁷ The 19th as well as the beginning of the 20th century comprise the “golden age” of the grand universalistic theories and narratives. For example, on the competing Lenin’s and Woodrow Wilson’s messianic geopolitical visions see Fedyashin, A. How Lenin and Wilson Changed the World. *The National Interest*. March 25, 2017. Electronic source. Retrieved 02.09.21. <https://nationalinterest.org/feature/how-lenin-wilson-changed-the-world-19900>

¹⁸ The details of “meeting Lenin in person” are, of course, imaginary, however based on author’s scholarly knowledge of the period, as well as his personal familiarity with the realities of the region. (Author’s note).

Sea, where we have met Nikolay Danilevsky. He is still there, now standing above the extinguished by the gusts of now rip-roaring wind campfire, his gigantic figure barely visible against the backdrop of the raging sea. The wind fiercely rips scraps of white foam from the crests of blue-green waves, which then crash onto the shore with a steady, thunderous roar. Illuminated by dazzling lightning bolts, desperately screaming seagulls scurry above the scene of total chaos. Evidently, even the nature in this imaginary time travel of ours symbolically reflects the extraordinary in their power, scale, and significance events of the coming decades.

And so – what is this book? Why, after its appearance exactly one hundred and fifty years ago, scholars and thinkers, as well as geopolitical “movers and shakers” continue to argue about its meaning? Perhaps, one of the reasons is that it is not one book, but rather several books in one. Like the iconic Russian wooden “matryoshka doll,” the volume contains multiple layers of historiosophy, geopolitics, culture, and even arts, as well as a whole lot of theorizing about the evolution of societies and, of course, about the human nature. Let us now take a brief look at the historic and cultural movements contextualizing, as well as a number of seminal ideas underlying this perplexing work.

2. “Russia and Europe” as a “Catechism or Codex of Slavophilism.”

The Danilevsky’s complex book reflects in itself multiple historic as well as contemporary sociocultural, socioeconomic, and historiosophic ideas, movements, and trends. Among some of the most influential are *Pan-Slavism*, *Slavophilism*, *Pochvennichestvo*, and *Fourierism*.

2.1. *Pan-Slavism*

Pan-Slavism was an ideology and a based on it movement among the Slavic peoples in the 18th and the 19th centuries. It originated and was most widely spread in the Balkans, where the non-Slavic powers, such as the Byzantine Empire, the Republic of Venice, the Austro-Hungarian Empire, and the Ottoman Empire had ruled the *South Slavs* for centuries. Recognizing a common ethnic, historic, cultural, and linguistic background among the Slav peoples, *Pan-Slavism* was based on the idea of some form of Slavic integration and/or unification for the achievement of the common cultural and political goals. The American philosopher and historian Hans Kohn summarizes:

Pan-Slavism, a movement in which nationalist elements were mingled with supra-national and often imperialist trends, was a product of the political awakening of the intellectuals in central and eastern Europe, which was brought about by the French Revolution and the Napoleonic Wars. But even more potent was the influence of German romanticism and of a linguistic Pan-Germanism as represented by Arndt and Fichte.

Pan-Slavism proclaimed the affinity of various peoples, in spite of differences of political citizenship and historical background, of civilization and religion, solely on the strength of an affinity of language. It could thus arise only at a time when under the influence of Johann Gottfried Herder the national language, the mother tongue, was regarded as a determining factor for man's loyalty – and his intellectual and spiritual life. (...) In 1826, the word Pan-Slavism was first used. Like similar words – nationalism, socialism, etc. – it owed its origin and its spread to the early 19th century. [Kohn, 1960: IX; 325].

2.2. Slavophilism

Another source for Danilevsky's concepts has been the movement known as *Slavophilism*. In the mid-19th century, Russia is beginning to absorb the ideas and culture of Western Europe at an accelerated pace, and that inexorably creates an unstable sociocultural and socioeconomic climate. There is a tremendous growth in revolutionary activity accompanying a general restructuring of tsardom where liberal reforms, enacted by an unwieldy autocracy, induces a sense of tension in both politics and civil society.

Slavophiles vigorously oppose the dissemination of the Western institutions in Russia, and, instead, envision its development upon the values derived from its early history. Some of the founders of the Slavophiles movement are littérateur Ivan S. Aksakov (1823–1886), his brother, critic and writer Konstantin S. Aksakov (1817–1860), religious poet Aleksey S. Khomyakov (1804–1860), literary critic and philosopher Ivan V. Kireyevsky (1806–1856), historian and journalist Mikhail P. Pogodin (1800–1875), one of the architects of the Emancipation reform of 1861 Yuri Samarin (1819–1876), great Romantic poet Fyodor I. Tyutchev (1803–1873), and poet Nikolay M. Yazykov (1803–1846).

Besides Danilevsky, among most prominent Russian thinkers influenced by *Slavophiles* ideology are author and philosopher Konstantin N. Leontyev (1831–1891), writer and philosopher Fyodor M. Dostoyevsky (1821–1881), writer and philosopher Leo N. Tolstoy, religious and political philosopher Ivan A. Ilyin (1883–1954), as well as the 20th century novelist and historian Aleksandr I. Solzhenitsyn (1918–2008).

There is quite a difference of opinions among social thinkers about the roots of *Slavophilism* itself. Some of the Western scholars suggest them to be the German classical philosophy (Schelling, Hegel) and the German idealism (Friedrich von Schelling). The American political science scholar Thornton Anderson notes:

Often presented as an indigenous pattern of thought peculiar to Russia, Slavophilism becomes more readily understandable if viewed instead as a part of the great philosophical reaction against the devastating

rationalism of Hume, Voltaire, and the French Revolution. Its elements – its admiration for ideals (even when plainly contradicted by realities), its opposition to materialism and its tendency toward mysticism, its emphasis upon religion and its attempt to submerge reason in it – in short, its inconsistencies and irrationalities, then are more understandable. The most fruitful segment of that reaction, German idealism, attained in Friedrich von Schelling a form of religious mysticism adaptable to Russian Orthodoxy, and beginning with the professors of science in the universities, his system gradually captivated many Russians. It thus formed the principal connecting link by which the conservative thought of the West spread to Russia and reinforced opposition there to the importation of innovations from the West. [Anderson, 1967: 213]

