Dombrádi, Krisztián PhD

krisztian@dombradi.com
researcher (MTA-SZTE Oral History and History Education Research Group)

Opinion.

They have separated "real science" and faith – but found no answer to the main question



ABSTRACT

Recently an addition to charles darwin's theory of evolution has received a considerable international publicity, titled: on the roles of function and selection in evolving systems.¹ "motion, gravity, electromagnetically charged fields, and the principle of interactions described by the second law of thermodynamics energize universal evolution," they argue but it is not quite clear why they did not start from an autopoietic theory that describes complex natural and social subsystems without contradiction? this would have the explanatory power to bridge the gaps in darwin's theory of evolution in a more elegant way.

Keywords

Autopoietic systems, Faith, Adaptation, Prolonged evolution, Depression, Reuptake, Self-healing.

DOI 10.14232/belv.2024.1.15 https://doi.org/10.14232/belv.2024.1.15

Cikkre való hivatkozás / How to cite this article:

Dombrádi, Krisztián (2024): They have separated "real science" and faith – but found no answer to the main question. Belvedere Meridionale vol. 36. no. 1. pp 203–211.

MICHAEL L. WONG - CAROL E. CLELAND - DANIEL AREND JR. -STUART BARTLETT - H. JAMES CLEAVES II -HEATHER DEMAREST - ANIRUDH PRABHU - JONATHAN I. LUNINE - ROBERT M. HAZEN. (16. October 2023.) On the roles of function and selection in evolving systems. in: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES. HTTPS://www. PNAS.ORG/DOI/10.1073/PNAS.2310223120

ISSN 1419-0222 (print) ISSN 2064-5929 (online, pdf)

(Creative Commons) Nevezd meg! – Így add tovább! 4.0 (CC BY-SA 4.0) (Creative Commons) Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) www.belvedere-meridionale.hu

Darwin's theory leaves to chance the emergence of new capacities essential for survival. These abilities prove their indispensability by being passed on by the living organism to future generations.²

The new theory of the history of origins and evolution has finally brought natural scientists, who had been studying the origin and evolution of life for centuries, out of their intellectual paralysis.

But this theory calls for patience as well. It takes us on a journey of individual evolution without letting us know how the world came about. Darwin's genius lies in the fact that, despite this pitfall, he describes a future vision of a self-functioning system. Children could draw the *homo sapiens* without any prior study. The idea of how species change was complemented by the idea of adaptation, which determined the direction and manner of change, simply and clearly. But not without consequences. Religion was juxtaposed with scientific thinking, atheism became synonymous with pragmatism knowing the real sciences – faith became a metaphor for ignorance.³

Faith is essential to understanding life born of dust and mud. Darwin was irrefutable for the creativity of his theory describing the process of individual evolution, yet some of his critics questioned his theory.⁴ How can a 'living' organism repel a frontal assault from the extremes of its environment?

For all the creativity of scientific atheism and evolutionary theory, they failed to describe the first moment of life's emergence, or even to provide insights into the boring daily routine of species adaptation. It also pushed 'real science' and faith, the science of the soul, as far apart from each other as possible. The description of the laws of nature remained incomplete – and this creative tenet of biology became a matter of faith.

We must start from nature's rules, its capacity for renewal and self-healing.⁵ We must presuppose the existence of all sensible substances and recognise their interdependence. The subsystems of nature and society have created for themselves an overarching rule that has determined not only the near future but also the unforeseeable on a human scale.

The evolution of man as an individual came to the centre of evolution because men sought the origins of human existence. Throughout his life, man has resolves countless contradictions. His conflicts may be emotional, existential or transcendental.

In reality, autopoietic systems⁶ that work well in theory already turn a blind eye to the contradictory nature of processes in every aspect of existence – which would defeat the very purpose

² Oldroyd 1986. 133–168.

³ Livingstone 2009. 348–369.

⁴ Behe 1996. Darwin's Black Box.

⁵ Cremaldi – Bhushan 2018. 907–935.

