

FLOATING WORLD

BIORENEWABLES COMPLEX / IOWA STATE UNIVERSITY

AMES, IOWA

ARTIST: RALPH HELMICK

Description of the Artwork

Floating World is inspired by the paintings of Grant Wood and by compositional strategies employed in Japanese woodblock prints (ukiyo-e, literally “floating world”).

Thematically, the sculpture embodies the university’s central role in the history of agriculture, while subtly reflecting ISU’s groundbreaking contemporary endeavors.

A dramatic structure is suspended in the atrium of the new Biorenewables Complex. Consisting of parallel planes of painted laser-cut steel, it creates a complex optical network visible from all parts of the atrium and from the outdoors through a grand east window wall. Perceptual dynamism is its key characteristic.

Each of the eight “landscape” planes incorporates specific content, as do the six “sun” symbols above. The six “mist” planes, which alternate with the landscape panels, complete the gestalt of an Iowan landscape seen at sunrise.

The westernmost landscape layer is comprised of a blackbird, cattail and dragonfly, symbols of the North American wilderness that have endured through time. Rendered in perforated metal, one sees through them to the panels beyond.

Next are a series of layers articulating “agrarian horizons” alternating with “mists”. The horizons are arranged in a rough timeline west to east, the 19th century progressing upward to the present-day. The panels start with an early family farmstead and ascend to a modern large-scale agricultural operation, expressing successive changes in technology and culture. The mists are comprised of perforated panels painted a pale, subtle purple, setting off the rich green of the landscape panels.

At the apex of this landscape is an imaginary array of today’s ISU, an intellectual and historical cornerstone of the field.

Anchoring the array is the final content panel: an epic map of Iowa, with its rivers carefully delineated in negative and visible from the plaza.

A Story in the Floor

Beneath the suspended sculpture seven circular terrazzo medallions create a “you are here” story of scale, starting with a planetary array, zeroing down to a plan view of the atrium and continuing to a carbon molecule. Special care has been taken to include rivers in the Iowa panel, an indication of how local factors impact far beyond local borders, and making a direct connection with the largest content panel suspended above.

Perspectives

Viewed from the café the component layers align into a coherent three dimensional landscape “painting”.

Because the top borders of the panels are echoed at the bottom, pedestrians entering from the plaza encounter a cascade of overlapping descending horizons. Negative space is at play, and thus an engaging element of abstraction.

The Sun Circles

Six 3-foot-diameter circles progress diagonally over the landscape panels. These represent the sun—the ultimate source of agricultural energy—in time and space. Made of brightly painted perforated metal, they are identical in size and shape. Beyond their basic iconic status, however, they reveal distinct images relating to work being pioneered on a molecular level by the Biorenewables Complex.

These embedded images are the outcome of minutely differing hole sizes in the perforation. The result is a subtle and transformative optical effect, wherein the process of retinal discovery parallels the scientific discovery taking place nearby.

While the nearby horizon silhouettes tell a story of technology and culture, these circle images tell the story of the microscopic, cutting edge discoveries taking place at ISU.

Details on Panel Content

Panel 1

A red-winged blackbird, a dragonfly and a cattail are legacies of a pre-agrarian Iowa.

Panel 2

A 19th century scene representing American agriculture a time when wilderness is transformed into farmland.

Panel 3 (from left to right):

This layer represents an Iowa farm at the turn of the 20th century, a time of pre-mechanization. Plows and tools were people or animal-driven, and agriculture was painstaking, unpredictable and challenging. In 1900 farmers represented 38 percent of the U.S. labor force; by the end of the century the figure was only 3 percent. Beginning with the internal combustion engine and moving on to rubber tires that kept machinery from sinking in muddy soil, mechanization also improved the farm implements designed for planting, harvesting, and reaping. The advent of the combine, for example, introduced an economically efficient way to harvest and separate grain. As the century closed, "precision agriculture" became the practice, combining the farmer's down-to-earth know-how with space-based technology.

The trees and shrubbery used in *Floating World* are all native to Iowa and are all found on the ISU Campus. A piece of literature published by the ISU Botany Club entitled "The Trees of Central Campus" (first published 1971; updated 1976) proved helpful in determining what species to include.

American Gothic Homestead - The artist Grant Wood is Iowa born and bred. A part of a triumvirate of regionalist painters—with John Steuart Curry and Thomas Hart Benton—Wood created some of the movement's best known work. His "American

Gothic" is an art historical icon, and the house in the painting is integrated into panel 3.

