Representing Rurality

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Representing Rurality

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Abstract

Architecture is a system of representation. Architecture’s *power* is that through representation we may change previously constructed conceptions and misperceptions, and ultimately it can transform patterns of spatial inhabitation. Through words, images, drawings, and built work, we define modes of experiencing space. This project seeks to redefine Nebraska as a territory of critical social, political, economic, and physical importance through architectural representations.
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Executive Summary

This project stems out of personal interest in two subjects I identified as being overlooked in the architectural discipline. The first, the issue of rural areas, is neglected in favor of ubiquitous urban discourse. Even suburbs have been extensively studied and theorized. What is puzzling about the lack of work on rurality is that without the systems that are rooted in these largely agricultural landscapes, neither urban nor suburban life in its current form would be impossible. The growth of cities is not an accidental phenomenon; rather it has roots in institutional pressure to empty rural areas of the United States to provide a working class for rapidly industrializing cities. The second way I wanted to address the current state of architecture is to question its insular nature. By engaging geographic modes of thought, I have sought to find architectural responses to topics like the toxicity of corn production, the loss of biodiversity in agricultural areas, the impact that production regionalization has on public health, the homogeneity and loss of place-ness that rural sites have undergone.

Geography is, like architecture, interested in space and place, but rather than focusing on built form’s effect on the management, visualization and inhabitation of space it seeks to understand how non-physical systems like
economy and ecology shape the physical world. In the overlap between the two fields is where I would situate this project. Architecture has the ability to make these patterns and systems visible. But while in this sense architecture is serving a geographic purpose, the geographic thought also allows architecture a new foundation for developing program as well as providing a basis for architectural interventions in rural landscapes.

I have used architectural representations to design and define an understanding of a particular site, that of York County, Nebraska. These representations aim to alter previously constructed understandings of rural landscapes. The separation of urban and rural life, the lack of interaction with these landscapes, allow them to be constructed through secondhand images of idyllic pastures and amber waves of grain stretching as far as the eye can see, with taglines like “the breadbasket of America,” and notions that American corn farmers feed the world.

But the truth is that these images are idealized representations. They do not show the way these landscapes have been manufactured; they do not show the destructive effect monoculture production has on local ecology or the way this method of farming is not at all natural but rather relies on copious amounts of chemical and mechanical inputs. These representations take landscape at face value. They reflect a contemporary condition where the majority of individuals no longer have a connection to land.

In order to develop a strategy for designing on this site, I wanted to understand what was occurring with the systems on the site. I identified 5 major
systems around which I structured my research. These are Laws and Subsidies, Foodways, Mechanization, Homogenization and Ecology. I looked at the dramatic increase of corn production in the United States after the 1960s. Through the implementation of corn subsidies and pressure to plant fencerow to fencerow, there was a surge in corn production in the 1950s and which, due to the nature of crop economies, meant that farmers were paid less for their harvest due to a glut in the economy. Prices were driven lower, so farmers had to think of ways to maximize efficiency in order to produce more. This of course pushed prices lower, and created a need to continue to produce increasing amounts of corn. This is known as a production treadmill.

The effects of corn production are the subjects of my work. There are four interventions that I have developed to be sited in York, Nebraska: a boardwalk that seeks to reveal the physical effects of chemical and mechanical processes on cornfields, an area where praire is restored to reveal the Jeffersonian grid, a seed lending library and education center within the town center, and a wetland terracing center that illustrates the importance of ecological diversity. Parallel to these designs I have developed a series of billboards that represent the issues each intervention relates to.
UNVEILNG
THE RURAL LANDSCAPE
UNVEILING THE RURAL LANDSCAPE
Mutable Systems of Nebraska’s Cornbelt Region

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Within the past 50 years, industrialized farming has transformed America's rural and agricultural landscapes. These two landscapes have taken on increasingly divergent cultural representations in language, paintings and photography. Architectural interventions within the rural landscape can act as a device to reveal these differences. In this way I am engaging in four interrelated discourses.

