

The New Millennium Sundial At The Ethel Walker School Albert J. Brenner (Simsbury CT)



On Thursday, May 17, 2001, the Ethel Walker School (Simsbury, CT) unveiled its new Millennium Sundial on the School's main building, Beaver Brook. The vertical, cast bronze sundial was created by sculptor Danielle Langford. It was cast and assembled under Ms. Langford's direction at the Argos Foundry in Brewster, New York. It hangs on the exterior of the building over a south-facing window situated over an entrance used daily by almost every student at the School.

The unusual location of the sundial gives it three different visual aspects. The sundial can be viewed from outside or from inside the building through the window. It also casts a shadow onto the floor of the staircase landing on the inside of the window. These three visual aspects were particularly intriguing to Ms. Langford in her design of the dial. Although the dial is a three-dimensional sculpture, the shadows it casts and its open spaces are nearly as important as the solid sculpture itself. The dial is "mostly air" as Ms. Langford described it.

Themes and Design

The design of the sundial incorporates figures representing different aspects of the life and history of the School. The top half of the dial contains seven sets of figures in a field of sunrays emanating from the center of the sundial. At the top are two maypole dancers dancing around the vertical sunray. They represent the long tradition of the School in celebrating spring with dancing on Dogswood Day – a day of games established by the founder of the School, Ethel Walker.



To the east of the maypole dancers (or to the right as one faces the sundial from outside) are four figures. One is reading a book. One looks contemplatively out at the viewer. One hangs upside down from a sunbeam as one would from an uneven parallel bar. To the far right is a dog, a representation of one of several that Ethel Walker loved so much. To the west of the maypole are a dancer and a horse and rider jumping a sunbeam. All of these figures along with the figures in the gnomon represent various aspects of student life at the School: academic, artistic, athletic, recreational, and – most of all – friendship.

The lower half of the sundial tells time and season. It contains the gnomon, the hour angle markers, and markers for the first days of spring, summer, fall and winter. The gnomon is supported by three figures clasping hands in friendship. The dial has been designed and calibrated to indicate the precise standard time for the location within the limits of the variations due to the equation of time (the difference between true solar time and mean solar time). The hour markers can be read from both sides of the sundial enabling someone to read the sundial from inside.

Technical specifications for the layout of the lower half of the sundial were done by Albert J. Brenner, the Director of Finance and Operations at the School. Special thanks to the astrophysicist James S. Sweitzer, Ph.D.

for the reference materials that made possible the technical layout. Dr. Sweitzer is the Director of Astrophysics Education at the Rose Center for Earth and Space at the American Museum of Natural History.

The design and execution of the Millennium Sundial required a combination of art, science, and mathematics – the three disciplines that share the building. The technical design of the sundial is based on a scientific understanding of the earth's orbit around the sun. The specifications for the sundial were based on measurements to determine the orientation of the south-facing wall of Beaver Brook. Extensive mathematical calculations utilizing geometry, trigonometry, and the mathematics of conic sections were necessary to lay out the hour angles and the season markers. As a result, the Sundial itself is a concrete representation of the integration of those disciplines that take place within the building and which were juxtaposed with the intention of promoting greater integration among them.

Biographical Information on the Artist

Danielle Langford, the artist who created the sundial, has had a studio at the Farmington Valley Arts Center in Avon for the past three years. Before that she lived, worked and taught in New York where she received her BA and MA in Art Education from the College of New Rochelle and did postgraduate study in sculpture at the State University of New York in Purchase. She works mainly on representational figures, but found the Sundial to present many unusual challenges.



"The concept of creating a piece of sculpture that would be placed on a window, seen at eye level from inside, carry well from below on the outside of the window, be unified and work, was challenging. After talking with many people at the School and reading its history, I tried to incorporate the traditional and present day aspects that make the Ethel Walker School unique into the semi-circular part of the sundial, which is all decorative, and the gnomon which by its nature must be functional. I relied on others to get the technical side of the time keeping, but tried hard to have it all come together in a unified piece. I feel that the figures in the gnomon work well to signify the support and togetherness I continued to hear about at the School and am pleased that the window itself has not been lost and adds to the brightness I wanted to convey. I must also thank all the people at Argos Foundry in Brewster, New York who assembled the piece and helped enormously with their expertise. I hope the Sundial will give many people much joy."

The Millennium Sundial as a Calendar

The Millennium Sundial, like all sundials, can be used as a calendar as well as a clock. While the time of day is indicated by the angle of the shadow on the dial face, the length of the

shadow indicates the time of year. On the Millennium Sundial, shadow lengths are indicated with the assistance of a small transverse piece of bronze (a season-indicator) located approximately ten inches down the gnomon from where it is connected to the sundial. During the long days of spring and summer when the sun is high in the sky, the shadow of the gnomon is long, and the shadow of the season-indicator falls on the lower half of the dial face. On the first day of summer, the longest day of the year, when the sun is highest in the sky, the shadow of the season-indicator will traverse the arc of the line on the lower part of the dial. This arc is the Tropic of Cancer.

During the short days of fall and winter, when the sun is low in the sky, the shadow of the gnomon is short and the shadow of the season-indicator falls on the upper half of the dial face. On the first day of winter, the shortest day of the year when the sun is lowest in the sky, the shadow of the season-indicator will traverse the arc on the upper part of the dial. This arc is the Tropic of Capricorn.

On the first day of spring or fall, when the sun is over the equator, the shadow of the season-indicator will fall upon the straight line between the two arcs.

History of the Millennium Sundial

The Millennium Sundial is representative of the continuity of The Ethel Walker School through time. Started under one Head of School and completed under another, the project was a favorite of both Susanna Jones and her predecessor, Margaret Huling Bonz.

The design, execution, and installation of the Millennium Sundial were done as a part of the Beaver Brook renovation project. The idea of a vertical sundial on the south wall of Beaver Brook was first proposed in the early stages of the design for the renovation of Beaver Brook. At that time, the design for the third