⁶ GIDDENS 1984; LUHMANN 1995; MINGERS 2002, 2004a. 278–299.

of this holistic approach? Do we think that nature does not correct itself, that cells and communities cannot recover from a disease? We know this is not true!⁷ The living cell has this capacity. Nevertheless, this appealing theory has given a major role to natural knowledge produced in synchrony with man, which is an inseparable speciality because of its uniqueness.⁸

THIS IS BELIEF

The power of this personal end product lies in its uniqueness and intimacy. In modern society, religion is already a social subsystem, which is then so complex that a separate science, theology, has been built around it. Faith, of course, has also been forced to undergo one of man's devastating simplifications: it has been institutionalised over the centuries. It is now a religion, which continues to have elemental force because it is personal. A religious man may know the history of his faith, he may have already come across a written codex of one of the world religions, he may have read it, and even less often he may have quoted it. But this is not what determines the ability of his faith to heal the mind and body. The power of this personal end product lies in its uniqueness and intimacy, shaped by the demands of its physical and spiritual environment. In the collective process that has been going on since the ascension of man, and which has been completed in a single lifetime at a lightning speed, it becomes the most intimate inner creation of a believer. But it also holds other surprises.

Faith and religion are not identical; their sources are, but while faith is imperceptibly organic, the institutionalised, demonstrative, orthodox version of religious practice creates violence. both are inexplicable creations of the brain.

Religion, most people think, is a bridge. (The masses of modern society are alienated from religion by its bondage, callousness and poor sense of humour.) Religion and faith have become a controlling, healing, emotion-generating structure, completed and shaped to our own needs, still today, but almost certainly forever, unknowable from man's point of view. We do not know how it works, nor will we. Not because it is none of our business. To know it is not remote, but impossible and unjustifiable.

For centuries there has been a debate about whether people make decisions with their hearts or with their brains. At the infantile age of his development, the heart was still attributed this role, only because it sometimes had a rapid pulse or a labored breathing. This theorem has held for centuries. Only modern science has been able to 'disprove' it - at least in its belief. The arguments in favour of the brain's role in controlling the body's activity have been mounting.

In a layman's mind, it would be able to alleviate disease. ¹¹ Take the example of depression, which can have many causes: external environmental, genetic, but also due to an imbalance in neurotransmitters. ¹²

⁷ REYA et al. 2003, 423

⁸ Zeleny 2006; Hall 2005. 3.

⁹ Beyer 1998. 45. 1–29.

¹⁰ Levin 2009, 77–96.

¹¹ Luo – Yu 2015. 6.

¹² Beck - Alford 2009.

In addition to the known neurological processes, the hormonal system also has an impact on the development of depression. The *sella turcica* is located in the dorsal fossa of the skull, the two lobes of which produce different hormones and perform different functions. The posterior lobe stores and secretes oxytocin (anti-anxiety and euphoric) and vasopressin, while the anterior lobe produces growth hormone and influences processes related to sexual function, metabolism and stress management. Pituitary function is influenced by higher nervous system centres, signals from the periphery, environmental influences, nutrition and stress.¹³

The antidepressants developed on the basis of this knowledge have been given a "complex" task: to block the escape route of serotonin, noradrenaline, dopamine (neurotransmitters, "chemical messengers"), which are responsible for mood changes, leaking back from the "synaptic cleft".¹⁴

Drugs that block the killer protein slow down the reflux of neurotransmitters, delaying their "reuptake". For the sake of accuracy, we should add that the breakdown enzymes affect the function of a protein responsible for the reuptake of dopamine and serotonin from the gap into the neuron (the molecule is not broken down, it is just recycled, in order to be secreted back into the gap later, to enhance the transmitter's effect.)