**Defining the Rural | Linguistic, Painting, Photographic Representations**

In order to define the rural landscape, it is essential to understand the way it has been constructed by cultural representations in language, painting and photography. Images of nature mediate that which is outside of us, translating environment into a cultural object. Following a trajectory of pictorialization, the eidetic image of the landscape has led us to question our relationship to what we perceive as an entity outside of ourselves rather than processes we are integrated within.

**Constructing Landscape | Nebraska and the Corn Belt**

The American Corn Belt is deeply connected to personal scales and global economies. Nebraska produces the third greatest amount of corn of any state and is included within the part of the nation defined by its corn production. Additionally, Nebraska is the state that had the greatest percentage of land area—45 percent—settled through the Homestead Act of 1862, a piece of legislation that was deeply rooted in the ideals of Jeffersonian democracy. By studying the historical delineation as well as the present day processes (spatial measures, policies, farming techniques, systems of transport) that transform the Nebraskan landscape, we can create a new image for this territory.

**Systematizing Site | Aerial Photography and Mappings of the Mutable Landscape**

Understanding the physical characteristic, process and patterns of rural landscapes allows us to extrapolate relationships of agricultural lands to political spaces, to nodes, to networks. It allows for the creation of ‘place’ in replicable, expansive sites by revealing the complexity and particularity of one location. Pairing aerial photographs and mappings attempts to combat the picturesque construction of landscape.

**Embodying Identity | Manifestations and Representations of Mutable Conditions**

These projections and provocations for future design projects imagine interventions on the landscape. These apparatus are meant to reveal the dynamic nature of rural sites and are designed through the lens of their future representation. How do we reconstruct the collective understanding of rurality?
Rurality can be defined through its representations. Landscape architect James Corner states, "landscape and image are inseparable. Without image there is no such thing as landscape, only unmediated environment." I am interested in the way that the cultural artifacts (paintings, maps, photographs, and computer technologies) that represent the rural have in turn transformed the collective conceptualization of these territories. I plan on cataloging then creating representations of the rural. I will look at paintings, mappings, photographs, and computer-generated images; analyze them; then create my own versions in order to define the landscape I am interested in. These would illustrate the divergent trends of the agricultural and the rural. I am taking on the documentation process fully cognizant that documentation is a not a neutral process, but in fact has a great deal of agency.

Whereas processes of cultivating the soil and rearing animals define the agricultural, the rural cannot simply be defined by its oppositional relationship to the urban because it is taking on physical qualities of industrialized labor processes.

The USDA defines rural as:

- Nonmetropolitan (nonmetro) areas, defined on the basis of counties. [...] Nonmetro counties include some combination of:
  1. open countryside,
  2. rural towns (places with fewer than 2,500 people), and
  3. urban areas with populations ranging from 2,500 to 49,999 that are not part of larger labor market areas (metropolitan areas).

This illustrates physically expansive landscapes with low populations. There is overlap between what agricultural landscapes necessitate—the need for large amounts of space to produce profits—and ideas of rurality. Paul Cloke, geographer and editor for Journal of Rural Studies, raises the question of how rurality is defined and notes that spaces are produced by the way we live, act, and work in them. This implies that there are processes actively producing rurality, such as the cultivation of great swaths of land owned by few people, and increasingly, with the aid of mechanization. Processes of production—regional and individual farm specialization, spatial separation of livestock and crops, homogenization, and standardization—have defined rural and urban spaces as well as the boundary between them. Today we struggle to define the rural through its opposition to the urban, as we once could. We now see conditions of extended peripheries. We get suburbia and we get loose industrialization. Much of the industrial agricultural systems that we use today are rooted in mid-century policies. We continue to be heavily reliant on high capital inputs, high chemical inputs (pesticides and herbicides), regional specialization (Corn Belt), planting monocultures, technological fixes (precision agriculture, remote mechanization, GMOs), corporate consolidation of inputs (Monsanto, ADM, Cargill, ConAgra), government subsidies. These are processes of the rural; through my research I seek to understand what the signs and symbols of the rural are and how they are physically embodied.
Embedded within our usage of the words rural and landscape are mental images and associations. Hues and patterns, memories of textures and noises create an individual definition of these words, but the words themselves allow communication beyond our internal experiences. To better understand the social meaning of a word, it is helpful to understand its history. While this seems trite, the insights we gain from studying the etymologies of both words identify moments where change occurred and the how reconceptualization of words stems from wider cultural trends.

