



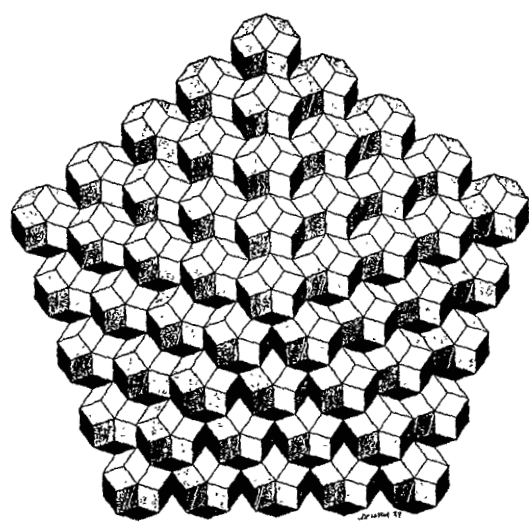
*For*

# Symmetry of STRUCTURE

an interdisciplinary Symposium

Abstracts

II.



Edited by Gy. Darvas and D. Nagy

*Buda*  
*pest*  
August 13-19, 1989  
*hungary*

Peter Revers:

Aspects of the definition of Symmetry in Taoistic thoughts.

After the physicist Niels Bohr had been knighted on the 17th of October 1947, he chose a highly remarkable coat of arms: it contained the chinese symbol "T'ai-chi", representing the complementary relationship between the opposites Yin and Yang. In the inscription above the symbol one can read "contraria sunt complementaria": Contraries are complementaries": an idea which has indeed influenced the line of thought of natural science. The "T'ai-chi"-symbol itself is based on the principle of rotational symmetry. The comprehension of symmetry in taoistic philosophy though has neither a connection to the mirrored symmetrical structures which we are familiar with, nor can it be ascribed to the european definition of symmetry. First of all one must clarify that a prevalent definition of symmetry, or even a similar term as it prevails since the 18th century, does not exist in the thoughts of Taoism. Nevertheless if I review aspects of the definition of symmetry this can only be done under the assumption that the definition in its general meaning as proportion or correct relation is understood and removed from all constrictions (especially concrete mathematical deck operations). A central moment for the tradition in taoistic philosophy is formed from the "congruous effect (tiao or tiao-ho) of Yin and Yang"<sup>1</sup> adjusting harmony. Yin and Yang characterize therefore not only two contrary forms of attributes, nor can they be reduced to the meaning of one opposite or one opposition. Of equal importance is the idea of flowing movement, of permanent alternation, that can be experienced in the figure of rotational symmetry. Thus, the chinese philosopher Chou Tun-Yi (1017-73) was of the opinion in his treatise "T'ai-chi T'u": "The Supreme Ultimate through movement ... produces the Yang. This movement, having reached its limit, is followed by quiescence... and by quiescence it produces the yin. When quiescence has reached its limit, there is a return to movement. Thus movement and quiescence in alternation become the source of the other."<sup>2</sup> Accordingly a dualistic interpretation of the principles "Symmetry" and "Asymmetry" cannot be brought to accordance with taoistic reflection. One further important aspect for the phenomenon "Symmetry" is explained by the chinese philosopher Chang Tsai (1020-77) "The Great Harmony is known as the Tao. Because in it there are interacting qualities of floating, and sinking, rising and falling, movement and quiescence, therefore there are engendered in it the beginnings of emanating forces, which agitate each other, overcome or are overcome by one another and contract or expand, one with relation to the other..."<sup>3</sup> Although the strongpoint of the philosophical concept of Chang Tsai is the explanation of the ether, it is nonetheless the emanations of Yin and Yang that form the concrete outward shape of the physical universe. Through this Yin and Yang become categories which take on immediate structural function. Following these indications of taoistic philosophy the tangibility of symmetry thinking can be demonstrated especially in regard to east-asiatic music. Moreover it will

show that on the one hand our understanding of symmetry has found analogous structures, on the other hand phenomena that appear asymmetrical according to the perspective of Taoistic thought, through which relations to the principle "symmetry" become visible, will be discussed.

An adequate understanding of symmetry from the angle of Taoistic thought allows a very suitable realization by means of music, because in the dimension "Time" as constitutive element of all changes and all transformations the principle of continual flowing is more likely to be conspicuously expressed.

Symmetry is therefore not confined to an abstract constructive dimension. Furthermore it acts as an equalizer between contrarities (e.g. rest in itself and forward force, static and dynamic treatment) and to that extent a correspondence to the harmonizing effect of the forces of Yin and Yang.

- 
- 1 Marcel Granet, Das chinesisches Denken, München 1981<sup>2</sup>, s.
  - 2 zit. nach: Fung Yu-Lan, A History of Chinese Philosophy, Vol.II, Princeton 1952, s. 453
  - 3 a.a.O., S. 479