The drugs take a week or two to prove whether they reduce the chances of developing depression. The drug closes the "synaptic gap". But the brain, why does it not reduce the chance of depression developing, or dampen its power once it has developed? (As a reminder, the cause of depression is not just hormonal: genetic and environmental influences also contribute to its development.)¹⁵

Yet why doesn't it narrow the "synaptic gap" on its own, without the administration of medication? Why not turn on its heels and slow down the reuptake? Researchers have come up with different solutions (SSRI, SNRI drug classes have been developed.) This has given a "helping hand" to a brain that does not seem to be up to the task. 16

Remember, depression is a very complex symptom: the brain's hormone production is far from being solely to blame for its development (humans are a fragile, power-hungry, closed organism, often unable to fight off attacks from the outside environment. Once in trouble, the wounded person can hardly accept even emotional help.)¹⁷ A closed 'self-referential system', which has been much discussed, can lose its vitality and even its faith. The link between depression and hormones was not superfluous, because the analogy between the legendary 'autopoietic' system, which is sensitive and responsive to the environment, and evolution is striking, but we do not understand: if evolution is a magic bullet, why do diseases exist, or how can depression, for example, develop? Which we may have been able to show: the organism could alleviate it, or reduce the chances of it developing, because it has evolutionary knowledge (belief, "master program", whatever you want to call it) that was created at the same time as man, it has this experience.

If we adopt a holistic (autopoietic) view, where all events are closely causally linked, we can rule out the possibility that the brain and our hormone-producing, controlling organs are doing

¹³ Van Praag 2004. 891–907.

¹⁴ Delgado 2004. 25–34.

¹⁵ Nestler 2002, 13–25.

¹⁶ Biringer et al. 2009; Pigott et al. 2010. 164–174.

¹⁷ Boas et al. 2019.

their job wrong. They are doing what they are supposed to do. Doubtful, are we even investigating what is worth investigating? (Medical and biological science is now capable of correcting, in some cases, the errors of living things in the current state of evolution. Once recognized and learned.) The doctor heals the patient. It is also not true that there is no research on fundamental questions. But the relationship between the body and evolutionary knowledge (belief) is not understood, not researched. The question itself gives the appearance of ignorance. Even today.

Let us repeat: "We don't understand because it is none of our business. Its knowledge is not remote, but impossible and unjustifiable."

Faith is the most intimate special knowledge, born at the same time as man, personalized as a result of evolutionary development, which does not control hormone production – but induces important biochemical reactions.

(We know such a consequence of emotional waves, but we do not yet see deeper.) The name transcendent is also a misnomer, because it is not otherworldly, but immanent. Its existence and role cannot be questioned.

Why do the nerve cells not "knock out" depression by increasing the production of serotonin and noradrenaline?

This is the real dilemma. It would be a life-saver in the case of depression that triggers a chronic symptom complex. Let's repeat. "Because there is no cause is our business. To know it is not only remote, but impossible and unjustifiable."

Scientific thinking cannot be separated from faith, these two sciences have been artificially set in opposition to each other in order to protect the theory of evolution, although in fact they are inextricably linked, like a program to a means of production. They arose side by side, in synchrony. They are evolutionary products, relying on each other to do all they can to sustain human life and the viability of species.

If the physiological impact of these phenomenological mosaics of decisive force in Charles Darwin's theory had been proven by basic research, if they were more than mere hunches (embedded in a logical system), the theory would have been stronger.

Acting in the living cell, or looking into the past, into the future, into the clear night sky: pondering the unmitigated force upon man and the earth, we understand: everything happens for a reason, and if we look beyond the narrow limits of our knowledge, even if we search blindly, we can plot the irregular elliptical orbit of a planet. Because we know the forces at work at a distance, the effects of which can be felt even here, close to the Earth. Man can see no further than this. You could say that's not a small thing, but you'd be wrong. It is nothing. It's pointless to design a space shuttle with nowhere to go.

"Save time and multiply your chances of living?" – the image of a spacecraft landing safely on a tail on a wobbly platform cannot give that illusion. Until the infinity of distance, the fact of perceived scientific inertia, is disproved by the same science - validly and adequately - we will increase our chances of living by repeating what we have.

The success of an individual's evolution is also very much a function of time: the faster it takes for the most stable individual of a species to evolve, the less evolutionary pressure it is under, the greater its chances of survival.

