

Science and Mysticism: Possibilities and Limitations in Exploring Mysticism

Received January 5, 2020

Revised February 11, 2020

Accepted February 14, 2020

Key words

Mysticism, science, Bio-Well,
Teresa of Ávila, Kundalini,
chakras

In his study, the author scrutinizes possibilities and limitation in exploring mysticism. The first approach of this study focuses on traditional views on mysticism, based on descriptions of mystical states and imaging of developed biofield energy of a mystic. To describe mystical states, he used Teresa of Ávila and her work *The Interior Castle*, while iconography in Christian mysticism, drawings in the Chinese books of life and drawings by Hōun Jiyu-Kennett served him as a source of information for comparison of energy biofield in mystics. In the second approach he studies possibilities for scientific exploration of mysticism, especially accompanying effects, such as human energy biofield. To measure human energy biofield, we used the device called Bio-Well. This device detects electro-photon emission of fingers and analyses it using computer software. The research results show that there is a direct relation between spiritual practice and increased energy levels. However, it also reveals that biofield research is rather indirect as it is based on energy measurement in individual organs. Despite the fact that the final computerized data shows energy increase in individual organs, both graphically and numerically, it does not present the overall form of developed energy field of human.

1 Introduction

Among laymen, mysticism is seen as a phenomenon that is quite impossible to grasp rationally. Despite this, historically but also presently, spirituality not only sees mysticism as something real, something that we should try to understand and systematically examine, it eventually tries to identify methods to achieve mystical states. This indicates that mysticism could also be analyzed systematically. However, the question that remains is whether it could be studied scientifically, i.e. if it is possible to measure it using any devices. At the first sight it seems impossible to conduct scientific research of mystical states as these are of spiritual nature. We would therefore like to find out if it is possible to approach scientifically the so-called accompanying effects of mysticism, such as increase in human biofield energies triggered by mystical experience. These energies are physical and known for example as *ch'i*, *Kundalini* with *chakras* and so on. We are specifically speaking about examining changes in energy biofield, using GDV technique (*Gas Discharge Visualization*), which is based on computerized analyses of bio-photon emissions of human fingers in high-energy magnetic field captured using a specially configured optical CCD camera system [1]. First we will try to explain our understanding of mysticism and traditional approaches and explanations of energy states in human, in mysticism in various spiritual traditions.



About the author

Prof. PhDr. Slavomír Gálik, PhD., is a philosopher who specializes in philosophy of mysticism, philosophy of media, and history of philosophy. He publishes extensively in these fields. Among his most important publications are books *Philosophy and Mysticism* and *The Spiritual Dimension of Crisis of Contemporary Man*. As a head researcher he led a research project on phenomenon of *mystical death* in European and non-European spiritual traditions. He currently serves as Vice Dean for science, research, quality and foreign relations at the Faculty of Mass Media Communications, University of Ss. Cyril and Methodius in Trnava, Slovakia. His email contact is s_galik@yahoo.com.

2 What is Mysticism

There is a number of definitions or specifications of mysticism, so it is not always very easy to orientate among them. Josef Sudbrack (1995, 22–23) for example points out that the term of mysticism comes from the Christian world. Despite this, mysticism is now understood as a universal phenomenon that can be found in all religions. For instance, Walter Bruggen (1994, 250) describes mysticism as *“a deeply personal, mysterious experience, especially in the case of religion.”* Marie-Madeleine Davy (2000, 8–9) claims explicitly that all and every mystical phenomena belong to the scope of the notion of mysticism. She tries to explain mysticism through several ideas, for example: *“A mystic is a person who is visited by Spirit,”* or *“the roots of mysticism lie in human body, inside each of us.”*