**rural**

1. of, pertaining to, or characteristic of the country, country life, or country people; rustic: rural tranquility.
2. living in the country: the rural population.
3. of or pertaining to agriculture: rural economy.

Rurality is a nebulous concept. There are three different governmental definitions and each relates the rural to a lack of density. It does not speak to the qualitative aspects of these areas; this portion of the rural is defined through cultural representations. The word rural comes from Old French rural and Latin ruralis, which meant “of the countryside,” and was tied to rus, “open land, country.” Here we have established once more the idea of openness; it is a notion that also retains a feeling of opportunity, and in a very American sense, land yet to be claimed. Rus is derived from the Greek arura meaning arable land and this in turn came from the verb arō: to cultivate farm or plow. If, when we speak of rurality, it is with the vague connotation of agriculture, this may be why.

**landscape**

1. a section or expanse of rural scenery, usually extensive, that can be seen from a single viewpoint.
2. a picture representing natural inland or coastal scenery.

Our usage of the term landscape is no less tenuous than that of the rural. Outside of architectural discourse, the term refers to a view of a land area. However, the notion of landscape as a passive object, as an object to be viewed, is contrary to the origins of the term. The focus on image and vision was concretized in the 17th century with the predominance of the Dutch landschap in reference to paintings of natural scenery both inland and coastal. The Dutch school of landscape paintings was concerned with portraying atmospheric conditions and the grandeur of their surroundings. The cognate to landschap is the Old English word for a painted image of the land: landskip. Producing images of land meant that the image was given significance separate from productive value of land. This established a standard of beauty by which to evaluate land; in other words, appearance became the primary point of exchange and assessment.

These etymological derivatives constructed a notion of land that differs greatly for earlier forms. The Middle Dutch word landschap - which preceded landschap - referenced a particular region. Similarly, landschaf - landskip’s Old German precursor - invoked not only a visual understanding of land, but also described the organization of a productive landscape. Landschaft expressed a community’s spatial relationship to the pastures, meadows and fields where they worked and the nearby territories which remained uncultivated. The notion of land at the time was much more than a specified swath of land but rather was tied to what we understand today through nation or state. Land in the Old Germanic context connoted belonging to a particular place and responsibilities to that community; land was essential in constructing identity. The suffix –schaft meant ‘to shape,’ and illustrated the abstract conditions of a place as well as processes that created notions of place. In this way, the word landscape was much more than physical areas. It recalled networks of movement, patterns of social activity as well as a community’s temporal habits. Landschaft encompasses the construction of social ideas and images.

Our present understanding of landscape has abandoned the knowledge of social processes that were essential in the usage of landschaft. ‘Landscape’
allows us to speak about a range of diverse places without the deep understanding of the construction of place; 'landscape' makes permissible a purely visual evaluation of a place. That is to say, we may fall in to the trap of believing that we know a place simply by seeing it from a removed perspective. It may not be a stretch to say that landscape preferences the outsider, an occupier of a landscape relates to the land in a distracted state without the distinct awareness of the visual which a visitor would.

An additional perspective in the construction of landscape is the effect of performance and event. J.B. Jackson in, "A Sense of Place, A Sense of Time," notes the way that landscapes of expansive homogeneity are often heavily influenced by the passage of time. The cyclical nature of days passing, the agricultural calendar, the changing of seasons, these ephemeral concepts of landscape provide a more complete understanding than a purely visual mode of study and representation.

PAINTING AND PHOTOGRAPHY

The history of landscape representation in the United States is punctuated by characters that shaped the way that our culture as a whole formulated ideas of rurality.

