

TRANSFORMATIONS OF SCULPTURES

FERHAN KIZILTEPE

Name: Ferhan Kızıltepe, Mathematician, (b. İstanbul, TURKEY, 1970).

Address: Selçuk Hatun Mah. Böcek Evi Sok. No: 4, 16010 Osmangazi, Bursa, TURKEY

E-mail: aser@ferhankiziltepe.com , www.ferhankiziltepe.com

Fields of interest: Geometry, Non-Euclidean Geometry, Arts.

Awards: “The Successful Turkish Woman of the Year” award by American Turkish Woman Association NY, USA, 2004.

Publications and/or Exhibitions: Turkey: Bursa, Uludağ Uni. 1st Joint Exhibition, 1995; Hungary: Budapest, ISIS-Sym Sixth Interdisciplinary Symmetry Congress and Joint Exhibition, 2004; Turkey: Ankara, Başkent Uni. Fine Arts and Architecture Faculty, in Coridor Gallery, Personal Exhibition, 2005; Turkey: Ankara, the Contemporary Sculptures Society’s “ 8h Sculpture Exhibition, 2006; Hungary: Budapest, Symmetry Festival, Joint Exhibition, 2006.

Abstract: *In this article, the images obtained with photography, which was used as an imaging tool, are analyzed in the authenticity of a photograph, and how the transformation processes were verified under the title of collination is displayed on the images.*

1 PRESENTATION

The first materials I used to transfer the forms I designed were steel plates whose two faces were mirror. Having considered the isometric movements on the affine plane, I completed the sculptures with balanced matching within themselves by applying their steel surface with appropriate forms. On the sculptures I formed as 3D, the isometric affine transformations, whose descriptions began to become unique, eventually becoming easily viewable. So the images obtained through the reflection of the sculpture on itself and the reflection of the environment where it stood on itself enabled the reflection movement to reach a completely unique description on the sculpture.

The second transformation tool I chose was photograph in order to continue to view the changes of isometric transformation according to different spaces (dimensions, sets). The visual dimension, which was obtained with light / shadow added to 2D, showed that the descriptions of isometric affine transformations underwent a change and even multiplied.

Two different networks of movement appeared on the process of photographing. On condition that the scene is fixed:

- That the sculpture is moving while the camera and angle of shot are fixed in the first network,
- That the camera and the angle of shot are moving while the sculpture is fixed in the second network,

The movements included by both of these movements were formed by translations, rotations, reflections and glide reflections.

So many changes have been observed during the designing of the sculptures, building them in 3D with steel plates, and photographing them under certain conditions. Within this process, the most significant changes except from the changes of isometric affine transformations appeared on the symmetric, similarity and asymmetric values of the sculptures. The photographs on this project were taken by Cumhuri AYGÜN, whom I also am happy with his being a friend of mine. Many thanks to him for his contributions to my project with the frames taken with a very good photographic eye by listening to me with patience about the subjects he is not specialized and not passing over the key points in order to get effective results of this study.



Figure 1: Ref 1



Figure 2: Ref 2

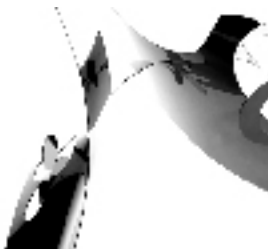


Figure 3: Rot 1

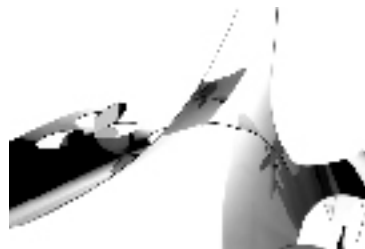


Figure 4: Rot 2



Figure 5: Trans 1



Figure 6: Trans 2