Our approach to mysticism is based on an assumption that mysticism is a universal phenomenon and virtually anybody can become a mystic if certain conditions are met. The only difference is in the language, culture and ideas. Apart from universal cognitive abilities such as thinking, it is human body and its energies that make mysticism a universal phenomenon. We believe that the hidden energy potential (*Kundalini* with seven *chakras*) serves as the “motor” for mysticism. Real mysticism, (with spiritual and transcendent effects) is possible when these hidden energies develop and consciousness becomes freed from biological bounds [2]. In certain phase, this spiritual journey leads to mystical death, when consciousness clearly realizes it is being freed of the body, which we can experience also as dying. The intensity of this



Fig. 1.
Saint Teresa of
Ávila with the
Golden Aura
around the head

feeling gradually grows, and our consciousness enters new mental dimensions. Jim DeKorne (1997, 84) precisely specifies the difference between normal recalling in the state of vigilant attention and extended consciousness. The first case is about “time-space” relation, while the second one deals with consciousness-space relation, which actually means another line or dimension perpendicular to time-space dimension. This kind of “dimension” also means extended consciousness, which is not static but dynamic, “floating” in various dimensions of biographical but also non-biographical memory. The last step in mystical experience is realizing our consciousness, which is the last reality and has no content. It is however necessary to emphasize that this consciousness does not mean the human “I” and after the mystical death we may realize that it actually has never been “I”.

We came to this conclusion basing on research of mystical texts [3], but also through our own spiritual practice. One’s own spiritual practice is *conditio sine qua non* when one wants to understand not only mysticism in their own tradition, but also other traditions, which may be different linguistically and culturally, but still meet at one point – human body, its physiology and energies [4].

3 Traditional Approaches to Mysticism

Among traditional approaches to mysticism are written descriptions of mystical states and drawings or paintings that depict developed energy biofield of a person. Comparisons between individual mysticisms can then be done through assessing similarities in written or graphical descriptions.

In the first case we are speaking about description of mystical states using language, more precisely its written form. This, however, is not unproblematic. Since there are more languages than just one, we come across various descriptions of such experiences. However, even though the descriptions vary, we can still find some similarities, chiefly in two fundamental points – the phenomenon of mystical death and emptying the consciousness accompanied by a feeling of absolute consciousness, emptiness and so on. Despite the fact that we are able to find some similarities, we believe we should aim at experiences that can be described from the “outside”, from the second-person view. This is possible in the case of human energy field, an accompanying effect of mystical experience. In this case, spoken or written descriptions do only represent symbols, but show also real, i.e. material and energetic correlation. We can see such description especially in Saint Teresa of Ávila. In her most important writing, *The*

Interior Castle, she described development of energies in seven levels – these she called stages of prayer. Teresa explains that the first three stages are often surrounded by sin but starting with the fourth one comes supernatural spiritual life. Teresa says (1921, 39): “Henceforth they begin to be supernatural and it will be most difficult to speak clearly about them...”. She describes how “heavenly water” flows from her soul, and “fire” that floods her body. Her description of the nice smell and warmth that even penetrate the body (1921, 44) is similar to the development of the subtle or *chakra* energies: “Although the spirit neither sees the flame nor knows where it is, it is yet penetrated by the warmth and scented fumes, which are sometimes perceived even by the body.” Teresa poetically describes that the fifth stage of prayer brings mystical change of the soul, which she compares to a caterpillar turning into a butterfly (1921, 58): “Now let us see what becomes of the ‘silkworm,’ for all I have been saying leads to this. As soon as, by means of this prayer, the soul has become entirely dead to the world, it comes forth like a lovely little white butterfly!”

The sixth stage of prayer is then a “flight of the soul” – the soul frees from the body and prepares for spiritual marriage with God. Teresa explains that the seventh stage of prayer means unification with God (Lat. *unio mystica*). She compares this unification to light, or a drop of water that falls into the sea (1921, 121): “But spiritual marriage is like rain falling from heaven into a river, or stream, becoming one and the same liquid, so that the river and rain water cannot be divided; or it resembles a streamlet flowing into the ocean, which cannot afterwards be disunited from it. This marriage may also be likened to a room into which a bright light enters through two windows – though divided when it enters, the light becomes one and the same.”