Painting

Perhaps the most influential character of early American landscape painting is not an individual at all but rather the Hudson River School led by Thomas Cole. The Hudson River School painters focused on the development and settlement of the Hudson Valley and surrounding areas in the mid-19th century. A fascination with the frontier and American's peaceful transformation of wilderness were often the subject of the Hudson River School. Cole was born in Britain, but as with many others of the day, came to America as a young boy with his family who was seeking new opportunities. His hometown of Bolten-le-moors was undergoing rapid industrialization and Cole was influenced by the way large factories were encroaching on his rural town. Arriving in the New World, he was astounded by the vastness of the American frontier. His work is characterized by a sense of realism and romanticism towards the expansive countryside. Tension between natural and culturally constructed landscapes was central to Cole's work. As we notice in The Oxbow, Cole often painted distant views of the landscapes; this scopic regime gives the viewer a sense of omniscience. During the 19th century, Manifest Destiny was a prevalent belief during the time Cole was painting. Frederick Edwin Church, Cole's only student, seems to have been impacted by these types of ideals. Church completed works during the 1850s and 1860s and was very much interested in portraying the grandeur of natural settings, employing light and detail to describe uninterrupted nature. His work gives a sense of the sublime and seeks to diminish the painter's presence in the finished piece.

Church's work is related to the styles of other artists such as Fitz Hugh Lane and Martin J. Heade. Today these artists are identified as part of the Luminism movement, although the artists never considered themselves to be a part of a larger association with sentient attitudes about painting. Art historians describe luminism through its adoption of descriptive realism and emphasis on light qualities. Often, Luminist painters aestheticized their works, editing and combining views in order to express a landscape that was much more impressive than it might be on its own. Many who painted in this style portrayed Jacksonian expansion and optimism towards the new frontier. The term Luminism is thought to be the invention of art critics and collectors who wanted to inject value into certain bodies of work.

At the closing end of the Luminism movement, other artists were beginning to paint landscapes and individuals in the Realist style. Winslow Homer was an artist that is commonly associated with the movement; his work portrayed...
Americans from all walks of life. Even the medium the homer chose to paint in reflects his ideas about the nature of the United States. Instead of using oil, Homer took to watercolors not only because of its material qualities but also because it meant he could sell his painting to a wider audience, not just the wealthy. His critiques of American Reconstruction policies are prevalent in scenes of rural America. Homer painted a wide range of subjects, from the urban dwellers, cosmopolitan women. Additionally, his paintings are distinct from preceding movements in that they emphasize the action occurring at the individual scale. Therefore, his painting’s horizon lines are along the same lines as the eyes of the subjects.

Best known for his painting, American Gothic, Grant Woods played an influential role in creating distinctly American iconography as well as bridging 19th and 20th century art movements. Without departing from earlier interests of the American landscape, he began to investigate themes of government policies after the Great Depression. Other artists who took on similar motifs formed what is known as the American Scene movement. In part a rejection of the industrial character that presided over previous decades, the American Scene sought to identify the human spirit as an essential force in American identity. Similarly, the movement brought to light particularities of distinct regions and questioned the role of art within society. Although some of Wood's earlier pieces such as Daughters of the Revolution (1932) seemed to mock the attitudes of rural society (in this case by portraying the founding fathers as cross dressers), his later works began to exude great respect for farmers. Woods' paintings helped to form an image of the tireless farmer upon whom America is built. His paintings raised up farmers as integral and valuable constituents of the nation.

The trajectory of the American Scene was transformed by artists such as Milton Avery who, in the 1930s and 1940s began abstracting the seminal views of the movement into flat planes of color. Avery's work preceeded the Abstract Expressionist movement, and inspired artists like Mark Rothko and Richard Diebenkorn. Flatness of the picture plane, as well as a reduction of detail characterized Avery's work. Unlike the artists of the American Scene who were concerned with the social aspects of the landscapes they painter, Avery was fascinated by the way landscapes could be imbued with monumental presence through the shifting of color palettes and painting techniques. The accurate representation of a place was secondary to art's ability to imbue meaning to subject. Avery's reduction of detail serves to illustrate this fact. Visually, there are similarities between Avery's work and that of the Cubists. However, the likelihood of cubist influences on Avery's landscapes is unlikely. Whereas the cubists had a distinct ideology and intellectual methodology behind their style, Avery's primary concern was with studying subject.

