

Understanding Whole Systems

Charles Ross is an artist who works with light — specifically, sun and starlight. In the '60s he was known for his arrays of giant prisms that spattered brilliantly-colored shards of rainbow across nearby surfaces and spectators with de-lightful abandon. Since then, he has shifted his attention to the unravelling of evidence — contained in the light itself — of the large-scale spatio-temporal relationships that govern our reception of celestial light here on earth. His Equinoctial Year project, briefly summarized on these four pages, marked the beginning of the shift.

Flat photo-images, like the one on the facing page, can barely suggest the vivid sensuality of the burns. They are etched deep into the wood, charred and fissured

canyons, rimmed in places with delicate halos and wisps of soot. They are graphic demonstrations of solar power and the vicissitudes of weather, and the effect of seeing the whole year's worth at once is quite spectacular.

*The material presented here is adapted from Ross's elegant, large-format book, **Sunlight Convergence/Solar Burn**, which was published last year by the University of Utah Press (40 pp., available from the University of Utah Press, 1400 East 2nd South, Salt Lake City, Utah 84112, or the John Weber Gallery, 420 West Broadway, New York, NY 10012; price \$20.)*

Ross, 40, lives half the year in New Mexico and the other half in New York City. —Robert Horvitz

SUNLIGHT CONVERGENCE/ SOLAR BURN

A Solar Narrative Drawn Across 366 Wooden Planks by a Focused Point of Sunlight

BY CHARLES ROSS

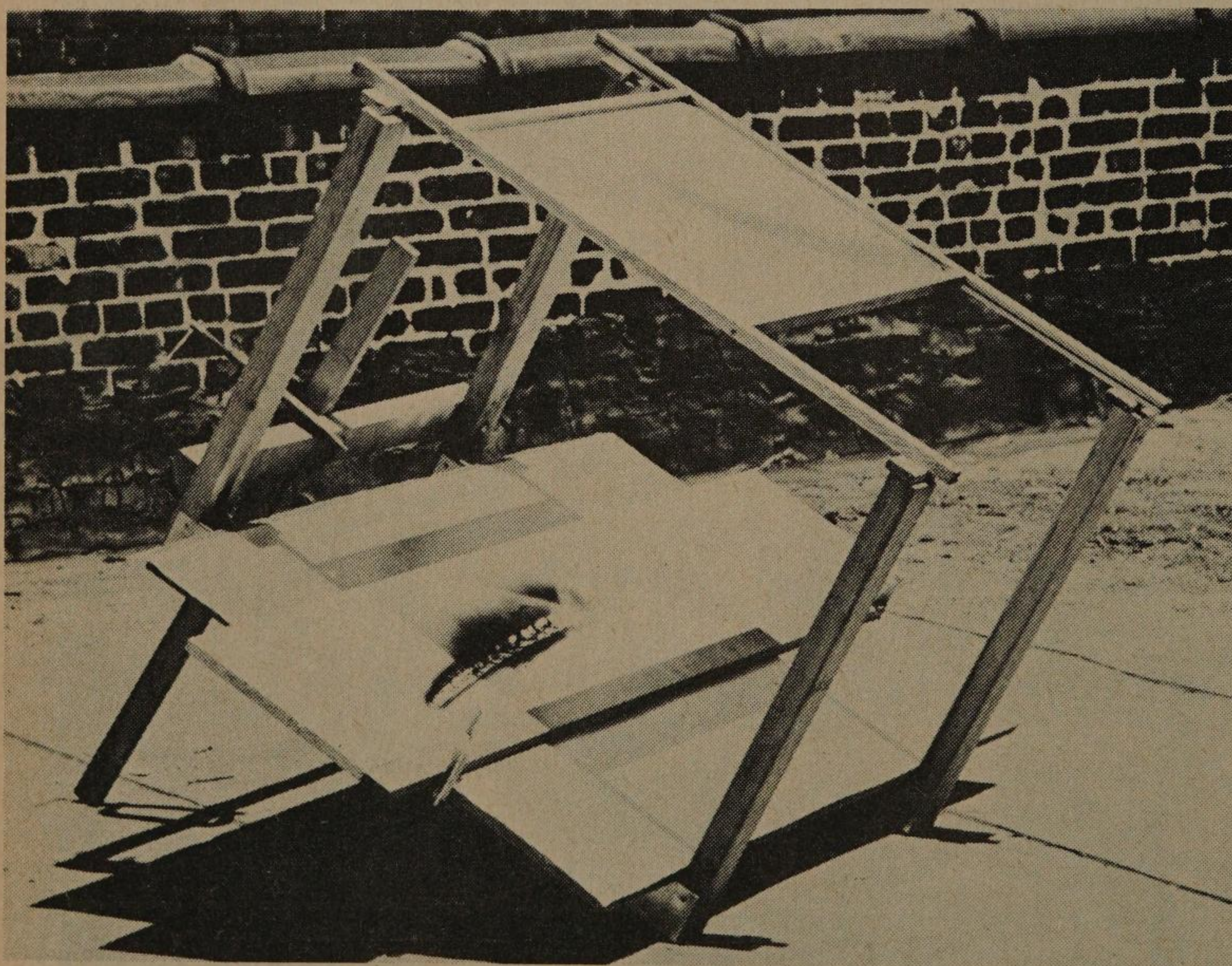
**The Equinoctial Year:
September 23, 1971 through September 22, 1972**

