

**University of Pécs Doctoral School of Art**

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**The Contemplative Visual Characteristics of Buddhist Mandala Art and Its  
Appearance in Contemporary Sacred Art**

**Theses**

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## The subject of the Doctoral Research

The starting point of my research is the exploration of the visual characteristics of contemporary sacred art. I analyze the features of traditional religious depictions based on Carl Gustav Jung's observations on mandalas. Jung found similarities between the drawings made by his patients and Buddhist mandalas (Jung, 1968). According to Jung, I analyze these visual elements within traditional mandala families. Furthermore, I highlight the analogies between modern artworks and the *Kālacakra* mandalas' visual characteristics. Based on my findings, I conclude that the observation of the analyzed visual patterns can induce contemplation.

By integrating insights from various disciplines, I develop my basic hypothesis: I hypothesize that the non-representational visual characteristics of the *Kālacakra* mandalas emerged in the 14th century, have a beneficial effect on contemplation, appear in modern and contemporary artworks, and enhance the spiritual atmosphere of the artworks.

My interdisciplinary research supports this hypothesis with theories and methods from various disciplines and examines the applicability of these characteristics in contemporary sacred art.

In Chapter I, I examine the visual characteristics of the most significant Buddhist mandala families, primarily based on Kimiaki Tanaka's book (2018). First, I analyze the visual features of the *Garbhadhātu* and *Vajradhātu* mandalas, which were developed between the 7th and 10th centuries, and show how these elements evolved in the composition of the *Kālacakra* mandalas created after the 14th century. I focus solely on their non-representational compositional characteristics. Since cognitive religious studies assume an adaptive reason behind ritual activities (Boyer, 1994), and anthropologists confirm that mandalas are important elements of meditation rituals (Tucci, 1961), I hypothesize that these characteristics were preserved in later mandala families because they positively influence meditation. I indicate that the observation of artworks containing radial and symmetrical arrangement, central focus, closed composition, concentric arrangement, and repetitive pattern can facilitate contemplation for the viewer.

In Chapter II, I present my EEG experiment, which aims to empirically support the meditative effects of the highlighted visual characteristics. I demonstrate the experimental images, that I project for subjects during the measurement of their brainwaves. This provides quantitative feedback on the meditative effects of the highlighted characteristics, as previous research has validated an increase in Alpha waves during meditation (Lagopoulos et al., 2009;

*Marasinghe et al.*, 2021). I also present my questionnaire results, which record the subjective evaluation of the contemplative effect of the experimental images.

In Chapter III, I demonstrate the permanent presence of the visual elements of mandalas within Western modern and contemporary artworks. I explain the development of the concept of *religious experience* and the origins of *perennialism*. I argue that, according to this theory, the source of *religious experience* is universal. I conclude that meditation, a tool for enlightenment in the Buddhist tradition, can be considered one form of this experience. Furthermore, in my experiment the visual characteristics of Eastern mandalas were shown to Western viewers, thus it can be assumed that artworks displaying these characteristics may also induce *religious experiences* in Western viewers. I support my conclusions with the insights of representatives of Spiritual Abstraction. I demonstrate Kandinsky's thoughts on the spiritual atmosphere-creating power of reduced visibility and geometric forms. I also provide an overview of how the relationship between Western fine art and religion has evolved in the past centuries by presenting the writings of Grace *Davie* (2010) on the sociology of religion and the theories of art historian James *Elkins* (2004). By analyzing the works of key artists, I draw attention to the presence and importance of the highlighted visual characteristics of mandalas in contemporary sacred art. Finally, I present how the symbolism of various religions is incorporated into my creative process and how the research findings are applied in my art.

## **Methodology of the Doctoral Research**

In my interdisciplinary research, I combine the reasoning methods of the humanities with the measurement methods of empirical science.

In the introductory chapter, I employ Alen *Repko's* interdisciplinary research method (2017) to establish common ground among the theses of cognitive religious studies, anthropology, and art history, and I develop my hypothesis.

In Chapter I, using inductive reasoning, I draw general conclusions about the compositional evolution of Buddhist mandalas and their beneficial effect on meditation. Additionally, by presenting examples in modern and contemporary art I induce the universality of the visual characteristics of Buddhist mandalas.