Following Milton Avery's forays into Abstraction, a new set of artists explored the methods of abstraction to new ends. Richard Diebenkorn was one of these artists, aligning himself with the Abstract Expressionist and the Bay Area Figurative movements. Diebenkorn was highly influenced by landscape traditions and aerial perspectives. He was able to conflate two distinct interests into a unified style. As his work progressed, it became increasingly abstract, so even while he continued to represent landscapes, they were shown as large swaths of color, overlain with lines of sight that were notational devices in Diebenkorn's new visual language.

Painted representations of landscape have come to represent a wide range of cultural perspectives. Diebenkorn best represents the disconnectedness that a contemporary urban dweller may have to the landscape. Because landscape has undergone abstraction, we are each left to fill in an image of what that territory is and we do so without a full understanding of the systems that define and create it.
Photography

The use of photography as a means to describe a landscape occurred almost immediately after its invention, when combined with another recently developed technology—the airplane—it produced results that allowed artists to understand this as a conceptually charged tool.

Le Corbusier produced one of the first critical portfolios of aerial photography. His book, “Aircraft,” argued that with the lens of the aerial photo revealed the shortcomings of the planning methods of the time. He spoke of the way that the airplane gave society a new eye by which to view the world. "By the means of the airplane," writes Corbusier, "we now have proof, recorded on the photographic plate, of the rightness of our desire to alter methods of architecture and town-planning.” Additionally, because aerial photography relied on the aircraft made other aspects of that particular mode of transportation more salient. There was a greater sense of connection between distant locations.

Photographing during the same period, Arthur Rothstein focused on an entirely different mode of representation. His photographs were primarily in a documentary style; his purpose was to describe the lifestyle of the common man. Additionally, his photographs cut across a great number of American typologies; he captured urban, industrial, suburban, and agricultural areas. Likewise, David Plowden cut through a great cross-section of the United States, however instead of focusing on the individuals who made up the United States, he was driven by an interest in depicting specific images of the world. Through his study of urban conditions, we understand the way machinery and industrialization shapes the world. The processes of industrialization are faceless. Plowden chooses not to portray the human's role in creating machines, leaving the processes of industrialization hidden behind a pictorialized view.

James Corner and Alec Mac Clean’s project, embodied in “Taking Measures Across the American Landscape,” sought to convey the landscape in a more complete light, to illustrate the passage of time and the transformation of the landscape. They were both aware of photography’s power to distance the viewer from place, to encourage viewing rather than engaging with the landscape. If we take this notion and apply it to the vast cornfields in the American heartland, we will recognize that the awe-inspiring patterns that create a graphic impact are signs of a larger system: a system that absorbs and processes, breaks down and alters the landscape. The agricultural processes of America are reframed by the coincidence of map and aerial image. They each allow a synoptic vision. Through the map, we are given a scale to reference and the photograph places these measures in a more tangible context.

What Anuradha Mathur introduces in “SOAK: Mumbai in an Estuary,” are the concepts of narrative and time. Through her collaged maps and photo sequences, we understand the importance of being within a landscape, of experience in a social and cultural context. Although she does include maps—both historical and contemporary—she strongly prefers editorial photography. Overlaying, cutting, manipulating and annotating the photographs, Mathur synthesizes multiple systems of landscape in single drawings.

Many of the interests that Corner speaks of, Kate Orff studies through a similar representational technique in her own book, “Petrochemical America.” Although she does not intend for the work to be understood through the lens of ‘collage’, she is—like Corner—representing systems and networks to challenge the pictorialization of landscape. Her book reveals impacts of petrochemical production across a wide cross-section of scales.

These contemporary practitioners are actively engaged in representational techniques that emphasize landscape’s operative qualities. Through a study of ten visual landscape representations, we can see the historical and cultural trends in different systems of landscape representation.
Horizon Line
The horizon line within this painting is far above the view of the individual painted in the scene. This suggests that Cole was more interested in depicting the grandness of the scene than the lived experience of the actual place. Cole paints himself into the scene noted by the red dot.