If this process is prolonged to an extreme, the chances of this stable form evolving are reduced due to competition between species or environmental changes. It is likely that the chances

of species survival will be improved if a narrower spectrum is attempted. The success of the prolonged evolution of an infinite number of species over an infinite time, left to blind luck and chance, is almost impossible.

"Why did Darwin leave the renewal of species to pure chance?"

These inherent (inherited and acquired) knowledge are a programme to ensure the shortest possible scenario of adaptation. We now assume that the creation of new mutations across the stage boundaries of individual evolution takes place faster than we had imagined (through the evolutionary knowledge available in the brain). It is incomprehensible why Darwin left the renewal of species to pure chance. For this would stretch the evolution of the phylogeny to infinity, which would radically reduce the chances of improving the survival of species.

The knowledge, which is made up of intuitions, individual knowledge composed by collective and personal past, can be called "guiding faith".

"Why don't the nerve cells produce more dopamine, serotonin, if they could alleviate the suffering of the depressed patient? (It would not eliminate the complex underlying causes of his illness.)

The question can be answered without much effort. At first glance, the process of evolution seems very simple, so it has quickly become part of the public discourse. A comprehensive formula for change and natural processes. Its uniqueness and creativity made it an unpleasant and well-trained opponent.

We still haven't answered the question. Why don't the nerve cells immediately rush to the aid of the depressed patient with a little extra serotonin and dopamine production? Not because they are not programmed to do so, but to maintain species, not to cure individuals or correct diseases. Why did the revolutionary theory explain everything without being asked? It is because the proponents of scientific thought have forcibly extended its reach, public discourse has forced Darwin's logic, and a creative scientific approach has been surrounded by a smaller obscurity, contrary to the scientist's intention:

As an overarching explanation, it has become the dominant one in describing the interactions of man and nature. It is likely: Darwin did not design it for this purpose. Or he was considering: how much scientific creativity was needed to overturn his theory. Unpredictable. Then he let it go. His success was guaranteed.¹⁹

He was too successful! Let's look at homo sapiens and his successors! First, man gathered some tree branches and set them on fire. A little later, on the time horizon of the Earth's history: with his tail, he formed a vehicle landing on the waves of the waves, which, after leaving the planet's atmosphere, lost power and returned, and thanks to the mastery of high mathematics, after many attempts, finally landed successfully in a revolutionary new position: with his tail. But why?

Surely the rocket doesn't land back on its tail, because we think it doesn't make sense. (If it does, there's a big problem.) Obviously, this statement is disputed by many. These ideas are seemingly far apart, but they are part of the story of evolution.

The adaptive, self-healing capacity of the body is not inferior to that of the soul, which is open to all solutions, not for the individual but for the whole species, in the hope of a

¹⁸ Falk 1988; Dennett 1995. 61–94.

¹⁹ Mayr 1991. 123–139.

predictable and potent future. It programs itself again and again. This knowledge community created (belief), participated in collective evolution, and was later institutionalized by humanity. Even the atheist does not deny, he feels some kind of faith (no wonder, since for him this knowledge is not transcendent, but immanent, this knowledge is this worldly). It is a program that has been living in the deep layers of bodies for thousands of years, changing. It is designed to guide.

Bad news. In the turbulence of a complex modern society, it is slowly unable to perform its task, nor to keep up with the pace, to switch to the tempo of modern society. It was not designed for that! It cannot put a substantially renewed programme into operation within a generation or two. In a turbulent world, it can correct the fluctuations of body and soul. Quickly put pressure bandages on spiritual wounds.

In Europe, the proportion of people who consider themselves religious is falling year by year, according to self-report surveys.²⁰ People are beginning to lose their sense of coherence and can become unbalanced. The individualism and gross irrationalities of modernity are already testing evolutionary knowledge. The main problem is that our capacity for evolution and adaptation is no longer a defence in this turbulent environment.