Yet, the *Slavophiles* themselves defended the idea of the originality of *Slavophilism*, describing it as having been built on the premises of the *Byzantine* sociohistoric and religious heritage, as well as the *Russian Orthodox theology*. In some ways, a classic of civilizational thought, the British historian Arnold J. Toynbee reconciles those contradictory views. He notes that in any society that needs to confront a more powerful adversarial civilization, two movements may arise: *Herodianism* – calling for the introduction of new ideas, as well as copying the advanced foreign institutions, and *Zealotism* – advocating isolation in order to preserve the traditional way of life. [Toynbee, 1957: 231–238]

2.3. *Pochvennichestvo*

*Pochvennichestvo*¹⁹ was a late 19th-century movement in Russia that, while sharing a number of features with *Slavophilism*, represents a more conservative and assertive version of it. The prominent representatives of this school of thought were the writer and philosopher of history Konstantin Leontyev, philosopher, publicist and literary critic Nikolay N. Strakhov (1828-1896), as well as Danilevsky himself.

While supporting the emancipation of serfs, both the *Slavophiles* and the *Pochvenniks* rejected the universalism of the *Enlightenment* and the liberal and the Marxist ideas, as well as opposed the *Europeanization* in general. At the same time, *Pochvenniks* adopted more assertive anti-Protestant, anti-Catholic, and generally anti-Western stance, as well as embraced *Pan-Slavism*.

As it is evident from the Danilevsky's and the Leontyev's legacy, they also developed and advocated the view of history as evolution of the unique "local" *civilizations* (*cultural-historic types*) while extolling the "true and eternal" virtues and values of the steeped in the *Byzantine* sociocultural, sociopolitical, and religious tradition *Pan-Slavic* "civilization."

¹⁹ *Pochvennichestvo*: from Russian "почва" – "soil." (Author's note).

2.4. *Fourierism*

In the 1840s, the utopian-socialist ideas of the French thinker Charles Fourier are becoming very popular among the younger representatives of Russian *intelligencia*.²⁰ Danilevsky eagerly studied and has been greatly influenced by them. For example, the features of the Fourier's *phalanx*²¹ may be discerned in Danilevsky's idealized depiction of the Russian rural *obshchina*.²²

The American historian Frank Fadner notes that “the principle of nationality which supported the ideological structure of pan-Slavist thought (...) most completely synthesized in the work of N. Ya. Danilevskii. (...)” [Fadner, 1962: 1]. The Danilevsky's biographer and translator Stephen M. Woodburn agrees, noting that “(...) classical Slavophilism lacked ambition and goals, its adherents having a narrowly Russian focus, rooted in the past. Danilevskii crystallized the identity politics of the Slavophile movement, but gave it a broader future orientation outside Russia's borders.” [Woodburn, 2013: XII-XIII] The Russian philosopher, publicist and literary critic Nikolay N. Strakhov recapitulates: “It is certainly logical to attribute Russia and Europe to what is called the Slavophile school of our literature, since this book is based on the idea of the originality lying in the soul of the Slavic world. The book embraces this issue so deeply and fully that it could be called a catechism or codex of Slavophilism.” [Strakhov, 2013: XXXVIII]

Thus, there is a definite consensus among social prominent scholars and thinkers, that Danilevsky has masterfully conflated, laboriously substantiated (correctly or not), and magnificently aggrandized the main ideas of *Pan-Slavism*, *Slavophilism*, and of related schools of thought, as well as “weaponized” them, thus creating a *Bismarckian-type* theory of a hard-nosed *Pan-Slavic* “realpolitik.” Let us now look deeper into Danilevsky's thought process.

3. “Russia and Europe” as an attempt at great historiosophy

3.1. *Cultural-historical types as local civilizations*

Encyclopedia Britannica authoritatively informs us, that Danilevsky “was the first to propound the philosophy of history as a series of distinct civilizations.” [Danilevsky,

²⁰ François Marie Charles Fourier (1772–1837) – a French philosopher and one of the founders of *utopian socialism*. (Author's note).

²¹ *Phalanx* – a utopian socialist commune. (Author's note).

²² *Obshchina* (Russian for "commune") peasant village communities in Imperial Russia in the 19th and 20th century. (Author's note).

2021] The thinker publishes his classic book, initially as a series of articles, in a monthly literary and political journal *Zarya*²³ during the year of 1869.

Danilevsky is unhappy with canons of the contemporary to him, religion-based historic studies which claim a linear, teleological evolution of the world history, as well as a rigid division of it into “ancient,” “medieval,” and “modern” periods. As a natural scientist, Danilevsky is searching for a rational as opposed to a superficial method of study of the sociocultural world. In other words, he strives to offer a *Copernican-type* rather than a *Ptolemaic-type* system of social sciences, and he calls it a “natural” versus an “artificial” approach. [Danilevsky, 2013: 58–75]

The scholar identifies four categories of the sociohistoric activity in various societies: religious, cultural political, and socioeconomic [Danilevsky, 2013: 405]. In thinker’s view, those have given rise to ten *cultural-historical types*: Egyptian; Chinese; Assyrian-Babylonian-Phoenician; Chaldean or ancient Semite; Indian; Iranian; Jewish; Greek; Roman; neo-semitic or Arab; Germanic-Roman or European. [Danilevsky, 2013: 73]. According to the scholar, those and other advanced societies develop according to certain “laws of historical development”:

Law 1. Any tribe of family of peoples characterized by a separate language or group of languages with similarities that can be readily detected without deep philological investigation constitutes a distinct cultural-historical type, it has already grown out of its infancy and is inclined toward and generally capable of historical development.

Law 2. For the civilization of a distinct cultural–historical type to be born and develop, the peoples belonging to it must have political independence.

Law 3. The principles of civilization for one cultural-historical type are not transferrable to the peoples of another type. Each type produces its own, influenced more or less by foreign civilizations preceding or contemporary to it.