Repoussoir
Traditionally used in European landscape paintings, repoussoir is the technique of using a framing element on one side of the foreground in order to direct the viewer towards the other elements in the composition. In this case, the cut tree punctuates the composition and directs vision towards the agricultural landscape in the valley below.

The Natural and the Cultivated
The first third of the painting represents a wild nature while the latter two thirds are depicted as peacefully cultivated.

Thomas Cole, *The Oxbow, View from Mount Holyoke, Northampton Massachusetts, after a Thunderstorm*. 1836

Cole’s stylized landscape illustrates the British influence on his conceptualization of nature and industry. The scene is divided in two: a more natural, untamed portion on the left, represented by the billowing storm clouds and wild forests and on the right, the landscape has been transformed by agriculture and civilization. In this particular painting, agricultural cultivation is painted as a harmonious and almost divine use of the land. The cut stump in the foreground illustrates the idea of civilization’s progress by the transformation of the natural world.
Winslow Homer, *The Veteran in a New Field*. 1865

After the American Civil War many farmers who fought returned to their fields. Homer depicts one such veteran, and paints the character as central to the composition. By doing so, he recognizes the importance of the rural and agricultural population in unifying the United States. Concurrently, Homer illustrates the farmer-veteran hard at work, with a sense of individualism. These are qualities that have been internalized as cornerstones of American character and as they relate to our land, they create a narrative of honest labor. The countryside is a place where the American ideal is most alive.
Grant Wood, *Young Corn*, 1938

In *Young Corn*, Wood portrays a farmstead in his signature style. Although the image is painted as if from a distant location, it constructs the relationship of farmers to the land in a way that other removed views had not. Wood depicts a varied landscape and shows how the family living on the land transforming its natural form. He illustrates the relationship of homestead to farmstead by also including the domestic space within the painting and constructs the larger social notion of the Agricultural Ideal.

**Varied Landscape**

Within this painting, Wood includes six different plantings. The diversity of cultivation types not only illustrates the type of agricultural techniques of the period, but also illustrates the richness of the land. The family in the painting has a symbiotic relationship to the land; it is central to their livelihood and they in turn take great care to maintain it.

**Caricature**

Due to the nature of Wood’s painting style, the landscape often seems like an unrealistic portrayal of the agricultural lifestyle. It is an idealized view of the landscape.

**Repetition and geometric forms**

The rationalization of the landscape into repetitive forms illustrates the influence of 15th and 16th century German art on Wood. The forms also harmonize rural society.

*Woman in Profile* illustrates a significant shift towards the abstraction of landscape within painting as well as a greater social trend of separation from landscape. The subject of the painting reflects a general social trend, a movement away from the countryside. Unlike previous landscape paintings, *Woman in Profile*, depicts an industrialized landscape. There seems to be freeway infrastructure in the background of the painting.

Brushstrokes
Diebenkorn’s work celebrates the process of creating the painting. Whereas Luminism and the Hudson River School wanted to remove the artists’ touch, Diebenkorn celebrates these aspects as a part of the process of creating art.

Landscape Zone
Diebenkorn compartmentalizes the landscape into one zone within the painting. The woman’s view occurs within this boundary, and yet she is turned away. His depiction of the woman reflects a larger social trend away from agricultural landscapes.

The Architectural Frame
Diebenkorn regulates the composition by introducing an architectural frame. Not only does it divide the picture plane, it also represents a larger social shift towards mediating nature through building. It shows the alienation of individual from the land itself.
Le Corbusier, Photograph from *Aircraft*, 1935

Although Corbusier was aware of photography’s potential for revealing the physical construction of landscapes, he too readily believed that photography could reveal the shortcomings of architecture and urbanism. Representative of the Modern movement, there was a fetishization of the machine as well as the modes of seeing that it allowed pervasive within *Aircraft*. The synoptic views gathered in the book depict general physical patterns of the landscape, and some photographs are able to reveal patterns of inhabitation and usage.
Arthur Rothstein, John Frederick of Grant County, North Dakota, shows how high his wheat would grow if there were no drought, 1936

This representation of a farmer is unique in that it shows the subject interacting with the artist. Taken just a year after Le Corbusier's book, Aircraft, was released, Rothstein work completely rejects the synoptic view in favor of a personal understanding of larger social climes. He was interested in reporting, in describing the lives of Americans.