Teresa’s description of prayer stages considerably corresponds with Yoga descriptions of the so-called subtle energies with *Kundalini* and *chakras*. They seem to be even more realistic when Teresa (1921, 121) compares these energies to “streams of milk”: “For from the bosom of the Divinity, where God seems ever to hold this soul fast clasped, issue streams of milk, which solace the servants of the castle.” These “streams of milk” can be linked with energies mentioned in Yoga and could now be called electro-photonic emissions.

Another traditional approach to mysticism includes visualization of human energy biofield, a biofield that can be visibly developed. In Christian iconography, we can most frequently notice visualization of *aura* of saints, which is also the case of Teresa of Ávila (see Fig. 1).

4 Scientific Approaches to Mysticism

We can also be confronted with visualization of human energy biofield in the *Chinese books of life* (Jung and Wilhelm 2004, 71), this time with emphasis on levels of biographical and non-biographical memory.

We would argue that the most detailed drawings of subtle energies can be found in Hōun Jiyu-Kennett's interpretation (1997, 107), who described and drew her experience of the spiritual journey – from the beginning to the liberation, i.e. the great *Kenshō*.

Paintings that depict *aura* of St. Teresa of Ávila and drawing of developed subtle energies in the *Chinese books of life* and Hōun Jiyu-Kennett are, despite possible content differences, similar, as they considerably outgrow human body. These drawings are more potent regarding comparison and explanation than word-based descriptions.

Scientific research has been conducted for quite a while now in the Eastern spiritual traditions such as Yoga or Buddhism. This is chiefly the result of the fact that the eastern traditions aim more at methods, for example various breathing exercises or meditation, while Christian spiritual tradition concentrates on the need of God's mercy and methods are unimportant. Scientific research includes measuring the brain activity in Zen monks carried out by Tomio Hirai (1997, 81–100). He revealed that throughout meditation, their brain activity regularly shows transition from normal alert consciousness, i.e. beta brainwave frequency to the state of relaxation, or alpha brainwave frequency, while in experienced monks we can see transition to theta brainwave frequency, typical in sleep. However, consciousness of a monk still remains alert. In his research, Hirai demonstrates that even though traditional neuroscience would consider meditating monks as sleeping, they are fully awake. Peter Fenwick (Darling 1997, 139–140) went even further when he used computer to analyze the data measured by EEC. The results of his experiment showed that in every participant's, there was an unusually bright area behind the right side of the frontal bone. Some of the team members noted that "if we saw that degree of asymmetry in someone from off the street, we would be worried that something extremely abnormal was going on." What is more, during another experiment one of Zen Masters

