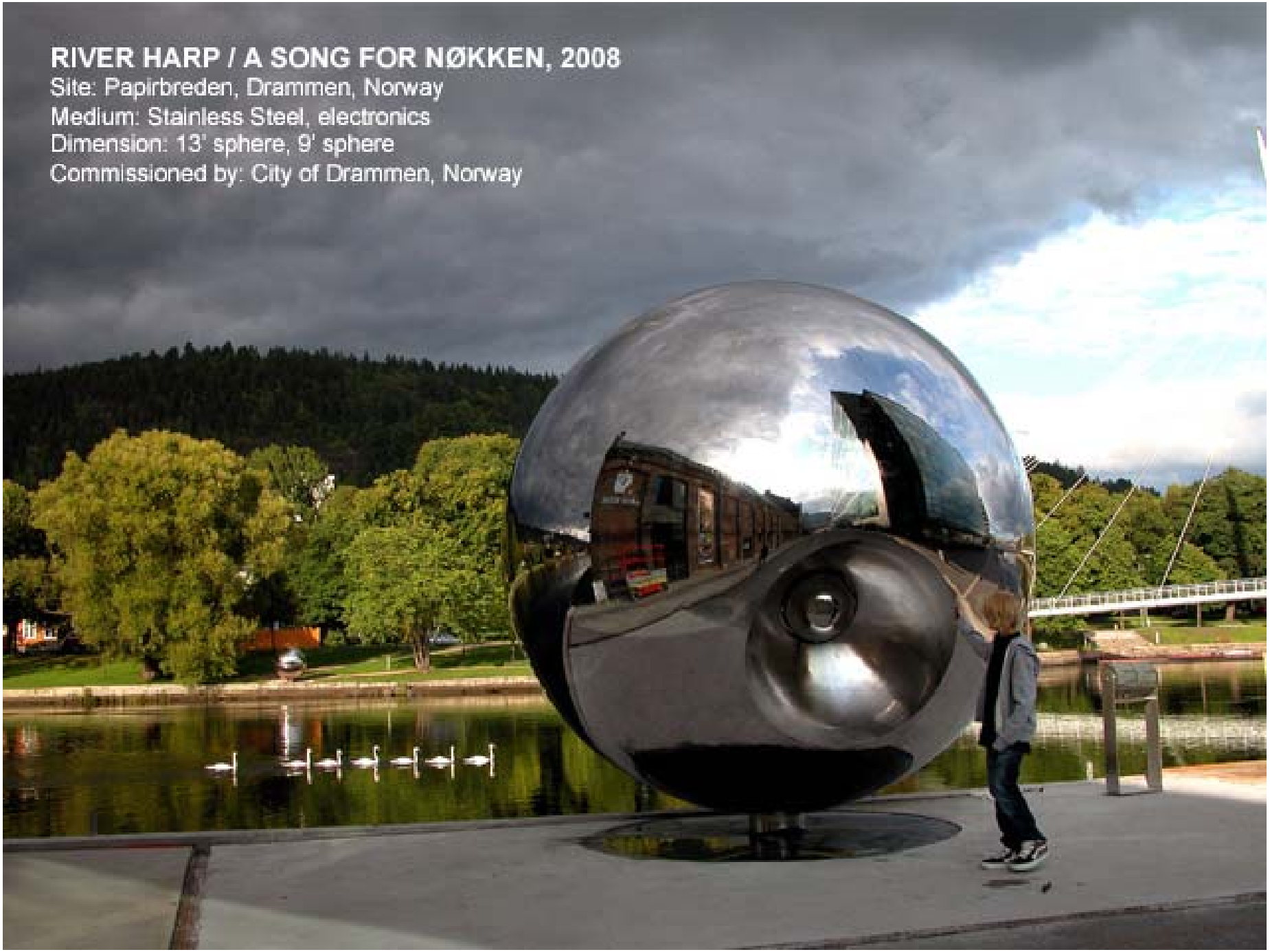