In Chapter II, I support my observations with an empirical experiment. I present my experimental and control images highlighting the visual characteristics of mandalas. The image pairs are grouped based on the main compositional characteristics of the *Kālacakra* mandalas, such as Pattern, Focus, Rhythm, Unity, Movement, and Balance. I apply the research methods

of cognitive science, which are suitable for measuring the complexity of human experience: by combining the *third-* and *first-person* methods (Choifer, 2018), I connect the EEG data with the subjective experience of the participants recorded by surveys. The population of the measurement consists of 32 Czech nationals, male and female, between 19 and 41 years old. The subjects watch the images on a computer screen approximately 0.5 meters away while a non-invasive Scalp 30-channel EEG system device is attached to their heads. The experimental images follow each other in blocks at a projection speed of 3 sec/image. After each image, a so-called *focus cross* is projected for 0.5 to 1 second, aiming to keep the viewer's focus active.

The subjective part of the research consists of two questionnaires. The first by *Qualtrics* software projects a selection from the experimental images sequentially on a computer screen. The participants have to rate the images on a 100-point *Calm-Excitement* and *Unpleasant-Pleasant* scale. There is no fixed duration for rating the images. The second online questionnaire utilizes the entire experimental image set randomly pairing the images within each block. The time for completing the questionnaire is not determined. The responses record the evaluation of more than 300 students and teachers from the University of Pécs. The combination of these two methods enables the comparison of the Alpha wave values with participants' subjective experience regarding the contemplative effect of the highlighted visual patterns.

In Chapter III, I use inductive reasoning to prove the permanent presence of the analyzed visual characteristics in modern and contemporary art. Finally, I use deductive reasoning in the conclusions of my dissertation: based on the premise of *perennialism* (Sharf, 2000), I deduce the significance of the contemplative visual features of mandalas and their possible use in contemporary sacred art.

## **Results and Conclusions of the Doctoral Research**

In Chapter I, I conclude that the visuality of mandalas has undergone an evolutionary process, which cannot be solely connected to the changes of the tantras providing the basis of mandalas' iconography. I argue that the visual characteristics of the *Kālacakra* mandala display the most beneficial visual characteristics for meditation among mandala families. I highlight their contemplative visual features which are the following: repeating pattern, central focus, concentricity, closed composition, radial arrangement, and central symmetry. Additionally, the reduction of visual complexity and the abstraction of figural elements can be observed on these mandala types.

In Chapter II, I confirm the contemplative effects of visual abstraction, regular geometric shapes, and concentric arrangements with my EEG measurement results. Based on my questionnaire evaluations, I conclude that repeating patterns, central focus, and radial symmetry also contribute to the facilitation of meditation.

In Chapter III, I verify the permanent presence of mandalas' compositional characteristics in modern and contemporary works of art. Referring to the thesis of *perennialism*, I argue that the integration of these characteristics in Western artworks can induce contemplation in viewers. Based on Kandinsky's insights, I conclude that the stylistic elements of geometric abstraction and minimalism can enhance the spiritual atmosphere of artworks and play a prominent role in contemporary sacred art.

In the Final Conclusion, I validate my basic hypothesis, concluding that the geometric, concentric structure and visual reduction observed in *Kālacakra* mandalas are of major importance in contemporary sacred art, positively influencing meditation. Additionally, repeating patterns, central focus, closed composition, radial arrangement, and central symmetry may also enhance the contemplative effect of the artwork.

Other conclusions: I hypothesize that the visual structures that positively affect contemplation have been universally fixed in the symbols of world religions. I suggest that due to their adaptivity, similar visual elements have appeared in the symbol systems of various religions, influencing the development of their meanings. Further research is needed to confirm this assumption.

## **The Applicability of the Doctoral Research's Results**

The results of my interdisciplinary research can be interpreted within the context of the following scientific disciplines:

### *Visual Arts:*

My research highlights the similarities between the works of Spiritual Abstraction and the compositional features of the *Kālacakra* mandala family. Additionally, it supports the contemplative effect of these visual characteristics, thus verifying the view of Vasily Kandinsky and Kazimir Malevich (*Kuspit*, 1995) on the spiritual significance of abstraction from a new perspective. Thus, my findings can guide artists dealing with sacred art in selecting visual elements for the creation of their art pieces.

### *Art History:*

Religion, in the words of art historian James *Elkins* (2004), occupies a *strange* place in contemporary art. Elkins' categories help navigate the types of religious content integrated into contemporary visual art. My findings complement Elkins' categories, which group the integration of religious content based on thematic criteria. According to my research, the presence of certain formal elements may also contribute to the spiritual atmosphere of an artwork. Therefore, the implementation of contemplative visual features also represents a form of artistic integration of sacred content. Based on my research's conclusion, Elkins' thesis can be expanded with an extra category which includes art pieces that share common formal characteristics with the works of Spiritual Abstraction. It is possible that mapping this category could help in defining the concept of *theoaesthetics*, or *theological aesthetics* (*Bernier*, 2010; *Viladesau*, 1999).