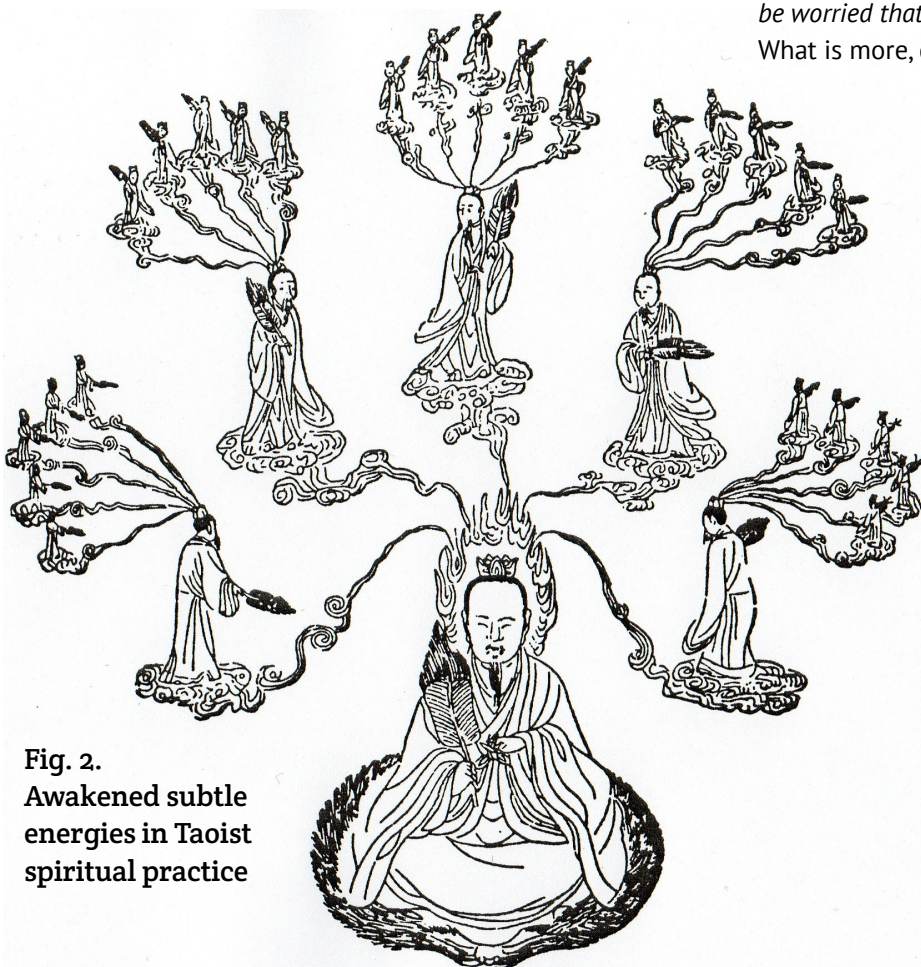


Fig. 2.
Awakened subtle
energies in Taoist
spiritual practice

only used the right hemisphere to categorize objects, which suggested that he was living entirely in the present, responding to everything just as it arises.

In our exploration of mysticism, more precisely its accompanying effect such as the so-called *subtle energies* (*Kundalini* and *chakras*), or in the language of physics, *electro-photonic emissions*, we used a device called Bio-Well, designed by Konstantin Korotkov. This device uses EPI (Electro-Photonic Imaging) or GDV technique (Kirlian effect) and is constructed specially in order to express assessment of the energetic state of a person. Interpretation of scans is based on acupuncture points concept developed in Ayurveda. GDV technique refers to the process of computer registration and analysis of electro-photonic emissions of different objects, including biological (specifically the human fingers) resulting from placing the object in a high-intensity electromagnetic field on the device lens.

When a scan is conducted, small electrical current is applied to the fingertips for less than a millisecond. The object's response to this stimulus is the formation of an electronic emission. The electrons emission stimulates gas discharge (glow) that is captured by the video camera and then translated and transmitted back in graphical representations for further analysis.

We conducted several measurements in order to study our own electro-photonic emissions. A series of measurements was performed in normal level of consciousness, another series after meditation (Krija Yoga) that would enhance energy up the spine and open the higher energy centers such as Ajna and Sahasrara. In the following two pictures we want to show the difference between energy levels during normal level of consciousness and after meditation – application of Krija Yoga spiritual method.

The data acquired in our exploration shows energy increase in almost every energy center after meditation. The difference between the Fig. 4 and 5 is quite obvious. Even though we do not present here other charts, which the Bio-Well software offers, differences are visible also here. If a significant increase of energy was not visible, then it was caused by health problems in given organs. We found considerable increase of energy in the spine region and around hypophysis, this relates to circulation of energy up the spine (Krija Yoga) and concentration of attention on the so-called inner