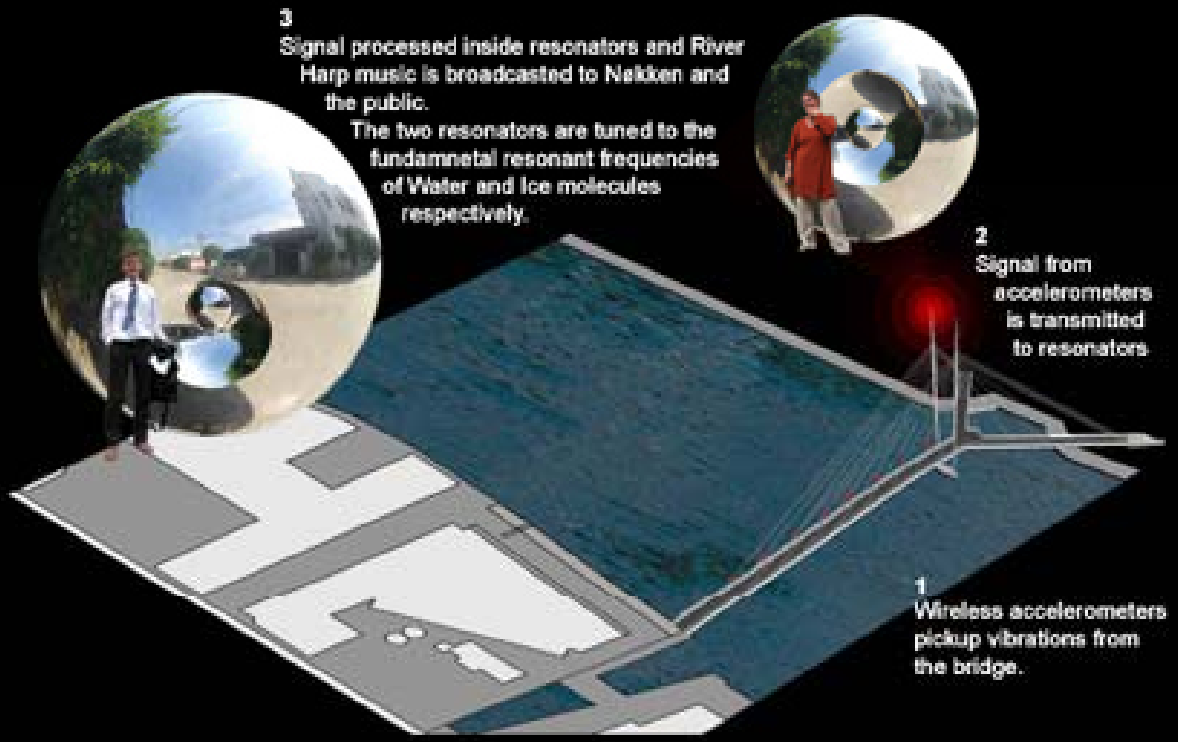