Expansive Landscape
The setting of the photograph illustrates the vastness of agricultural fields and the chasm that the spatial requirement hundreds of acres of farmland creates for rural populations and urban populations.

Division of the Image
The machine and the industrial infrastructure divide the image in two parts. Additionally, the photograph is able to capture varying scales of industry.

Alienation of Individual and Industry
In this photograph, the human subject is set apart from the machine. Additionally, the figure does not acknowledge the machine or the factory in the distance, rather his pose suggests connections to harvest cycles and environment.
David Plowden, Seed Corn Plant, 1983

Similar to Rothstein's body of work, Plowden's photographs centered around artifacts of production as well as the rural and agricultural. The most important difference between the two photographers is the scale of the human figure. Plowden's photograph denies the human figure while Rothstein's fully embraces it. Another important aspect of Plowden's photographs are the graphic qualities, the focus on pattern and texture.

Rationalizing the Image
The division of the photograph in a 2:3 ratio reflects an interest in creating a rational image. Similar to Corbusier's discourse surrounding aerial photography, Plowden's work seems to reduce the landscape to an easily digestible version of itself.

The Artificial and the Natural
Plowden reduces the effect of the industrial factory. He uses it to construct boundaries between the earth and sky.

Landscape as Visual Device
The landscape is used as a plane of color. Its field qualities are heightened so that it becomes less of a worked on physical entity, but rather the abstraction of a place.
By critically exploring the limits of aerial photography, Corner developed a mode of representation where he keyed in photography to other modes of measurement. Through this technique, Corner is able to take Amex MacLean’s photographs and use them to reveal the human construction of the natural world. He provides two modes of vision at once, giving the viewer the ability to reinterpret image in relationship to map. By keeping photographic elements, there representational trajectory that Corner is altering. Once you have seen Corner’s drawings, you are able to understand other landscapes in a similar way.

Measure
Corner chose the United States Geographic Survey as a system of measurement for the drawings he made for its seemingly neutral and objective representation. This would allow him to use the same system across various types of landscapes.

Photography
In Corner’s images, the photograph is cut and collaged, by taking apart a whole image and restructuring it, he is attempting to illustrate the shortcomings of traditional forms of representation. Only by removing parts of the image do we have space to focus on other aspects of landscape.

Figure
If we look at the way Corner has arranged the various elements, we immediately understand that they are interrelated.

In the way that Mathur has aligned image and map, photography and diagram as well as historical image and language, she attempts to engender a new visualization for Mumbai’s terrain. Her work representational work anticipates design interventions that respond to and are guided by the variability of the landscape.

Maps and Measure

Whereas Corner uses maps as a way to organize and call out geometries within the landscape, Mathur’s collage resists the map and denies its power to organize space.

Subject

Here the subject once again breaks away from the structure of the grid in order to call attention to the narrative movement. The subject, the landscape is shown from various positions, illustrating the multiplicity of its character.

Chronology

The repetition of frames acts like a storyboard, illustrating Mathur’s interest in studying linear events.
Kate Orff, *Requiem for a Bayou*, 2013

*Requiem for a Bayou*, which is part of the book *Petrochemical America,* illustrates a shift towards examining and revealing processes that construct the landscape. Orff studies the landscape not merely as a visual object but also as a living and changing entity. Thick sections describe aspects of the landscape a viewer would not be able to otherwise see.

Systems and Networks

The mode of representation the Orff uses to illustrate the ecological networks establishes various actors and elements within the landscape that effect its phenomenological expression.

Image Extension

The photographic image is placed within the context of an active landscape. The choice of photograph, muted and serene, is challenged by the addition of a vibrant rendering.