Each day for one year, I placed a wooden plank at the focus of a large stationary lens. As the sun passed across the sky, the concentrated power of its rays burned the day's signature along the plank. In the evening the burn was collected and a new plank was set in place. As the cycle continued, it became ritual: the evening harvest of solar forms.

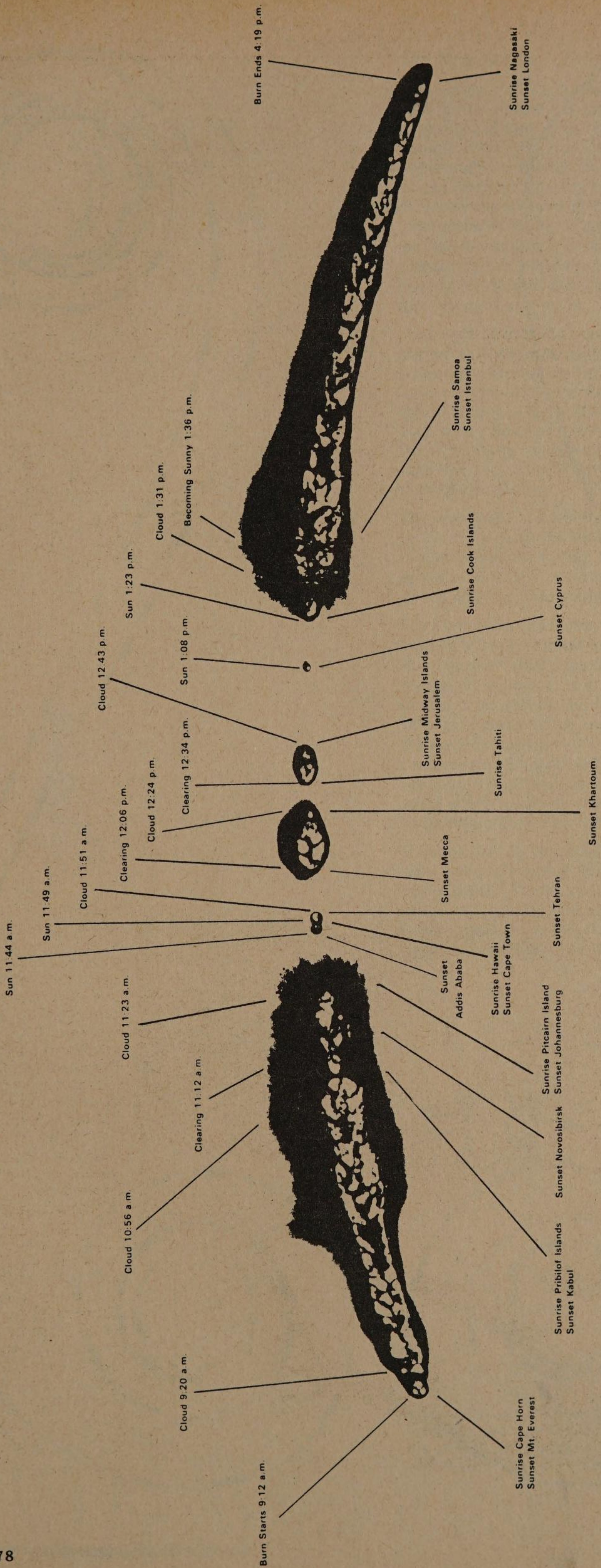
Varying cloud conditions punctuate each burn. Bright sunlight leaves a broad smoke flare. Passing clouds cause unburned interruptions. Overcast days produce blank boards. The length, width, and depth of each burn is affected by atmospheric conditions such as haze and smog.