RIVER HARP / A SONG FOR NØKKEN, 2008
Site: Papirbreden, Drammen, Norway
Medium: Stainless Steel, electronics
Dimension: 13' sphere, 9' sphere
Commissioned by: City of Drammen, Norway

RIVER HARP / A SONG FOR NØKKEN 2008
DRAMMEN, NORWAY.

CONCEPT Drammen, the River City. From our perspective, the most inspiring features of the site are: 1) A functional giant River Harp that is the Ypsilon Pedestrian Bridge. 2) The environmental scale fluid dynamo, inspired by Michael Faraday's 1883 failed experiment at Waterloo Bridge. Here composed of the Ypsilon Bridge over Drammenselva River, that runs through the Earth's magnetic field. 3) Drammenselva River is home to Nøkken, the Norwegian water spirit who lures people to drowning with his beautiful music. Our work starts with the belief that a harmonious relationship with Nøkken is possible with help of the alchemy between the arts and science. The artwork is the mechanisms that provide the public with hands-on explorations into the cultural and ecological layers of Nøkken's world at this site.The community itself is the sole operators and producers of the artwork's content and context on a daily basis.

THE ARTWORK consists of two components

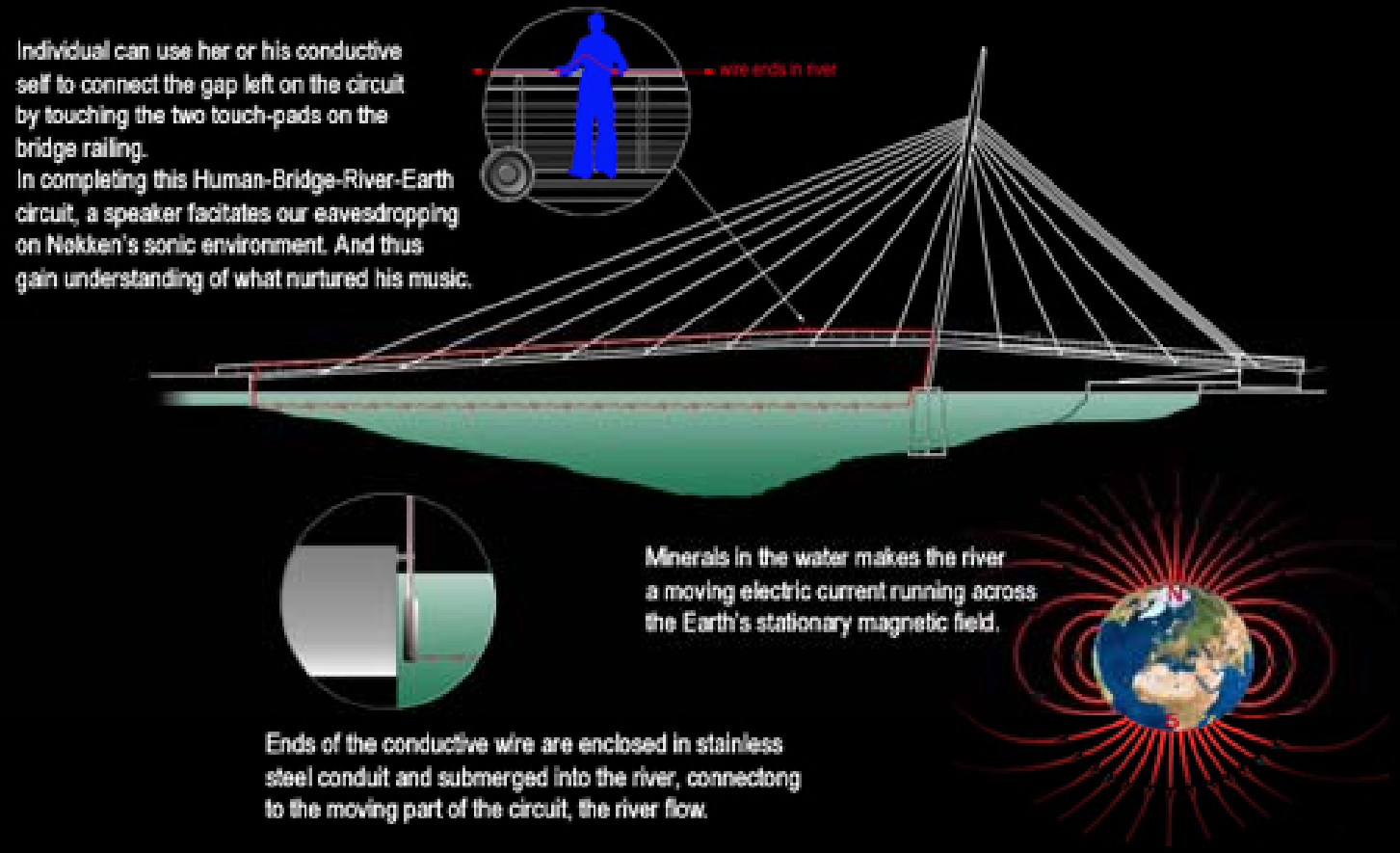
FIRST COMPONENT - Music for Nøkken.
Ypsilon Bridge is used as a giant River Harp to play music for Nøkken. This music is generated by the public's daily crossing of the bridge. Accelerometers attached to the bridge pick up the vibrations, which is transmitted to two resonators on both banks of the River. Here, the signals are processed, and the ever changing music is broadcast.



RIVER HARP / A SONG FOR NØKKEN 2008

ARTWORK SECOND COMPONENT - Eavesdropping on Nøkken.

In order to understanding Nøkken's world, we designed a second mechanism for the public to eavesdrop on Nøkken's habitat, the river Drammenselva. Inspired by Michael Faraday's 1831 failed Liquid Dynamo experiment on the Waterloo Bridge over Thames, when he tried to measure the electric current created by the flow of Thames across the Earth's magnetic field. He stretched a wire across Waterloo bridge, dipped its ends into the river and tried to measure the induced flow of electricity. Small voltages due to electro-chemical processes in the river prevented him from observing the expected current flow, even though his idea was sound. In today's language, Faraday got noise issue on his galvanometer. But this noise is exactly what we want. The sound of this 'never the same river twice' molecular dance of water. So here on Ypsilon Bridge over Drammenselva, we modified Faraday's experiment for our eavesdropping purpose. A gap is left on the wire that stretches along the bridge railing, allowing the public to complete the circuit by connecting the two touch-pads with their conductive sleves.



SOLAR SONANT, 2005

Site: Kelley Engineerng Department
OSU Corvallis, OR
Medium: Stainless Steel
Dimension: 12'W x 22'L x 27'
Commissioned by:
OR State Board of Higher Education

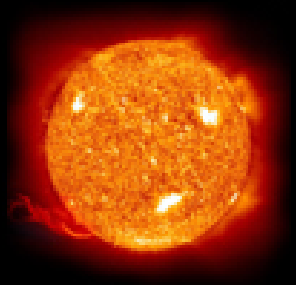
The sun is the single most dominant object in nature to our natural senses. It has also been a persisitent and universal power symbol in the psyches of many cultures, since time immemorial.

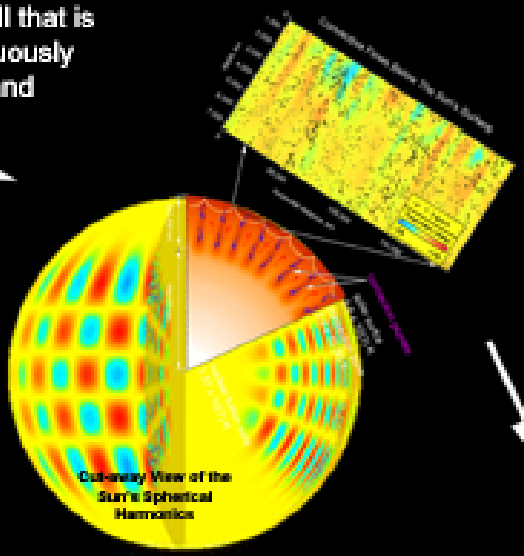
The aim of this artwork is not to sing the glory of the sun once more. But rather, to let the sun itself gently hums its tune for us. This is accomplished by identifying the fundamental mode of vibration of the Sun through helioseismology, determining the tonal center with musical acounstic, designing the artwork (with the help of finite element analysis,)to be the mechaism by which the public can tangibly experience the hum.

Above: Intimate ringing device for the public.
On one of the footings of the structure.

Solar Sonant. DETAILS OF HOW THE DESIGN CONCEPT IS IMPLEMENTED

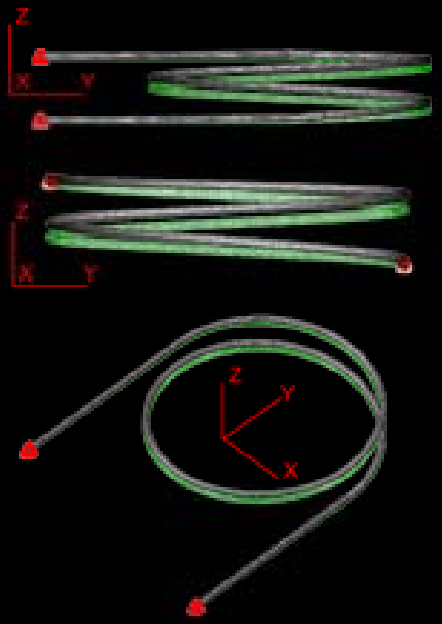
1) The Sun can be seen as a plasma resonator cavity, powered by convection. Granulation in the surface layers of the Sun is highly compressible and is therefore a strong source of acoustic waves. The contiuous source of agitation from the convection zone of the Sun rings like a bell that is makes struck continuously with endless tiny sand grains.





2) The most noticeable characteristic acoustic waves of the Sun center around the five minutes period. 3.4 mHz frequency is the most prominent acoustic pitch of the Sun. This is the Toanl Center of the Sun, in musicla terms.

3) The goal of this work is to create a converter of the explosive turbulence of the Sun into a gentle and intimate hum for the public. It takes the form of a one and a half circlular loop in stainless steel. The loop is suspended in mid-air, grounded through its two open ends.



5) The artwotk is converting the random mechanical energy of the site in a constalt hum of the Tonal Center of the Sun.

4) Finite Element Analysis is used to determines the fabrication details of the artwork:

a) OD of pipe used to be 6".

b) Loop Structure size to be to be 228.5" OD.

c) Fundamental resonant mode of the artwork will vibrates at the Tonal Center of the Sun, at the Frequency of 0.8701 Hz, on the 9th octave.

TRANSCOPE, 2005
Medium: Stainless Steel, Lens, Mirror.
Site: Entire length, Octavia Boulevard
Commissioned by: SF Arts Commission.

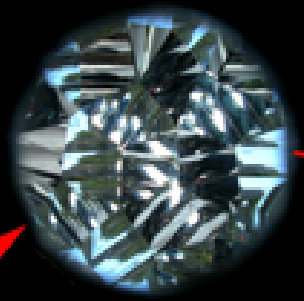
CONCEPT
Introducing a mechanism (the Artwork) along the entire Boulevard, where the pedestrians and motorists can literally look at each other in a different light. They assume the duo roles of being each other's subject matter and audience at the same tine.

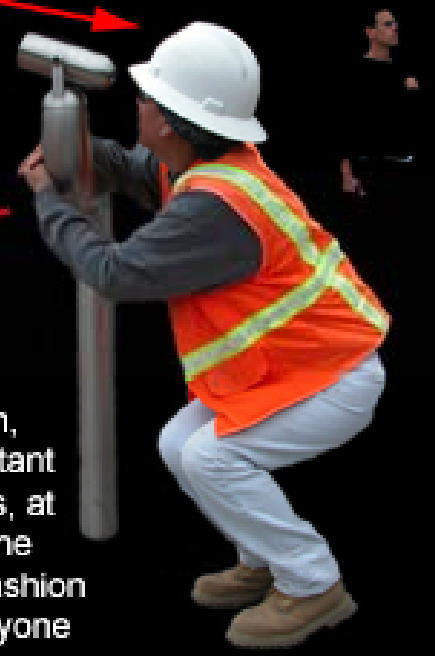
THE ARTWORK
The Artwork is make up of 12 Trasdcopes (traffic observatories), installed at every intersections along the boulevard.
Each is equipped with a unique mirror chamber and custom lens. See next image for how the concept is implemented.

MOTORISTS AND PEDESTRIANS PROVIDE THE CONTENT AND THE CONTEXT TO TURN THE ENTIRE BOULEVARD INTO AN INTERACTIVE ARTWORK.

2) Each Transcope offers a different kaleidoscopic movie in real-time, which is never the same traffic-river twice.

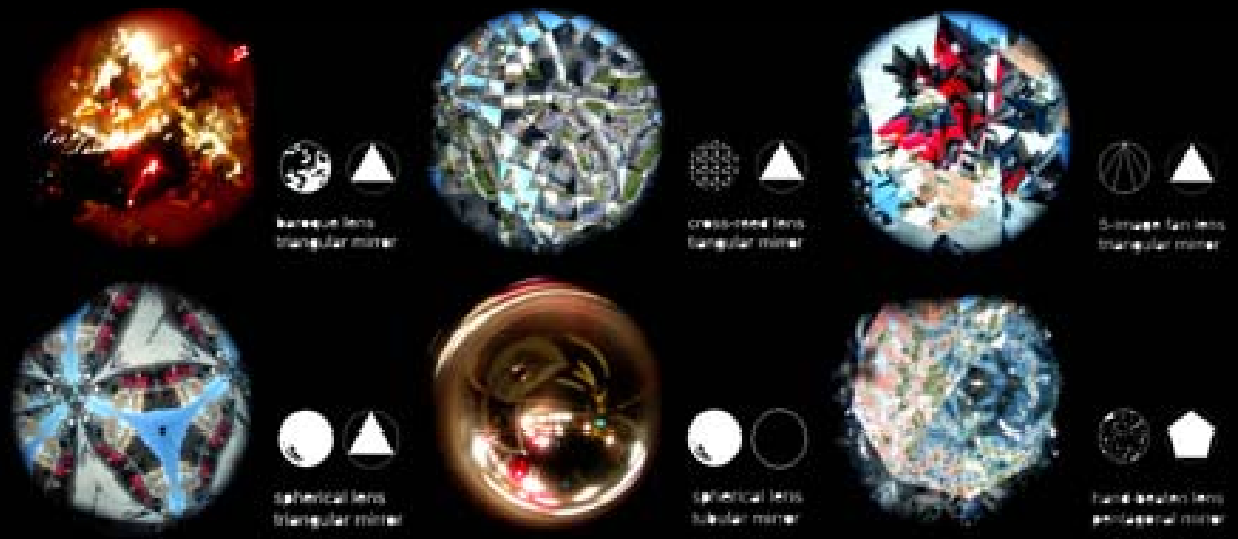
1) Commuter motorists provide the constant flow of moving image/color/motion/reflection that make up the ever changing kinetic picture for the pedestrian viewers through the Transcope.





3) Pedestrian viewers in turn, offer the motorists a constant source of living sculptures, at every intersection along the boulevard. In a random fashion as to where and when anyone might appear.

VIEWS THROUGH SIX OF THE 12 TRANSCOPES



LONGITUDINAL SECTION VIEW OF TRANSCOPE

Lens and mirror combinations determine the diffenrent kinetic pictures through the scopes