Law 4. The civilization of each cultural-historical type only attains fullness, diversity, and richness when its diverse ethnographic elements, independent but not combined into a political whole, form a federation or political system of states.²⁴

Law 5. The course of development for cultural-historical types closely resembles that of perennial plants that bear fruit only once, whose period of growth is indefinitely long, but whose period of flowering and bearing fruit is relatively short and exhausts its vitality once and for all. [Danilevsky, 2013:76]

²³ “Zarya” (In Russian: “dawn”) was published in Saint Petersburg, Russia in 1869–1872. (Author’s note).

²⁴ A correct translation from Russian would be “independent **and** not combined into a political whole, form a federation or political system of states.” See: p. 116 in Danilevsky, N. I. (2008). *Russia and Europe*. (In Russian). Moscow: Terra. (Authors’ note).

As it is clearly evident, Danilevsky consistently turns to the bio-organismic metaphors in his analysis of his *cultural-historical types*, which, in his mind, originate and develop similar to living organisms. Each type proceeds through the predetermined stages of youth, adulthood, old age, and demise. And, just like live organisms, Danilevsky's *cultural-historic types* are in a continuous competition with each other, as well as with the external environment. Thus, the course of history represents a process of displacement of one *cultural-historical type* by another. Stephen M. Woodburn comments on Danilevsky's natural science-influenced analytical approach:

Here his scientific career informed his politics. It is crucial to remember that Danilevskii the nationalist was first and foremost a naturalist (or what we now call a biologist), concerned with the proper classification of specimens by their inherent similarities or differences. His vocation provides the essential metaphor and the scientific-positivist outlook shaping his book. ...As a naturalist he was concerned with proper classification, grouping like organisms together on the basis of similarities. [Woodburn, 2013: XII]

As to *Europe* and the *Slavs*, Danilevsky believes that represent fundamentally different *sociohistoric types*. The scholar perceives the *Slavic sociocultural type* as an entity in its youthful prime and conceives a geopolitical agenda for its future. The plan involves integration of the Slavic peoples into a *Pan-Slavic Union* with its capital in Constantinople. As we already know from our imaginary meeting with Danilevsky on the shore of the Black Sea sometime in 1860s, in relation to the *New World* Danilevsky puts forward a similar idea of a forthcoming new and uniquely American *cultural-historical type* [Danilevsky, 2013: 192; 368]. Stephen M. Woodburn reviews for us Danilevsky's thought process:

The book can be divided into three sections. The first, chapters 1-7, develops his theory of the biology of nations to explain the disconnect between Russia and Europe, and compares his theory to other sciences – which progress from data collection to an “artificial system” or flawed paradigm that requires a “natural system” or improved paradigm to resolve its flaws – to justify his theory of cultural-historic types as a “natural system” of this kind for the study of human history. The second section, chapters 8-11, delves deeper into history to explain a series of differences or distinctions (*razlichii*) between the Germanic-Roman and the Slavic types: the difference in mental framework, the confessional or religious difference, and the difference in the course of historical upbringing. It concludes in an examination of Russian history diagnosing “Europeanism” (*evropeinichan'e*) as the sickness or syndrome afflicting Russia in its development forcing its growth into an unnatural course. The last section, chapters 12-17, concerns the Eastern Question (the host of

issues surrounding the decline of the Ottoman Empire and the fate of its territories and waterways), in which Danilevskii saw a coming shock that would jolt the Russian national spirit to awaken from its slumber, shake off this disease, and fulfill its historical destiny: to create a political federation of Slavic states with Russia at the head, bringing the Slavic cultural-historical type to fruition. The second and third sections account for Danilevskii's association with the Slavophiles and the movement known as Pan-Slavism, although this requires some context. While he did quote Slavophiles in the text and epigrams throughout the work, and while his friend Strakhov called the book a "catechism or codex of Slavophilism," Danilevskii pressed the romantic nationalism of the Slavophiles into the pragmatic mold of Bismarckian *Realpolitik*. [Woodburn, 2013: XXIV]

3.2. Criticism of Danilevsky's theory

Danilevsky is a true pioneer of the macro-level and the long-term sociocultural studies. In his classic book he laid the foundations of a number of scholarly areas of expertise. Practically all the scholars of global studies owe a debt of gratitude to him. The scholar brilliantly succeeds in criticizing the linear notion of the progression of world history and especially of the contemporary to him artificial division of it into the consequently arranged "ancient," "medieval," and "modern" periods. He correctly asserts that every society may have its own stages of the sociohistoric evolution. He also made mistakes since some of the most fundamental laws of the structure and the evolution of the sociocultural universe have been discovered only after his untimely demise during his last scientific expedition in 1885 [Sorokin, 1956, 1963, 1966, 1991].

For example, when it comes to the elaboration of the evolution of "life-careers" of the "cultural-historic types," his highly metaphoric bio-organismic concept understandably falters. Being a naturalist, Danilevsky "appropriates" his notions and concepts from the familiar, contemporary to him "toolbox" of natural sciences. He did not, not he could not take in consideration yet undiscovered properties, characteristics, and regularities, specific only to the sociocultural universe. As a result, his highly metaphoric schema of the structure and the evolution of the "cultural-historic entities" remained, in his own words, "artificial." Pitirim A. Sorokin addresses the structure of Danilevsky (and his followers) "artificial" paradigm of the sociocultural universe as follows:

The first fatal shortcoming of Danilevsky's, Spengler's, and Toynbee's conceptions (on this point) consists of their acceptance of their "cultural-historical type," High Culture, or "civilization" as a real unity, in the sense of either a causal or a causal-meaningful system. Like the so-called "functional anthropologists" and "totalitarian integrators," they assume

that the *total* culture of each of their “prototypes,” High Cultures, and “civilizations” is completely integrated and represents one meaningfully consistent and causally unified whole, thus making a sort of cultural supersystem that embraces in itself all the cultural phenomena of the Egyptian, Chinese, Appollinian, Magian, Faustian, or any other culture-civilization they mention. [Sorokin, 1963: 209]