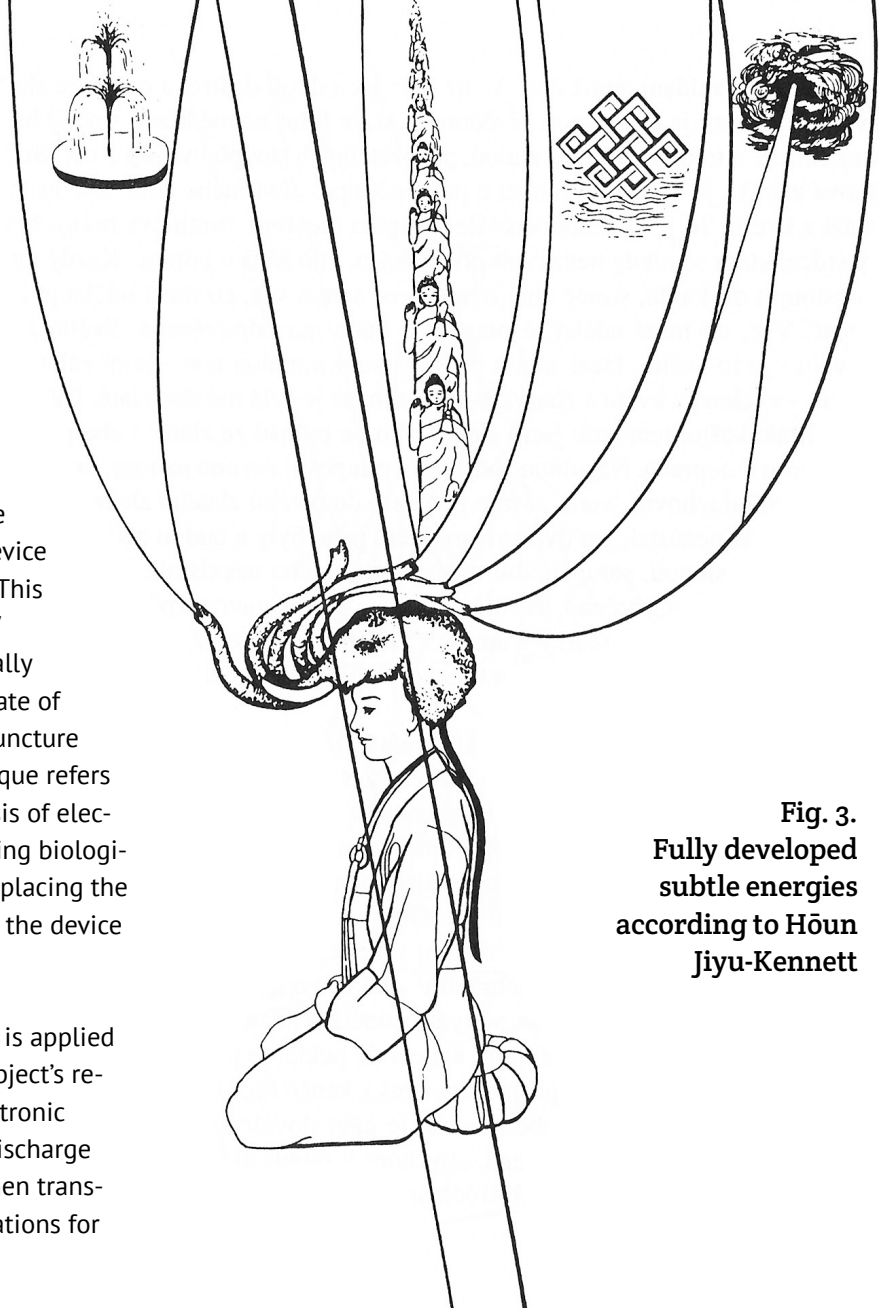


Fig. 3.
Fully developed
subtle energies
according to Hōun
Jiyu-Kennett

eye (Ajna chakra). The Bio-Well device proves that there is an important relation between spirituality and energy and consequently also health. Eastern spirituality, especially Yoga, but also Western mystical tradition, for example *The Cloud of Unknowing* [5], both speak about importance of health.