#### *Cognitive Science:*

Previous research has measured the increase of Alpha waves of Buddhist monks during the performance of their meditation rituals. The effects of artistic activities on facilitating meditation have only been studied in the context of receiving musical elements (*Dvorak et al.*, 2021). No comprehensive study has yet been conducted on the role of visuality in meditation. Therefore, my research results could provide a new perspective on the cognitive analysis of meditation. Additionally, my findings may introduce a new viewpoint to the field of neuroaesthetics, particularly the theory of Aesthetic Cognitivism (*Christensen et al.*, 2023), which explores the role of visuality in our cognitive processes.

#### *Other conclusions:*

#### *Cognitive Science of Religion:*

Representatives of the cognitive science of religion (*Boyer*, 1994) suggest that religious activity has an adaptive role. The beneficial effects of meditation on the human psyche have been proven in numerous studies (*Chételat et al.*, 2018), and it can be considered an activity that aids adaptation to the environment. Therefore, the visual characteristics of mandalas promoting meditation prove their adaptive significance and raise the possibility of a similar role of artworks containing identical visual elements.

#### *Comparative Religion and Semiotics of Religion:*

The thesis on the universality of religious symbols is primarily associated with C.G. Jung's views. While *Jung* (1968) explained the common elements of religious symbols through the unconscious archetypes behind their iconography, he did not pay particular attention to their compositional characteristics. My research suggests that the visual similarities appearing in religious depictions were fixed not for semantic, but for formal reasons, due to their

contemplative effect. A key example of this is the early appearance of perpendicular intersecting lines (cross, swastika, dharmachakra) in the symbolism of world religions. Further research is needed to validate this assumption.

## References

- Bernier, Ronald R. (2010, szerk.): *Beyond Belief: Theoaesthetics or Just Old-Time Religion?*. Pickwick Publications, Eugene, OR.
- Boyer, P. (1994): *The naturalness of religious ideas: A cognitive theory of religion*. University of California Press, Berkeley, CA.
- Chételat, G., Lutz, A., Arenaza-Urquijo, E. és mtsi. (2018): Why could meditation practice help promote mental health and well-being in aging?. *Alz Res Therapy* 10.57.
- Christensen, A. P., Cardillo, E. R., & Chatterjee, A. (2023): Can art promote understanding? A review of the psychology and neuroscience of aesthetic cognitivism. *Psychology of Aesthetics, Creativity, and the Arts*.
- Choifer, A. (2018). A New Understanding of the First-Person and Third-Person Perspectives. *Philosophical Papers*, 47(3), 333–371.
- Davie, G. (2010): *A vallás szociológiája*. [ford. Wessely Anna] Bencés Kiadó, Pannonhalma
- Dvorak, A. L., & Hernandez-Ruiz, E. (2021): Comparison of music stimuli to support mindfulness meditation. *Psychology of Music* 49.3. 498-512.
- Jung C.G. (1968): *Collected Works of C.G. Jung Volume 12: Psychology and Alchemy* [ford. Hull R. F. C]. Princeton University Press, Princeton, NY.
- Elkins, James. (2004): *A vallás különös helye a kortárs művészetben*. [ford. Körösvölgyi Zoltán] E-mail üzenet a szerzőnek. 2023.09.09.
- Kuspit, D. (1995): Concerning the Spiritual in Contemporary Art. In: *The Spiritual in Art. Abstract Painting. 1890-1985*. [szerk. Maurice Tuchman] Abbeville Press, New York, NY.
- Lagopoulos, J. és mtsi. (2009): Increased Theta and Alpha EEG Activity During Nondirective Meditation. *The Journal of Alternative and Complementary Medicine*. 15.11. 1187-1192.
- Marasinghe, C; Tennakoon, V; Mahawithanage, S.T.C. (2021): EEG Characteristics During Mindfulness Meditation Among Buddhist Monks in a Sri Lankan Forest Monastery. *Mindfulness* 12. 3026–3035.
- Repko, A. F; Szostak, Rick (2017): *Interdisciplinary Research; process and theory*. Sage, Thousand Oaks, CA.
- Sharf, R. H. (2000): The rhetoric of experience and the study of religion. *Journal of Consciousness Studies*. 7.11-12. 11-12.
- Tanaka, K. (2018): *An Illustrated History of the Mandala: From Its Genesis to the Kalacakratantra*. Wisdom Publication, Somerville.
- Viladesau, Richard (1999): *Theological Aesthetics: God in Imagination, Beauty, and Art*. Oxford University Press, New York-Oxford.