Amish Corn shocks were widely employed in the pre-industrial farms. A hundred years ago the harvest of corn required far more labor than any other crop. Not only used for grain, the plant stalks were stacked in shocks to dry. Sometimes the corn was separated and shucked in the field. Once dried, the shocks were loaded onto animal-drawn wagons and taken into the barn to feed and bed livestock and swine.

Mist 2 (between Panels 3 and 4)

*Also around the turn of the century, "the father of agricultural engineering", Dr. J. Brownlee Davidson became the head of the Agricultural Engineering Department in 1905 and served at various times until 1946. Over his time at Iowa State College (now ISU) he wrote many books, including a memoir, about his work. A subtle version of his iconic portrait has been added to the lower right-hand corner of mist 2 using the same method employed to add content to the perforated "suns".

Panel 4

This panel represents the move towards a more industrialized Iowa farm.

The schoolhouse brings the viewer in from the left and moves toward showing the rural electrification of Iowa that occurred in the 1930's.

Ford's first pickup the 1930 Model A is next on the right and hints at the independence that farms would gain from using machines instead of livestock.

A barn and silo house animals and store grain and machinery.

(Other layers will show the progress made in grain storage with the modern Sukup grain storage bins.)

The tractor shown is a McCormick Deering model 10-20 built in 1928. This tractor started on gasoline and switched to cheaper fuels once it was warmed. The buildings on the far right are those found on the typical farm in the 1930's. This would consist of a farm house, barn and silos.

The home portrayed here is a hybrid of the house in Grant Wood's "American Gothic" painting and his childhood home.

Panel 5

This panel features the major mechanization and boom that the farming industry saw in the 1980's. Science and technology have become even more significant and the relationship between the two directly correlates with production on the farm. At the end of the 19th century, it took 35-40 hours of planting and harvesting to produce 100 bushels of corn. One hundred years later, it took less than three hours. Before the tractor, at least 20 percent of the harvest would go to feed and bed the livestock. With the help of ROPS (roll over protection structures), tractors are now safer, and operators can ride in air conditioned comfort and even listen to music as they work.

A 1980 Ford pickup truck is represented in the barn, showing the aesthetic geometry of the 1980's. The Ford pickup has been an enduring favorite of America's farmers. Before the turn of the century, Ford produced a number of experimental tractors and machines meant to help the American farmer decrease physical labor, increase production, and lower expenses.

The tractor on the left side of the barn is a more primitive John Deere 850 model. Complete with ROPS, the tractor on the right reflects the effort made to make agricultural equipment safer for the operators; this tractor is a McCormick MTX 175 with an auto baler.

Corn and soy make up the overwhelming majority of production of the state of Iowa. The growth sequence of both can be seen on this panel, with corn to the left and soy on the right.

Sukup medium duty hopper bins circa 1980 can be seen on the far right side of this panel. These bins are a popular choice for the Iowa farmer. The Sukup family has made

indispensable contributions to the farming industry with their wide range of grain dryer and storage bins. A gravity wagon with auger and conveyor feed grain into the bin.

Panel 6

This is the layer embodies major scientific innovations responsible for the vast expansion of the farm industry. With wind turbine technology, ethanol facilities, vast storage, and precision equipment, Iowa is on the cutting edge of large scale agriculture.

On the far left, terracing of the landscape is represented, with a small soy plant representing the crops benefitting from this ecologically sound method of land management.

Large modern windmills as are seen dotting the modern Iowa landscape are next, surrounded by a herd of swine and followed by an expansive indoor swine housing.

The ethanol facility is depicted in the middle of this panel. Corn serves many purposes, one of the most important of which is its conversion to ethanol. ISU is a key player on the ethanol front and is committed to innovation in this field.

The John Deere 9870 STS combine harvester is shown beside the ethanol facility. This type of tractor is ubiquitous on Iowa farms and is responsible for accomplishing a variety of tasks that would have taken an exponential amount of time at the turn of the century.

Additional Sukup grain storage bins round out the modern agriculture panel.

High above the panel itself, a GPS satellite floats, assisting the harvester in its navigation.

Panel 7

This illustrates the ISU campus circa 2014.

The Biorenewables Complex is first on the left. Moving to the right is the Marston Water Tower, Beardshear Hall, Morill Hall and the Campanile--a treasured icon of the ISU campus. Continuing past the Campanile is Memorial Union, the Fountain of the Four Seasons designed by Christian Petersen, Catt Hall, and Stephens Auditorium. This section represents the richness, commitment to excellence, and history of this verdant campus. Interspersed among the buildings are a variety of flora commonly found on the ISU campus.

Also on Panel 7, Dolly the genetically duplicated sheep forms a cutout on the lower left-hand side, an oblique nod to the innovative scientific advances being made at ISU.