Though our research proves that there is a connection between spirituality, energy and health, it is also limited because the biofield detection is done through electro-photon emission of fingers. Data is then processed with the help of traditional Chinese medicine and Ayurveda and displayed on computer screen (symbols and numbers). Such imaging does detect increased biofield energy in its relation to individual organs but does not describe the real form of biofield energy, which is visible even to the naked eye – Hōun Jiyu-Kennett drew the shape of this energy in her book. To deal with this successfully, more research study will have to be conducted, but more importantly different devices that use Kirlian effect will have to be used to measure human biofield directly.

5 Conclusion

In our study we examined possibilities and limitation for research in the field of mysticism. This includes presentation of mystical states in various spiritual traditions, as these constitute the primary source of information. Further, we can conduct scientific research to study the so-called accompanying effects in mysticism, such as complete development of human biofield energy during the mystical experience of liberation. For the purpose of this research, we used a device called Bio-Well, which detects electro-photon emission of fingers and analyses it using computer software. Using this device, we confirmed that there is a direct connection between spir-

ituality, or more precisely meditation, and increase in the biofield energy, as this was clearly seen in the output data. We also noticed correlation between spirituality and health of individual organs. Our research also revealed a limitation here – computer assisted assessment of biofield through the energy of organs does not provide the real form of biofield which, when fully developed, is visible even to the naked eye. It is therefore necessary to join forces and ask specialists in physics and people with spiritual experience, such as Yogis, to cooperate in order to achieve precise imaging of human biofield and thus push the limits of research in mysticism.