Grounding his analysis in the fundamental *theory of social and cultural dynamics*²⁵ Sorokin further explains that “the Danilevsky-Spengler-Toynbee type, High Culture, or civilization is neither a causal, nor a meaningful, nor a causal–meaningful system, but rather a *cultural field where a multitude of vast and small cultural systems and congeries – partly mutually harmonious, partly neutral, partly contradictory – co-exist*. A part of the systems are meaningfully and causally connected to make vaster systems; a part are connected through causal ties only; a part only through indirect causal ties; and a large part are nothing more than spatially adjacent congeries. The totality of all these systems and congeries does not make any unified cultural system, whether Egyptian, Babylonian, Magian, or Mayan “civilization” or “culture-historical type.” (...) Thus all three scholars make the basic error of taking for a civilizational-cultural system something that is no unity at all. They crown this error by the further one of *mixing up the cultural and social systems (organized groups), and they display an additional inconsistency even in this operation*. After all, the Danilevsky-Spengler-Toynbee classifications are not so much classifications of civilizational or cultural systems as they are of social systems (organized groups).” [Sorokin, 1963: 213-214; 216]

As to the essential characteristics of theories which belong to the bio-organismic paradigm, Sorokin briefly summarizes them as follows:

First, the society or social group is a special kind of an organism in a biological sense of the word. Second, being an organism, society resembles, in its essential characteristics, the constitution and the functions of a biological organism. Third, as an organism, society is subject to the same biological laws as those by which a biological organism functions and lives. Fourth, sociology is a science which is to be based primarily upon biology. [Sorokin, 1956: 201-202]

The “life-careers” of groups and societies obviously differ from those of plants or living organisms. Sorokin notes referring to the fallacy of the organismic univariant life-course of their “civilizations”:

²⁵ See Sorokin, P. (1937–1941). *Social and Cultural Dynamics*. Cincinnati: American Book Company. 4 vols. (Author’s note).

The second mistake of Danilevsky, Spengler and Toynbee (in his earlier volumes) is their contention that the life-course of all civilizations runs one univariant “organic” cycle: They are all born, then grow, and eventually disintegrate and die. This unduly generalized model of the life-course of civilizations can, at best, be applied to some of the organized social groups as the central agency of each of their “civilizations.” (...) But in no way can the univariant model of birth, maturity, and death be applied to any of the “civilizations.” Since the total culture of each of these “civilizations” has never been integrated into one consistent system, it evidently cannot disintegrate. [Sorokin, 1966, 219-220]

Thus, as an attempt at grand historiosophy, Danilevsky’s work fails to meet the rigorous criteria of a contemporary scientific social research. The scrupulously elaborated by Danilevsky historiosophic schema, though impressive, is ultimately incorrect. While striving to discover a rational, “natural” theory, he was able to offer only a highly metaphoric, “artificial” theory of humanity’s historic evolution. As all metaphorical schemas, it can only “work” within certain limits and to a certain extent.

3.3. *New concepts*

As we have already observed, Danilevsky's book prefigured a number of theories in Oswald Spengler's “The Decline of the West,” Arnold Toynbee’s “A Study of History,” Carroll Quigley’s “The Evolution of Civilizations,” and multiple other important sociohistoric sources, essentially establishing the field of the *comparative theory of civilizations*. For example, continuing in the framework of the Danilevsky’s paradigm, Toynbee had proposed five main stages of the civilizations-societies evolution: *Genesis, Growth, Time of Troubles, Universal State, and Disintegration*. Quigley has expanded their number to seven: *Mixture, Gestation, Expansion, Age of Conflict, Universal Empire, Decay, and Invasion*. However, the model remained not only cyclical, which for the development societies is essential correct (they are all finite), but unnecessarily rigid.

Yet, there are ways to solve this problem. Using the results of contemporary fundamental social research, we have developed a “universal” model of the sociohistoric evolution of societies. In it, we not only increased the number of stages to nine, but also introduced a virtually unlimited amount of possible variations. It includes such stages as: *Emergence of Groups; Formation of Societies; Mixture; Gestation; Expansion; Conflict/Time of Troubles; Universal State/Empire; Decay, and Invasion / Implosion / Force Majeure* stages. A society (or a “civilization,” perceived as society) proceeds either through all or through a certain unique combination of those nine main stages.

It also incorporates the Toynbee’s *Hellenic, Chinese, and Jewish models*, the Toynbee’s later stage “arrest” and “petrification” stages, as well as various Toynbee’s

patterns of societal disintegration (“two-and-a-half beat,” “three-and-a-half-beat,” “four-and-a-half beat,” “five-and-a-half beat”), etc. One of the main characteristics of such a model is its flexibility. While including all of the stages proposed by Danilevsky, Leontyev, Spengler, Toynbee, Quigley, and others, it encompasses virtually unlimited variations of the societal evolution. [Alalykin-Izvekov, 2011: 107–114]

4. Legacy

4.1. Danilevsky’s ideas and contemporary political discourse

Despite its obvious to a contemporary social scholar flaws, Danilevsky’s book has become a rather successful “piece of political prognostication and prophecy,” thus making a considerable impact on philosophy of history, political theory, and the field of the *comparative theory of civilizations*, among others. In many ways, it also tangibly influenced the external policies of the declining Russian Empire in its waning years.

Marxism-Leninism-Stalinism has interrupted the trajectory of Russia’s development along the path of *Slavophilism* and *Pan-Slavism*, and for most of the 20 century propelled it down the road of “class struggle” and “world revolution.” Yet, after 70 years of embracing those policies, Russia may be now returning to Danilevsky’s paradigm of multiple *local civilizations (cultural-historic types)* as opposed to the universal, global civilization, and choosing “every civilization for itself” policies and strategies.