Alienation, man's loss of contact with his natural group-mates, his insensitivity to nature, the generalisation of all these things, are far greater dangers than the launching of a tactical nuclear bomb on the Russian-Ukrainian front.²¹

Man has come to understand the complex interconnectedness of life on earth (its autopoietic aspect). It presupposes the existence of guiding knowledge evolving in parallel in the force field of evolution. But can Darwin's infinite evolution of the individual, which destroys the chances of survival, be true? Rather, it was this particular knowledge that kept the fast-moving evolution on course, that spared it from dead ends. But it is no longer immune to the self-destruction of modern society.

REFERENCE

BECK, AARON. T. – ALFORD, BRAD A. (2009): *Depression: Causes and Treatment*. University of Pennsylvania Press.

BEHE, MICHAEL (1996): Darwin's Black Box: The Biochemical Challenge To Evolution.

BEUTEL, MANFRED E. – KLEIN, EVA M. – BRÄHLER, ELMAR – REINER, IRIS – JÜNGER, CLAUS – MICHAL, MATTHIAS – WILTINK, JÖRG – WILD, PHILIPP S. – MÜNZEL, THOMAS – LACKNER, KARL J. – TIBUBOS, ANA N. (2017): Loneliness in the general population: Prevalence, determinants and relations to mental health. *BMC Psychiatry* vol. 17. article no. 97. https://doi.org/10.1186/s12888-017-1262-x

BEYER, PETER (1998): The Religious System of Global Society: A Sociological Look at Contemporary Religion and Religions. *Numen* vol. 45. no. 1. 1–29. https://doi.org/10.1163/1568527981644419

²⁰ Burkimsher 2014. 432-445., Brenner 2016. 563-583.

²¹ CACIOPPO ET AL. 2014; BEUTEL ET AL. 2017; SMITH - VICTOR 2019. 1464-1504.

BIRINGER, Eva – Rongve, Arvid – Lund, Anders (2009): A Review of Modern Antidepressants' Effects on Neurocognitive Function. *Current Psychiatry Reviews* vol. 5. no. 3. 164–174. https://psycnet.apa.org/doi/10.2174/157340009788971137

Brenner, Philip S. (2016): Cross-National Trends in Religious Service Attendance. *Public Opinion Quarterly* vol. 80. no. 2. 563–583. https://doi.org/10.1093/poq/nfw016

BURKIMSHER, MARION (2014): Is Religious Attendance Bottoming Out? An Examination of Current Trends Across Europe. *Journal for the Scientific Study of Religion* vol. 53. no. 2. 432–445. https://doi.org/10.1111/jssr.12111

CACIOPPO, STEPHANIE – CAPITANIO, JOHN P. – CACIOPPO, JOHN T. (2014): Toward a neurology of loneliness. *Psychological Bulletin* vol. 140. no. 6. 1464–1504. https://doi.org/10.1037/a0037618

CREMALDI, JOSEPH. C. – BHUSHAN, BHARAT (2018): Bioinspired self-healing materials: Lessons from nature. *Beilstein Journal of Nanotechnology* vol. 9. no. 1. 907–935. https://doi.org/10.3762/bjnano.9.85

DELGADO, PEDRO L. (2004): How antidepressants help depression: Mechanisms of action and clinical response. *The Journal of Clinical Psychiatry* vol. 65. no. 4. 25–30.

Dennett, Daniel C. (1995): Darwin's Dangerous Idea. *The Sciences* vol. 35. no. 3. 34–40. https://doi.org/10.1002/j.2326-1951.1995.tb03633.x

FALK, RAPHAEL (1988): Darwin's Theory of Evolution as a Science. *Poetics Today* vol. 9. no. 1. 61–94. https://doi.org/10.2307/1772888

GIDDENS, ANTHONY (1984): The Constitution of Society: Outline of the Theory of Structuration. University of California Press.

HALL, WILLIAM P. (2005): Biological nature of knowledge in the learning organisation. *The Learning Organization* vol. 12. no. 2. 169–188. https://doi.org/10.1108/09696470510583548

LEVIN, JEFF (2009): How Faith Heals: A Theoretical Model. *EXPLORE* vol. 5. no. 2. 77–96. https://doi.org/10.1016/j.explore.2008.12.003

LIVINGSTONE, DAVID N. (2009): Evolution and religion. Ruse and Travis. Harvard University Press. 348–369.