White light to charred matter. Primal forces captured by the primal camera. Energy to image; regulated thru the fluctuating iris of weather, drawn along the board by the rotation of the earth, segmented by the alternation of day and night. The work could not be made. It had to be derived directly from the source. A window was built so that cosmic elements would reveal themselves.

The artist as catalyst — precipitating form without interference or interpretation. The burns are not information about, but rather a point of contact with their source. They look beyond the notion of art as a closed system to propose art as a point of contact with the universe energy matrix.

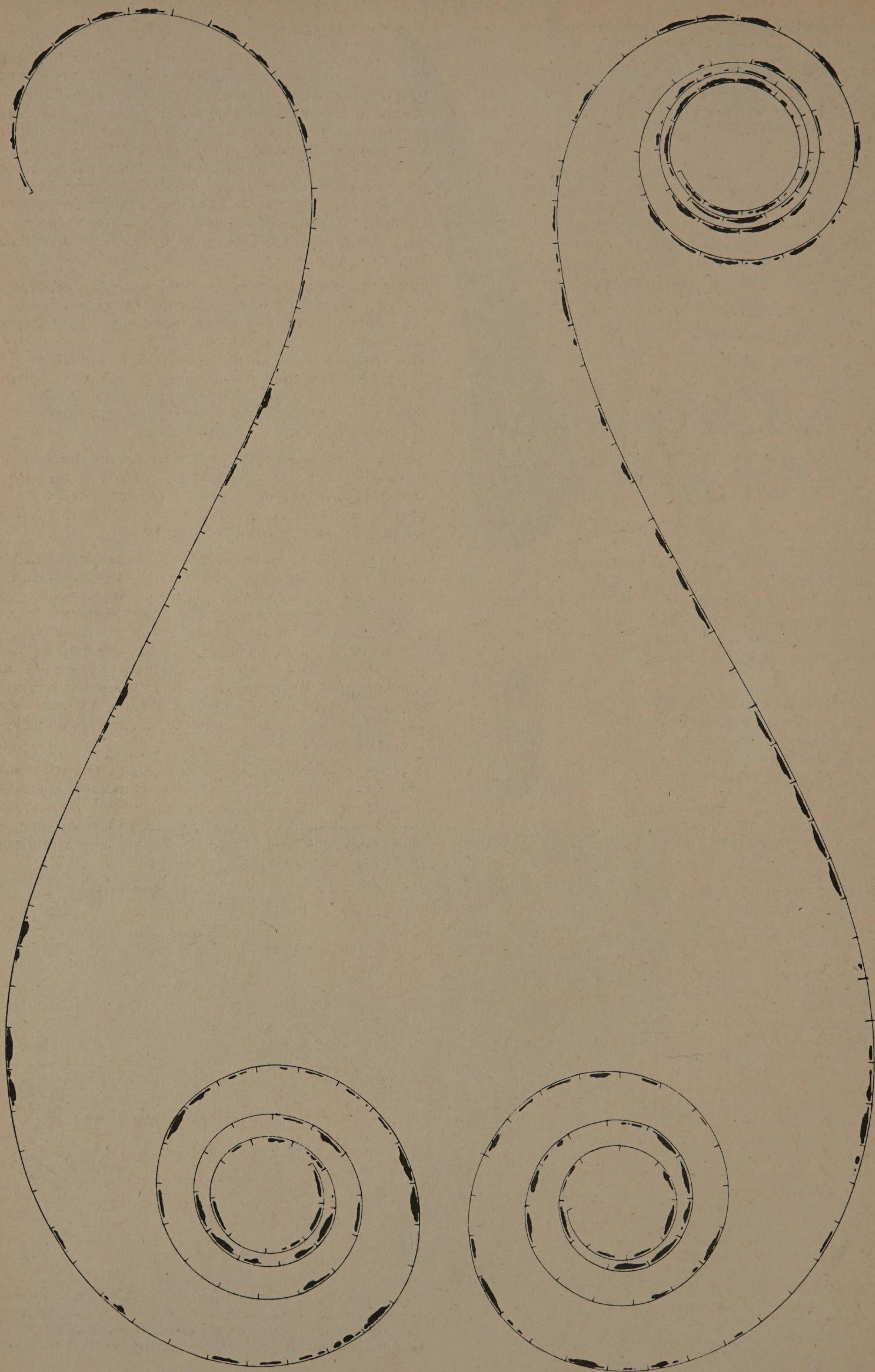


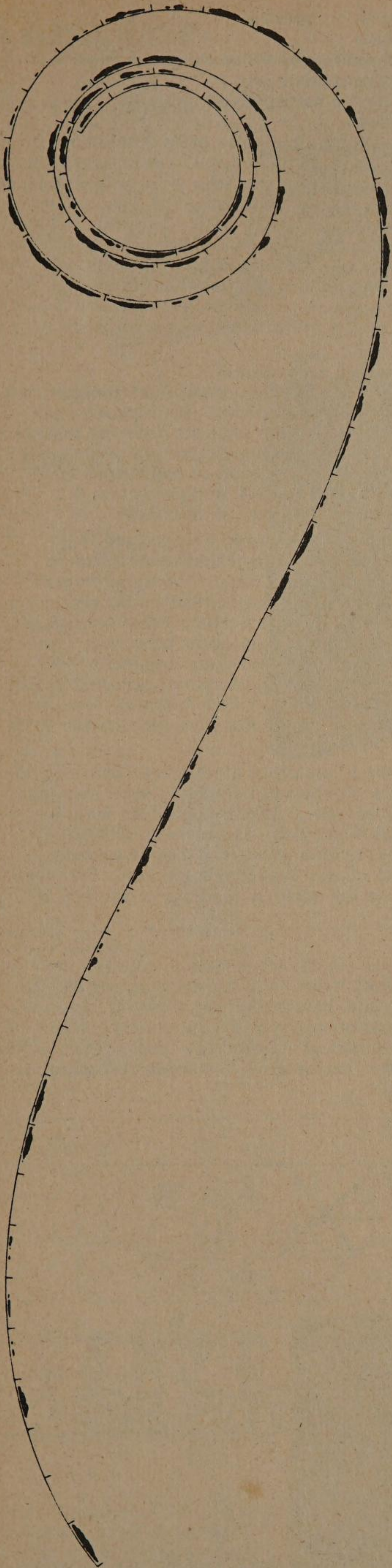
The tools: A flat Fresnell lens measuring 19 X 25 inches with a focal length of 24 inches. Each night a wooden plank was centered under the lens in exactly the same position. The plank measured 1 X 5 feet and was 3/4 of an inch thick. The wood was fireproofed so that it would burn at the focused point of light but would not flame or "catch fire." It was coated with a special white paint that would hold traces of the smoke plume. The apparatus was attached by hinges to the roof of 80 Wooster St., Manhattan, New York, so that the lens faced south and could not be turned in an east-west direction. Occasionally, as necessitated by the seasonal change in the sun's altitude, the lens assembly was tilted (at night) so that the burn would remain centered on the board. The setup was not moved or touched during the course of a single day's burn.