Scholars agree that Danilevsky’s *opus magnum* has played, is playing, and is likely to continue playing an important role in Russian intellectual history. For example, Danilevsky’s ideas may have resumed their influence on the contemporary political discourse. Let us see if we can discern the overtones of Danilevsky’s ideas in the national and ethnic agenda of the Russian President Vladimir V. Putin:

The Russian experience of state development is unique. Ours is a multiethnic society; we are a united people. This makes our country complicated and multidimensional and gives us unique opportunities for development in many spheres. However, when a multiethnic society is infected with the virus of nationalism, it loses its strength and stability. We must understand the far-reaching consequences of indulging those who are trying to incite ethnic strife and hatred towards people of other cultures and faiths. ... The Russian people are state-builders, as evidenced by the existence of Russia. Their great mission is to unite and bind together a civilization. (...) This kind of civilizational identity is based on preserving the dominance of Russian culture, although this culture is represented not only by ethnic Russians, but by all the holders of this identity, regardless of their ethnicity. It is a kind of cultural code, which

has been attacked ever more often over the past few years; hostile forces have been trying to break it, and yet, it has survived. [Putin, 2012]

The echo of Danilevsky's ideas may be also heard in recent statements of the Russian foreign envoys. On February 12, 2021, the top Russian diplomat mentioned that Russia is ready to sever ties with the *European Union* if the bloc would impose new, economically painful sanctions. He added: "If you want peace, prepare for war." [Lavrov, 2021] That same week German President Frank-Walter Steinmeier noted that "energy ties are almost the last bridge between Russia and Europe." [BBC News, 2021] Stephen M. Woodburn correctly recapitulates:

(...) It is worth persisting with this text because of its important place in Russian intellectual history of the nineteenth century, and its impact on the thinking of a growing number of twenty-first-century readers. Danilevskii provides essential background for Russian Pan-Slavism and Eurasianism, the ideologies best poised to inform Russian policy over the next decades. This makes a case for calling Russia and Europe the most important nineteenth-century book for the post-Soviet period, and thus an object worthy of further study by specialist and non-specialist alike. [Woodburn, 2013: XXV]

4.2. *What's next?*

Now, with our time machine soaring sky-high, let us take a view of the planet as a whole. We see that, presently, the world is in deep distress. Humanity is dealing with unprecedented challenges, which include overpopulation, resource depletion, and global warming [Targowski, 2009]. Starting in 2019, the world witnessed the *coronavirus pandemic COVID-19 pandemic* unleashing its terrific force on human communities, cities, and societies around the planet.

The pandemic has greatly amplified the already existing social, racial, ethnic, and economic disparities. Spurred by the pandemic, social tensions have ensued. [Alalykin-Izvekov, 2020; 2014]. The adequate and extensive sociocultural and socioeconomic reforms are needed to ensure the continuing viability of humanity as a whole. While Russia is "finding her roots," the *West*, not excluding its leading nation, the United States, may be experiencing a "midlife crisis" of its own. In the aftermath of *European Union Migrant Crisis (2014-Present)*, *Hurricane Katrina Calamity (2005)*, *Black Lives Matter Movement (2013-Present)*, *Coronavirus COVID-19 Pandemic (2019-Present)*, *Storming of the US Capitol by Insurrectionists (2021)*, *Texas Power Crisis (2021)*, *European Union Coronavirus COVID-19 Vaccination Debacle (2020-2021)*, it may

need to take a long and hard look at the civil, political, social, ethnic, racial, cultural, and human rights issues in its own realm.²⁶

As our analysis demonstrates, the Russian and the Western elites may be finding ourselves in rather different mental *civilizational paradigms*, and therefore, operating in different *civilizational frameworks*. While the Western elites tend to think and act in the universe of the Fukuyamian “*End of History*” paradigm of the liberal “universal” and “global civilization,” the Russian upper classes are inclined to think and act in the framework of the Danilevsky-type, “pluralistic” world of the multiple “local civilizations” (“cultural-historic types”). As a result, the present level of the relations between the West and Russia is dangerously low. The obvious and reasonable foundation for balanced and mutually beneficial relations between Russia and the *West* may be something that both sides can agree on. Such a foundation exists. It is the *Universal Declaration of Human Rights* together with other related documents, such as the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic Social and Cultural Rights*.

In his monograph on the origins and the evolution of the universal human rights, the American scholar Jack Donnelly postulates, “human rights have become a central, perhaps even defining, feature of our social and political reality. The vision of human dignity they reflect and seek to implement is accepted by almost all states as authoritative, whatever their deviations from these norms in practice.” [Donnelly, 2003: 61] The Universal Declaration and other UN documents enshrine the essential rights, values, and freedoms of all human beings. Created following the horrors of World War I and World War II, it was accepted by the General Assembly in Paris, France on December 10, 1948. The Universal Declaration model treats internationally recognized human rights holistically, as an indivisible structure in which the value of each right is significantly augmented by the presence of many others [Donnelly, 2003: 27].

The principal drafters of the Universal Declaration were representatives of many countries – Canada, France, USA, USSR, Lebanon, China, and Chile [Donnelly, 2003: 61]. All member states of the United Nations have either signed on in agreement with the *Universal Declaration of Human Rights* or ratified at least one of the nine binding treaties influenced by the Declaration, with the vast majority ratifying four or more.

²⁶ For history of problems with social, racial, and ethnic inequality in the *West* see, for example: Fredrickson, G. (2002). *Racism: A Short History*. Princeton and Oxford: Princeton University Press; Haney Lopez, I. (2006). *White by Law: The Legal Construction of Race*. New York and London: New York University Press; Montagu, A. (1964). *Man’s Most Dangerous Myth: The Fallacy of Race*. Cleveland and New York. The World Publishing Company; Whitman, J. (2017). *Hitler’s American Model: The United States and the Making of Nazi Race Law*. Princeton and Oxford: Princeton University Press; Wilkerson, I. (2020). *Caste: The Origins of Our Discontents*. New York: Random House. (Author’s note).

Presently, all involved sides, including Russia and the *West*, could substantially benefit from carefully re-reading those fundamental documents, as well as actually acting on them.

5. America: A *Hero Path* or a *Social Anomie*?²⁷

Together, we traversed a lot of geographical and temporal terrain. Presently, the clock is about to strike 12:00 noon on January 20, 2021, and we are finding ourselves within the select group of more than 1,000 guests spectacularly yet mindfully seated in a pandemic-conscious fashion around a specially designed inaugural platform at the west side of the Capitol Building. We see around us many familiar faces – former presidents and their families, Senate and House members, Supreme Court justices, as well as world-renown movie and stage celebrities. Being in the very midst of the nation’s and the world’s attention, Amanda continues with her prophetic and dynamic presentation:

We are striving to forge a union with purpose,
to compose a country committed to all cultures, colors, characters and
conditions of man.
And so we lift our gazes not to what stands between us,
but what stands before us.