Subject

The Subject is merged with the other elements of the representation, but the edges are noted. By allowing the viewer to identify the scope of the original photograph, we asked to question what is beyond other modes of landscape representation.
INDUSTRIALIZATION OF CORN PRODUCTION

Increasing Corn Production

LAWS AND SUBSIDIES
FOOD

Regionalization Specialization

More Monocultures
Less Crop Rotation

Low Cost Processed Foods

Soil Breakdown

Dependency on Fossil Fuels

ECOLOGY

Decrease in Soil Health

Crisis of Overproduction

Obesity

Nutrient Poor Foods

Soil Poisoning

GMOs

Cornsubsidies

Agro-Industrial Corporations

Transport and Storage Networks

MECHANIZATION HOMOGENIZATION

Indirect High Costs

 Consolidation of Land Holdings

Higher Initial Costs

Rural Population Loss

Fertilizer Run off
Loss of Topsoil

Eutrophication
Soil Poisoning

Increased Mechanization

Irrigation Systems

Decrease in Biodiversity

Low Resilience
High Vulnerability

Algae Bloom in the Gulf

Low Resistance High Vulnerability

Decrease in Biodiversity

Resistance to Chemical Inputs

Seed Patents

Increasing Chemical Inputs

Depleted Soil Nitrogen Levels

Regionalization Specialization

Corn Subsidies

Vertical and Horizontal Integration

Consolidation of Inputs

Consolidation of Land Holdings

Indirect High Costs

Transport and Storage Networks
Imagine fields of sweet yellow corn stretching as far as the eye can see, the sun shining on our nation’s golden heartland, wind whipping across the earth the only sound disturbing a picturesque view. Indeed this landscape holds an air of sublimity, the patterns and textures are pictorial, but the vastness and homogeneity that lends an air of the sublime to this quiet region is characteristic of industrialized agriculture.

The Corn Belt region of the United States is the territory of the United States where corn is the predominant crop. Indiana, Iowa, Illinois, Nebraska, Missouri, Michigan, Minnesota, Kansas and Ohio are generally thought to define the heart of this region. Due to deep soil and relatively level ground, these states are equipped to be corn crop powerhouses. These environmental characteristics, alongside social and agricultural policies, have shaped the history of the territory. Territorial transformation occurred alongside a reified notion of what rural landscapes are. In 1800, 98 percent of the global population lived in rural communities, in 1950, 70 percent of the population was rural; today less than half of the population is rural; structural shifts are at the heart of this trend. The urban is celebrated; it’s vitality, it’s concentration of activity and capital shape urban identity. Cities are nodes, while rural areas are fields.

A denial of rural place-ness is prevalent both in the architectural discipline and in the wider cultural context. From a cultural perspective, the salience of developing accurate understanding of the agro-industrial nature of rural landscapes like many in Nebraska lies in the political consciousness this knowledge imbues. In an architectural context, the rural landscape illustrates the complexity and simultaneity of networks on a seemingly neutral site.

By studying the physical transformation of the landscape as well as systems of production, we understand that landscape is much more than a picturesque view, it is created out of the intersection of multiple networks. These networks may not always be embodied architecturally, but their effects do become spatialized through effects of financialization - such as the growth of the Big 6 seed companies- or political will -as seen in the consolidation of farms.
Seventy-five percent of the corn that Americans use and a quarter of the global corn supply is produced in Corn Belt, Nebraska, the third highest corn yielding state, is a prime example of the way smaller scale farming has been transformed into commodity farming. The majority of the corn produced in this region -and in fact the majority of all corn produced- will be processed into other commodities -such as corn syrup or xanthum gum, many of those obscure ingredients on nutritional labels- rather than being directly consumed. Because of corn’s physiological properties it can be stored in large quantities, for extended periods of time. For this reason, corn can be easily abstracted. When corn is bought from growers, it is stored according to its grade; mixing with other bushels of corn grown in other fields, by other hands. An ear of corn enters an industrialized system and cannot be traced back to the plot of land it came from: this is capitalist alienation exemplified.

In the past sixty years, agriculture in the United States has been radically transformed through various economic policies and political agendas. The agricultural revolution was critical in the development of neoliberal capitalism where the emphasis on increasing surpluses and constant productivity growth pushed farmers towards big-farm models (Hungry: 7). