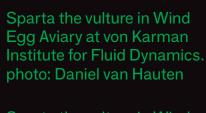
The Wind Egg: Tower of the Wind and Vulture

The Tower of the Wind and Vulture in the Wind Egg facilities at M HKA is derived from the Tower of of the Winds in Athens, Greece. Also known as the Horologion of Andronikos Kyrrhestes. Our Tower of the Wind and Vulture houses the face of the wind itself as the "Vortex-Faced Being" and the aviary of its mate, Sparta, a female White-Backed African Vulture.

The ancient Arabs, Chinese, Egyptians, Greeks, and Indians thought that animals and people could be fertilized by the wind as plants are. This 5000 year old concept was also widely propagated through the 17th century in Europe. Catholic theologians relied on the theory of the wind egg as an explanation for the Virgin Mary's Immaculate Conception. It was known that certain animals were only female and reproduced solely with the wind.

Most commonly known among these "anaemophilous animals" were vultures. They mated with the Western wind each Spring. The 4th century Greek thinker Horapollon Nilous writes that "[t] he vulture is kindled with a desire to conceive, opening her womb to the North Wind, she is, as it were, embraced by him for five days, during which time she partakes neither of food nor drink, being intent upon procreation. There are also other kinds of birds which conceive by the wind, but their eggs are of use only for food and not for procreation, but the eggs of the vultures that are impregnated by the wind possess a vital principle."1

Science 25, 1936: 95-130.



Sparta the vulture in Wind Egg Aviary at Wird at Harlan Levey Projects







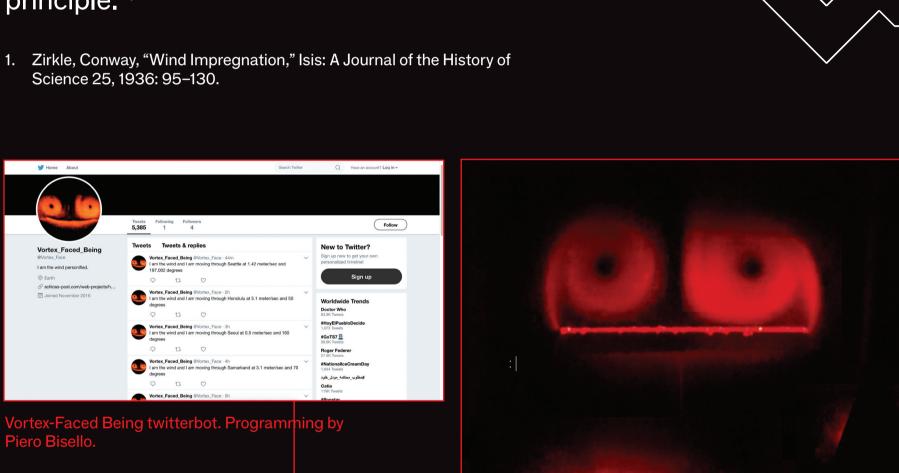


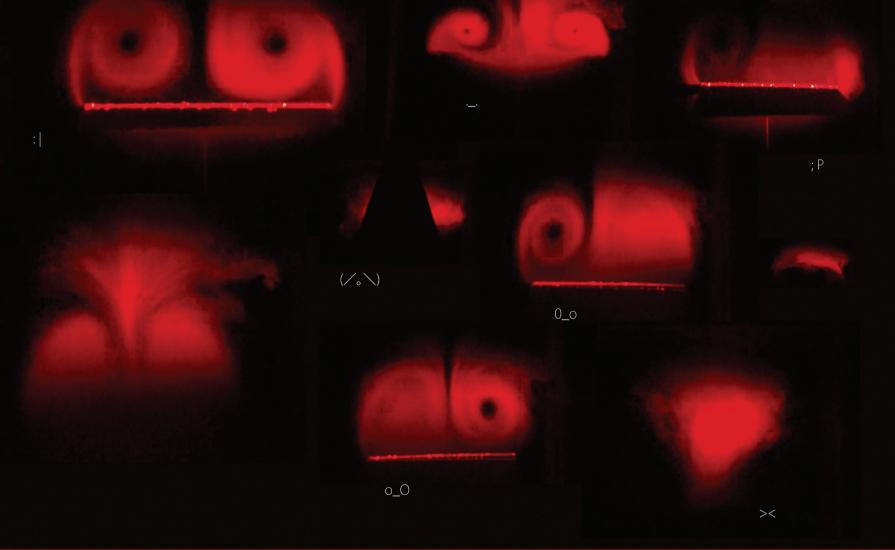
Sparta's perch at Wird at Sparta's perch at Wind Egg Aviary Harlan Levey Projects at von Karman Institute

Vulture Aviary

The cylinder at its rear contains the Wind Egg Vulture Aviary. In 2016, after five years of research, the Wind Egg experiment departed the von Karman Institute for Fluid Dynamics due to instability. A replica of the aviary had to be made for the experiment's temporary home at Harlan Levey Projects.

The original perch is a reused shattered turbine blade from the von Karman's L1 wind tunnel which housed the Wind Egg Incubation Chamber. Sparta's perch in the aviary of the Tower of Wind and Vulture awaits her return. Her presence can still be felt by her scent hanging in the air.





Athens, Greece

Kaikias Anemoi (a Greek god of wind) Athens,

3D rendering with digital errosian of Kaikias Anemoi (a Greek god of wind).

Winds Frieze Transformation

The original Tower of the Winds features eight marble reliefs on its façade. Each represents one of the eight gods of the wind in Greek Mythology. While these winged men may appear angelic, they are pre-Christian and already anticipate the outcome of the contemporary Wind Egg experiment.

The reliefs on the original tower have eroded over the years when confronted with the winds that they represent. The façade of the Tower of the Wind and Vulture at M HKA bears the same representations however they appear here having undergone accelerated wind erosion. A virtual model was lifted from the marble reliefs and subjected to computational winds.

Contributions:

Ertan Ümit, Piero Bisello, Prof. Olivier Chazot, Barbara Renaux, Rasso Hilber, Vincent Descmecht, Céline Mathieu, and Hilde Druant

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Vortex-Faced Being: Input

The Tower of the Winds at M HKA houses the face of the wind or the "Vortex-Faced Being" within a specially designed wind tunnel test-section. The Vortex-Faced Being is the representative of all of the winds in the world. If wind fertilizes animals and people then it must be male.

The face expresses the conditions of the wind, its speed and direction, in cities around the world. One city was chosen for each line of latitude. An automated computer program or "bot" was created in the Python language to tap into the weather station in each of the chosen cities. This bot was translated into a twitter bot named the "Vortex Faced-Being" for all to see. The twitter and Python Bots were designed by Piero Bisello.

Vortex-Faced Being: Output

The Vortex-Faced Being appears in an Eiffel type wind tunnel modeled on the SLWT wind tunnel from the von Karman Institute. We cannot see the wind nor touch it, yet it touches us and we can only see the way it touches other things. Wind with smoke in it flows past a triangular delta wing model in the test section. The delta wing generates a turbulence pattern trailing it. The flow is visualized by a laser sheet illuminating the turbulence pattern. It reveals the face of the wind.

The delta wing's position is robotically controlled by the input provided it by the Python Vortex-Faced Being bots. Engineer Ertan Umit has created the robotics need for this work. As the wind conditions change from one city to another, correspondingly so too do the position fo the delta wing, and hence, the Vortex-Faced Being's facial expressions change. In this way the face of the wind you see in the Tower of the Wind and Vulture is a representative of all the world's winds.