In just a few moments Joseph R. Biden, Jr. will be sworn as the 46th president of the United States. In his address, the new *POTUS* will pledge to be a "president for all Americans" and outline a vision to “defeat the pandemic, build back better, and unify and heal the nation.” The challenges before the new leadership are enormous – reviving the economy, combating the climate change, restoring the multilateralism internationally, addressing immigration problems, and solving nation’s security troubles, both foreign and domestic. But, first and foremost – overcoming the pandemic. Just yesterday, on Tuesday, January 19, 2021, according to Johns Hopkins University health experts, the US coronavirus death toll has surpassed 400,000. And, it will continue to rise.

Yet, this nation had faced the enormous challenges before. Exactly 245 years ago, fifty-five men and one woman²⁸ signed an unprecedented document, which since then

²⁷ *Social anomie* – the condition of instability in a society, resulting from uprooting, breakdown, conflict, or lack of essential standards, values, beliefs, and ideals. From Greek word *anomos* – “lawless.” (Author’s note).

²⁸ Mary Katherine Goddard (1738–1816) – printer, newspaper editor and publisher, the postmaster of the city of Baltimore (1775–1789), and one of the signers of the *Declaration of Independence*. From her press, in January 1777, came the first printed copy of the *Declaration* with the names of the signers. Mary Katherine Goddard, like the majority of other signers, was a slave-owner. (Author’s note).

has become not only one of the most seminal pronouncements on the topic of the universal human rights, but also the engine of change throughout the world. Its second line boldly proclaimed: “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.”

That was of course, the *United States Declaration of Independence*, adopted by the *Second Continental Congress* meeting in Philadelphia, Pennsylvania on July 4, 1776. Those who signed it knew they were taking enormous risks. Less than a hundred miles from "The City of Brotherly Love" dozens of British naval ships with 22,000 British and German troops aboard have already swarmed the New York City harbor. The “Big Apple” was the “hinge” of the colonies, and the “red coats” have been preparing to ruthlessly squash the budding rebellion at its core. Subsequently, five signers were captured by the invaders as traitors, and tortured before they died. Twelve had their homes ransacked and burned. Two lost their sons in the revolutionary army, another had two sons captured. What followed this tumultuous beginning has been an incredible journey undertaken and enormous challenges overcome by this country and its people.

Amanda is now reciting the very last lines of her poem. In just 5 minutes and 723 words of an evocative cadence of her poetic verse, she managed not only to reflect on all 245 years of the nation’s eventful and complicated history, but also to reaffirm the redemptive power of the universal human ideals. And so, will this nation follow the path of wisdom and reconciliation with its past, or will it choose the road of strife and social unrest? As Amanda so wisely and eloquently expressing it now, it will depend on us. And so, let us listen:

(...) We will raise this wounded world into a wondrous one.
 We will rise from the gold-limbed hills of the west.
 We will rise from the windswept northeast,
 where our forefathers first realized revolution.
 We will rise from the lake-rimmed cities of the midwestern states.
 We will rise from the sunbaked south.
 We will rebuild, reconcile and recover.
 And every known nook of our nation and every corner called our country,
 our people diverse and beautiful will emerge,
 battered and beautiful.
 When day comes we step out of the shade, aflame and unafraid,
 the new dawn blooms as we free it.
 For there is always light, if only we’re brave enough to see it.
 If only we’re brave enough to be it.²⁹

²⁹ The quoted verses are from the poem "The Hill We Climb" by Amanda S. C. Gorman (Author’s note).

Conclusions

1. Nikolay Ya. Danilevsky is a major representative of the 19th century sociocultural, historiosophic, sociopolitical, and socioeconomic thought. His *magnum opus* “Russia and Europe” contains multiple layers of a thoroughly elaborated civilizational legacy. Among important sources for Danilevsky’s ideas are many seminal historic and contemporary theories, including such major schools of thought as *Pan-Slavism*, *Slavophilism*, *Pochvennichestvo*, and *Furierism*. There is a definite consensus among social scholars and thinkers, that Danilevsky has masterfully conflated, laboriously substantiated (correctly or not), and magnificently aggrandized the main ideas of *Pan-Slavism*, *Slavophilism* and related schools of thought, as well as “weaponized” them, thus creating a *Bismarckian-type* theory of a “hard-nosed” *Pan-Slavic* “realpolitik.”
2. However, as an attempt at great historiosophy, the work fails to meet the rigorous criteria of the contemporary scientific social research. The scrupulously elaborated by Danilevsky highly metaphoric historiosophic paradigm, though impressive, is ultimately incorrect. It offers, in his own words, an “artificial” theory of humanity’s historic evolution. As all metaphorical constructs, it can only “work” within certain limits and to a certain extent. It is not scholar’s fault since many important laws and regularities of the structure and the evolution of the sociocultural universe have been discovered only after his untimely demise in 1885. Despite its obvious to a contemporary social scholar flaws, Danilevsky’s book has become a rather successful “piece of political prognostication and prophecy,” thus making a considerable impact on philosophy of history, political theory, and the field of *the comparative theory of civilizations*, among others. In many ways, it also tangibly influenced the external policies of the declining Russian Empire in its waning years.
3. Danilevsky's book prefigured a number of theories of other prominent social scholars, essentially establishing the field of the *comparative theory of civilizations*. However, his and his followers models remained not only cyclical, which for the development of societies is essential correct (they are all finite), but unnecessarily rigid. Using the results of contemporary fundamental social research, we have developed a “universal” model of the sociohistoric evolution of societies. In it, we not only increased the number of stages, but also introduced a virtually unlimited amount of possible

variations. Since one of the main characteristics of our model is flexibility, it encompasses a virtually unlimited amount of variations of the societal evolution.

