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Contemporary Arts Practice and Outer Space: A Multi-Disciplinary Approach (3)

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CONCEALED BEAUTY IN BROKEN SYMMETRY: THE CREATION OF A COSMIC ART  
INSTALLATION THROUGH ART AND PARTICLE PHYSICS

**Abstract**

There is so much beauty in this universe. Beauty can be found in nature which represents the laws of the universe. For instance, a symmetrical form of nature or many other artifacts in our surroundings which activate our awareness. From the point of view of Japanese aesthetics, is the notion of 'concealed beauty', which is hidden in our everyday recognition, and is considered the most essential factor in provoking a sense of beauty. Historically, Japanese culture has had a particular sense of beauty in comparison with Western artistic traditions. This paper will utilize the Japanese aesthetic concept to explore the nexus between 'concealed beauty' and the 'imperfect' nature of the universe as described by the theory of particle physics.

The idea of 'broken symmetry' implies that there is always something which spontaneously breaks repetition – and this break leads to a certain order. Such imperfection which is 'hidden' in nature creates a sense of beauty. For both science and art, the origin and cause of the sense of beauty remains a mystery.

Assuming this theoretical background – and aiming to find an expression which reflects the concealed beauty in the universe – we will create a cosmic art installation in collaboration with CERN (European Council for Nuclear Research). Applying the data from CERN's experiments in the annihilation of antiparticles through a huge explosion when they disappear through a photogenic plate, a number of multi-dimensional hypercubic objects will be laid out in a grass field in accordance with the coded data. Hence, viewers will be able to physically experience this microcosmic dynamism by walking through these objects in a macroscale installation.

Furthermore, aiming to let people intuitively experience the installation to explore their imagination, a workshop will also be conducted. Through making and installing paper flowers using origami (Japanese geometric paper craft) into each object, people can experience a phenomenon which derives from the hypercubic structure of the object. Using a flower as a metaphor of concealed beauty in the universe, we will seek to find a possibility for the fusion of human creativity and scientific phenomena.

In summary, utilizing an aspect of Japanese aesthetics and broken symmetry, we will demonstrate how concealed beauty can be expressed and allow people to experience this. Beyond aesthetic and science visualization, we will pose the ultimate question by means of art: how can we find beauty in this imperfect universe?