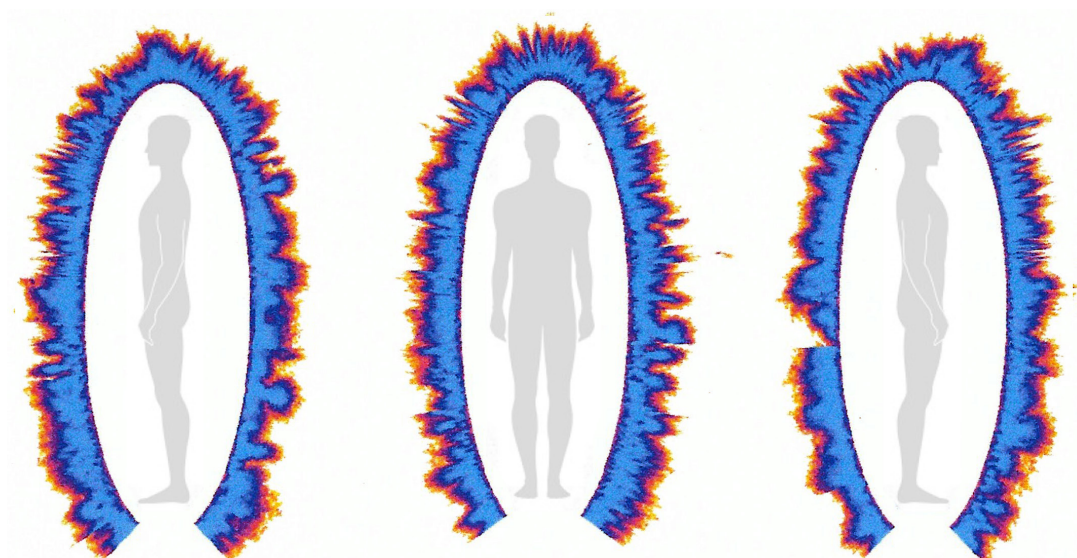


Fig. 4. Biofield energy of a subject in normal consciousness

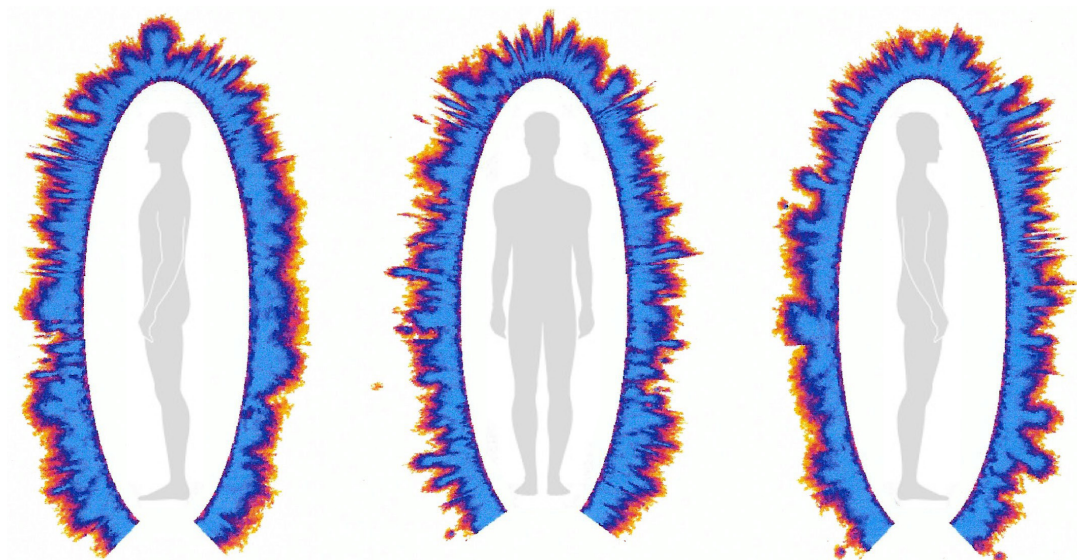


Fig. 5. Biofield energy of a subject after meditation (of Krija Yoga type)

Acknowledgements

Fig. 1. Photo “17-05 03 St Teresa of Ávila” by “Felton Davis” license CC BY 2.0.

Fig. 2. was reproduced according to Jung, Carl Gustav, and Richard Wilhelm. 2004. *Tajemství zlatého květu*. Praha: Vyšehrad.

Fig. 3. was reproduced with the kind consent of the copyright owner, the CAD Press.

Fig. 4 & 5. Visual representation of the energy field measured with the Bio-Well GDV Camera 2,0 by the author.

Notes

- [1] GDV technique was developed by Konstantin Korotkov in 1995 on the bases of the *Kirlian effect*. *Universality of Mysticism* (Gálik and Gáliková Tolnaiová 2015).
- [2] Here we can also note Buddha’s statement, in which he sees human body as a way to liberation: “*Within this body, six feet tall, endowed with perception and cognition, is contained the world, the origin of the world, and the end of the world, and the path leading towards the end of the world.*” (Grimm 1973, 90).
- [3] In Christian mysticism we specifically mention a writing by Teresa of Ávila, *The Interior Castle*; in the Chinese tradition of the books of life *T’ai-I Chin-hua Tsung-chih* published in *The Secret of the Golden Flower*; in Zen Buddhism a classical treatise by Hōun Jiyu-Kennett, *How to Grow a Lotus Blossom or How a Zen Buddhist Prepares for Death*.
- [4] The topic is developed in more detail in our study *A Comparison of Spiritual Traditions in the Context of*
- [5] *The Cloud of Unknowing* (chap. 41, 109) explicitly states that health is an important precondition of contemplation: “*For the love of God beware of illness as much as you can, so that as far as possible yourself is not cause of any weakness... this work demands great serenity, an integrated and pure disposition, in soul and in body. So for the love of God control your body and soul alike with great care, and keep as fit as you can. Should illness come in spite of everything, have patience and wait humbly for God’s mercy.*”

A comprehensive explanation of this conditioning in the contexts of mystical contemplation and self-transcendence is provided by Martin Dojčár in his books *Mystical Contemplation: The Cloud of Unknowing & Ramana Maharshi* (2008, 49) and *Self-Transcendence and Prosociality* (2017, 50).

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