4. *Marxism-Leninism-Stalinism* has interrupted the trajectory of Russia's development along the path of *Slavophilism* and *Pan-Slavism*, and for most of the 20 century propelled it down the road of "class struggle" and "world revolution." Yet, after 70 years of embracing those ideologies and based on them policies, Russia may be now returning to Danilevsky's paradigm of multiple *local civilizations (cultural-historic types)* as opposed to the *universal, global civilization*, and choosing "every civilization for itself" policies and strategies. Scholars agree that Danilevsky's *opus magnum* has played, is playing, and is likely to continue playing an important role in Russian intellectual and sociopolitical history. Providing an essential basis for the *Russian Pan-Slavism and Eurasianism*, it may influence Russian ideological paradigms and policies for the decades to come.
5. At the same time the *West*, not excluding its leading nation, the United States, may be experiencing a "midlife crisis" of its own. In the aftermath of the *European Migrant Crisis (2014-Present)*, *Hurricane Katrina Calamity (2005)*, *Black Lives Matter Movement (2013-Present)*, *Coronavirus COVID-19 Pandemic (2019-Present)*, *Storming of the US Capitol by Insurrectionists (2021)*, *Texas Power Crisis (2021)*, and *European Union Coronavirus COVID-19 Vaccination Debacle (2020-2021)*, it may need to take a long and hard look at the civil, political, social, ethnic, racial, cultural, and human rights issues in its own realm. In particular, the US has to choose the path of wisdom and reconciliation with its past, versus the road of strife and social unrest.
6. As our analysis demonstrates, the Russian and the Western elites may be finding ourselves in rather different mental *civilizational paradigms*, and therefore, operating in different *civilizational frameworks*. While the Western elites tend to think and act in the universe of the *Fukuyamian "End of History"* paradigm of the liberal "universal" and "global civilization," the Russian upper classes are inclined to think and act in the framework of the Danilevsky-type, "pluralistic" world of the multiple "local civilizations" ("cultural-historic types"). As a result, the present level of the relations between the West and Russia is dangerously low. The obvious and reasonable

foundation for balanced and mutually beneficial relations between Russia and the *West* may be something that both sides can agree on. Such a foundation exists. It is the *Universal Declaration of Human Rights* together with other related documents, such as the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic Social and Cultural Rights*.

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Turin Shroud and the law of informational spacetime: $E = i mc^2$

Rudolf Klimek¹

Туринская плащаница и закон информационного пространства-времени:

$E = i mc^2$

Рудольф Клидек

Each person resonates to every word, if he understands it and wants to know how much he can use the thinking and understanding speech done in completely different situations^{1,2}. My philosophy of cosmic being promotes the information medicine so that everyone could understand the primary significance of own and social health along with importance of caring about the world inhabited by people. The existence of information rays was proved by experimental documentation of sight's nature as integrated part of reality which can be revealed by intellectual observations. **Information rays** pass through all **informational spacetime (information pattern field)** without obstacles and interact with matter and energy according to the quantum principle of equivalence $E = i mc^2$, e.g. natural laws of fertility and carcinogenesis links applied medicine with modern technology^{3,4}. The most dangerous is the constantly increase of abnormal courses of pregnancy and birth also due to iatrogenic procedures by neglect of assistance in actual preterm labour before true individual term, or even worse – by preterm labour induction⁵⁻⁸. Also the most important **Jesus' self-portrait as informgraph was created by the resonance of His informational rays with an information pattern of covering layer of burial cloths without affecting further layers of shroud**. Humans view their own consciousness as the non-material motivation for their lives and actions according to their own values of social life and livelihood. A lot of information is passed on as true and correct, but not always is known who has created it and for what reason, or in what surroundings it manifests itself.

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**Review of Kiyokazu Nakatomi's
Nothingness and Love of Japanese Philosophy
(Beyond the difficulties of the Corona Crisis)**

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(ISBN 978-620-2-79966-9)

Makoto Ozaki¹

**ОТЗЫВ О КНИГЕ КИЁКАЗУ НАКАТОМИ
Небытие и Любовь в японской философии
Макото Одзак**

Nakatomi's new book is the third one written in English and shows a new trend in the Japanese intellectual history attempting at wide spreading out into the world the Kyoto School philosophies represented by Nishida, Tanabe and Watsuji, by expressing their thoughts in the current world common language. As the eminent French biologist and philosopher Prof. Dr. George Chapouthier recommends, Nakatomi's book pursues a possible synthesis of western and eastern philosophy on the basis of the Buddhist and Taoist traditional principles of Emptiness and Nothingness which are never sheer nothingness but rather the ultimate reality of all phenomena without its own substantial being, and this attitude may be the inheritance of the past philosophers as the Japanese traditional intellectual trait which compounds the different elements of ideas in a single system of thought. Another principle of love is also common to Tanabe who emphasizes the self-sacrificing love represented by Jesus Christ as well as the Bodhisattva's practice to save other people before reaching his own enlightenment, and this may be somehow influenced by Christianity imported into modern Japan. In fact, Tanabe himself demonstrates Christian theodicy from his own dialectical logic of species. It is of significance today to research into Christian theology in comparison to and integration with Buddhist philosophy as the globalizing tendency, and Nakatomi too is not exempted from this historical situation in his dare account of a possible unification of the three big religions as mentioned in his book.

While Nakatomi explains Aristotle's idea of movement as the transition from potentiality (*dunamis*) to actuality (*entelecheia*), Tanabe is critical of this Aristotelian view as still being involved in the logic of self-identical being in opposition to the self-negating conversion which is entailed by the perpetual self-emptying activity of Emptiness itself. Tanabe's criticism of Aristotle's logic of self-identity of being extends to Hegel and Heidegger as the descendants of Aristotle, and this distinction between Tanabe and western philosophers is crucial even for Nishida's logic of self-

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identity in absolute contradiction. Tanabe criticizes Nishida's Absolute Nothingness as Place or Topos for turning out into Absolute Being in the end.

In Tanabe's view, Aristotle makes a distinction between activity on the level of the individual subject and movement pertaining to the substantive being, and the continuity of the movement from the past is negatively mediated by the individual subjective activity in the present as the actualization of potentiality, i.e., complete actuality (*entelecheia*). The actualization of potential essence is brought about by the subjective activity, and this is the crucial point of Tanabe's triadic logic of species in connection with the individual and universality as the dialectic of negative mediation attaining to the universal state existence for all humankind in the form of species qua genus. So, it is not constrained to the nationalistic state existence in the narrow sense in its true intention in retrospect.