LUHMANN, NIKLAS (1995): Social Systems. Stanford University Press.

Luo, Jiayi – Yu, Rongjun (2015): Follow the heart or the head? The interactive influence model of emotion and cognition. *Frontiers in Psychology* vol. 6. https://doi.org/10.3389/fpsyg.2015.00573

MAYR, ERNST (1991): The Ideological Resistance to Darwin's Theory of Natural Selection. *Proceedings of the American Philosophical Society* vol. 135. no. 2. 123–139. https://www.jstor.org/stable/987030

MINGERS, JOHN (2002): Can Social Systems Be Autopoietic? Assessing Luhmann's Social Theory. *The Sociological Review* vol. 50. no. 2. 278–299. https://doi.org/10.1111/1467-954X.00367

MINGERS, JOHN (2004a): Can Social Systems be Autopoietic? Bhaskar's and Giddens' Social Theories. *Journal for the Theory of Social Behaviour* vol. 34. no. 4. 403–427. https://doi.org/10.1111/j.1468-5914.2004.00256.x

Nestler, Eric J. – Barrot, Michel – DiLeone, Ralph J. – Eisch, Amelia. J. – Gold, Stephen J. – Monteggia, Lisa M. (2002): Neurobiology of Depression. *Neuron* vol. 34. no. 1. 13–25. https://doi.org/10.1016/S0896-6273(02)00653-0

OLDROYD, DAVID R. (1986): Charles Darwin's theory of evolution: A review of our present understanding. *Biology and Philosophy* vol. 1. no. 2. 133–168. https://doi.org/10.1007/BF00142899

PIGOTT, H. EDMUND – LEVENTHAL, ALLAN M. – ALTER, GREGORY S. – BOREN, JOHN J. (2010): Efficacy and Effectiveness of Antidepressants: Current Status of Research. *Psychotherapy and Psychosomatics* vol. 79. no. 5. 267–279. https://doi.org/10.1159/000318293

REYA, TANNISHTHA – DUNCAN, ANDREW W. – AILLES, LAURIE – DOMEN, JOS – SCHERER, DAVID C. – WILLERT, KARL – HINTZ, LINDSAY – NUSSE, ROEL – WEISSMAN, IRVING L. (2003): A role for Wnt signalling in self-renewal of haematopoietic stem cells. *Nature* 423. 409–414. Article 6938. https://doi.org/10.1038/nature01593

RUSE, MICHAEL – TRAVIS, JOSEPH (2009): Evolution: The First Four Billion Years. Harvard University Press.

SMITH, KIMBERLEY J. – VICTOR, CHIRISTINA (2019): Typologies of loneliness, living alone and social isolation, and their associations with physical and mental health. *Ageing & Society* vol. 39. no. 8. 1709–1730. https://doi.org/10.1017/S0144686X18000132

VAN PRAAG, HERMAN M. (2004): Can stress cause depression? *Progress in Neuro-Psychopharmacology and Biological Psychiatry* vol. 28. no. 5. 891–907. https://doi.org/10.1016/j.pnpbp.2004.05.031

Gustavo Roberto Villas Boas – Roseli Boerngen de Lacerda – Marina Meirelles Paes – Priscila Gubert – Wagner Luis da Cruz Almeida – Vanessa Cristina Rescia – Pablinny Moreira Galdino de Carvalho – Adryano Augustto Valladao de Carvalho – Silvia Aparecida Oesterreich (2019): Molecular aspects of depression: A review from neurobiology to treatment. *European Journal of Pharmacology* 851. 99–121. https://doi.org/10.1016/j.ejphar.2019.02.024

ZELENY, MILAN (2006): Knowledge-information autopoietic cycle: Towards the wisdom systems. *International Journal of Management and Decision Making* vol. 7. no. 1. 3–18. https://doi.org/10.1504/IJMDM.2006.008168