July 1, 1972, New York City

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The Year Shape

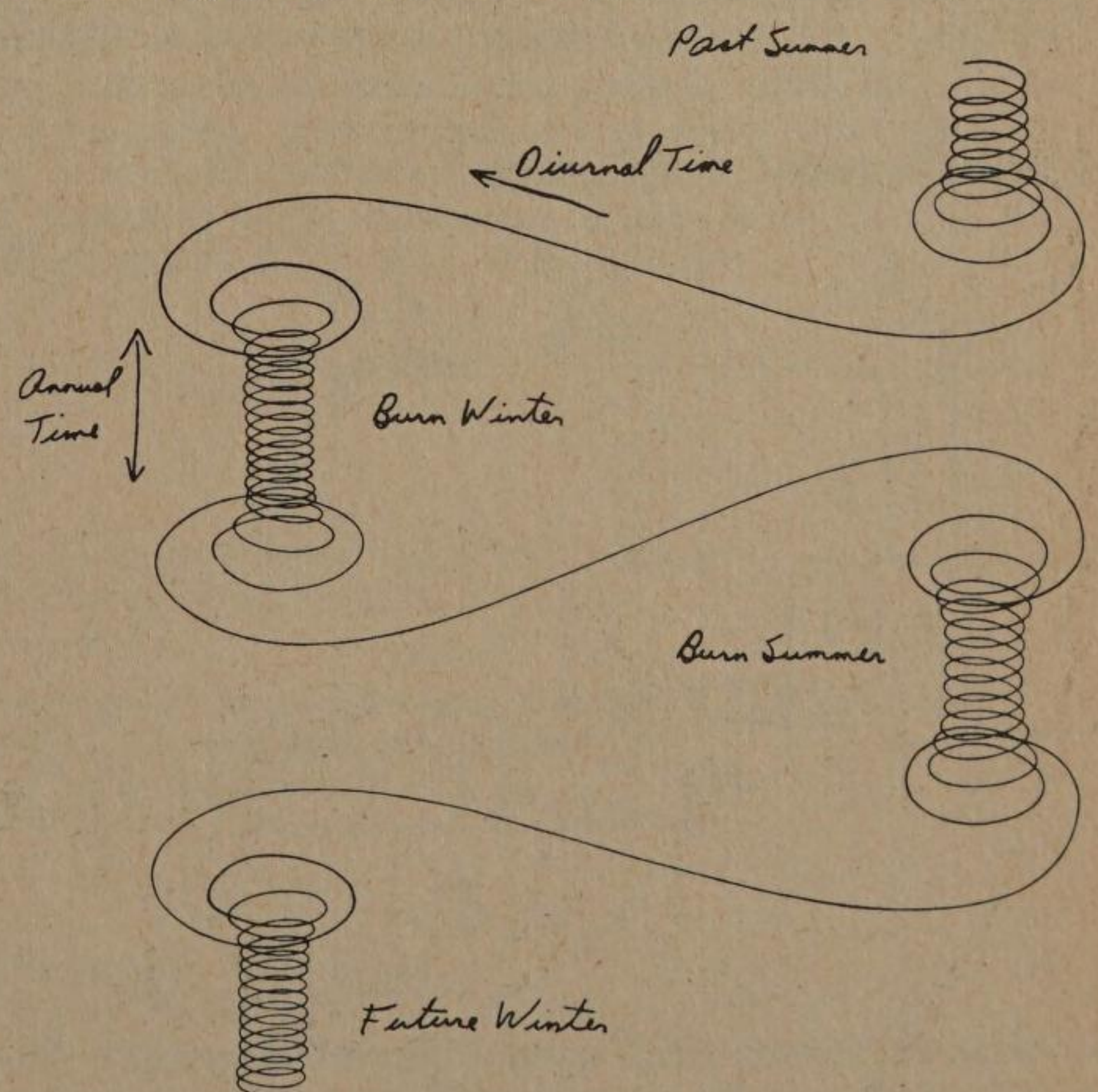
The curvature of the burns varies with the seasons, reversing from winter to summer and straightening near the beginning of spring and fall. I first noticed the changing curvature toward winter; the burns were becoming concave and seemed to contradict the daily arc of the sun across the sky, which is always convex. However, the curvature of the burns is not drawn by the rotation of the earth on its axis, but rather by the motion of the earth around the sun. It seemed that if the 366 burns were placed end to end following their actual curvature, they should form an S shaped curve similar to a plane projection of the ecliptic, the S shaped path of the sun seen on many star maps.

I had noticed that the burn curvature was not always exactly aligned with the ecliptic, but attributed this divergence to a lack of precision in the lens set-up and I was curious to know how it would affect the shape of the year. Since the burns would cover over a third of a mile if laid end to end, they were scaled down in photographs and I began constructing the curve using a length of spring steel wire to follow their day to day continuity. The resulting shape was a complete surprise.

The year shape is a double spiral which rapidly closes down to a circle around the winter solstice and then spirals open, straightening into spring. Curving more slowly in the opposite direction, it curls around the summer solstice, then spirals open again to straighten into fall.

Far from being imprecise, the burns had captured subtle and ordinarily imperceptible elements of the earth/sun system. The "quality" of the curvature in the burns — concave, convex, or straight — belongs to the ecliptic. But the specific degree of curvature, and the amount it changes from day to day, belongs to the position and speed of the earth in its orbit. During New York's winter, the earth is closer to the sun and consequently is traveling faster through space than it is in summer. This change in speed is reflected in the winter burn spiral which closes more rapidly and tightens into a smaller circle than the summer spiral.

Through the medium of a lens, sun light and earth element were brought together and a previously unknown solar form materialized. The image was contained in the light, not in the materialization process. Drawn by the sun itself, the burns reflect the forms, forces, dimension, and time scales of the energy that made them. ■



The year shape in three dimensions. This may be viewed as a materialization of two different kinds of time: diurnal time, the succession of days winding across the horizontal plane, and annual time, the vertical stacking of the seasons.