Inasmuch as for Aristotle activity (*energeia*) is in conformity with movement (*kinesis*), for Tanabe *eidos* can become the living active life only in the developing movement which is mediated by the matter as the historical substratum. Only through the mediation of the subjective action is the historical substratum perpetually renewed as a unity of the relative and the absolute that is both two and one, as it were.

The main point of the logic of species is, in my view, the dialectical unification of the individual, the state existence on the level of species, and the genus-like universality in and through negative mediation; in particular, the state existence is the substratum in relation to the individual's subjective action as the species in which the genus-like universality is concretely realized. After the WW2, Tanabe revised the significance of the state existence in terms of the expedient being which is not absolute as such.

In my view, one of the richness and depth of Tanabe's intellectual activity might be the forgotten significance of repentance for sin and evil, *metanoia*, even in relation to the current global crisis of the biological threat. The issue of evil is one of the main points of the logic of species as radically involved in both human persons and the state existence, upon which Tanabe is not optimistic but serious enough in line with Kant, and this problem is to be much more discussed in connection with the nascent global crisis even in a wider perspective of Taoist inactive naturalness as well.

Anyway, to interpret a text is to clarify its deeply hidden meaning, as Gadamer holds, and hence, it might be highly significant to explicate the fertile implications and connotations of Tanabe's thought and further develop them into the possible solutions of the world problems.

What is important is not sticking to the letters on the surface but understanding of their spirit in depth, as Tanabe emphasizes (*From the scheme of time to the scheme of the world*), for the purpose of perpetually constructing a relevant theory to the contemporary world beyond the historical limitations by integrating the new different elements such as the theory of the big bang, the expanding universe, dark matter, dark energy, etc., on the basis of the metaphysical and ontological principle of Absolute Nothingness as the dialectic.

As Nakatomi duly points out, Tanabe exposes himself to the self-contradiction regarding his advocacy of Shinran's way of *metanoia*, and this seems to me to be a tentative escape from his failure of justifying the state existence as the appearance of the Absolute analogous to Christ or Bodhisattva to the imaginary authority of the mythological Buddha far from the actual world as a shocking reaction to the unexpected defeat of the war. Even if so, however, independently of his dependence on Shinran, repentance for sin and evil as such is fundamental in both Christianity and Buddhism, for even the state existence is regarded as the expedient being which is neither good nor bad in itself, and its value depends on the free subjective acts of the individuals in his later revision. The duality of species should be more carefully articulated with reference to Tanabe's revised logic in which repentance for sin and evil plays an essential role, otherwise it would be unfair in dealing with his whole structure of thought.

It might be rather easy to accuse someone of its failure which is reflective of the historical actuality of its own age afterwards, and anyone cannot transcend the historical limitations. As Hegel famously remarks, a philosopher is not a prophet but the son of his age, and Heidegger indicates that humans err and errancy dominates human beings through and through. Hence, repentance is the necessarily indispensable element of human action in general. One should refrain oneself from drawing a hasty conclusion but rather learn more about the thinking way profoundly concealed of the philosopher in question in expecting a fruitful dialogue and construction in the future by virtue of disclosing the originary essence of truth forgotten so far.

The problem is why Tanabe fails to justify the state existence, and this is, in my view, inevitably connected with the long history of Japan in which the mentality of Japanese people at large has been formed, especially intimately related to the emperor system having been established since the ancient time. Apart from the historical context, the problem of the state existence in modern Japan might not be resolved. The Kyoto School philosophy is not an abrupt emergence but the historical accumulation contiguous with the previous ages in which Confucianism, Taoism, Buddhism, and Neo-Confucianism as a new synthesis of them have been superposed as the underlying substratum. Within this historical framework, Nishida, Tanabe, and Watsuji display respective integration of diverse ideas in their own constructive efforts, particularly, in confrontation with western philosophy.

In the last days, Tanabe was engaged in interpretation of the Mallarme's symbolic poem on the relation of freedom and destiny in terms of the triadic logic of absolute negation with the aid of Heidegger's key concept of *Ereignis* which is translated into the moving or dynamic origin in contrast to many other interpretations of the static sense. This might be an acutely distinguished point referred to his article dedicated to Heidegger whose position is seen as still in the bondage of western traditional idea of Being from Tanabe's viewpoint of dialectic of death. Moreover, Tanabe mentions the hidden link between the poet Rilke and Heidegger in anticipation of a new era in which the last God shall arrive as the retrieval of the primary origin concealed so far, though

Tanabe does not explicitly know about the last God during his life-time due to Heidegger's unpublished work concerned with the last God. These issues should be more closely elaborated from a comparative perspective beyond Nakatomi's touching upon Mallarme.

Anyway, the endeavors made by Nakatomi might be contributing to a further advancement of a higher unity of eastern and western thought in a comparative and synthetic manner.

The aim of this book is the development of Japanese philosophy and the overcoming of the corona problem, which is currently the biggest issue. Regarding Japanese philosophy, I treated the philosophies of Kitarō Nishida, Hajime Tanabe, and Inazō Nitobe. The philosophy of Nishida begins with Pure Experience and ends with Absolute Nothingness. This nothingness is the flow of life that originates from the nothingness of Lao-tzu in ancient China and the energy that fills the universe. This idea is the basis for the Creation from Nothingness in physics. On the other hand, nothingness works in our thinking as a negative word. It was the philosophy of Tanabe that thoroughly enforced this negativity and preached the Absolute Dialectic based on dialogue. In response to this theoretical philosophy, Nitobe spread the traditional Japanese concept of "Bushidō" to the world by using the European philosophy. I now ask, is it possible that Japanese philosophy can respond to contemporary problems? The answers are in my papers on education, economics, brain physiology and the corona crisis. Infectious diseases bear philosophy. It is the time when a new philosophy is born.



Kiyokazu Nakatomi

Nothingness and Love of Japanese Philosophy

Beyond the difficulties of the Corona Crisis



Kiyokazu Nakatomi was born in Japan in 1955. He studied politics and economics at Meiji University, Tokyo and now he works at Chiba Prefectural Matsuo High School as a social study and ethics teacher. He is the author of "Philosophy of Nothingness and Love" (Hokuju Company Tokyo, Lap). His papers are published in 10 languages in 17 countries.



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Nothingness

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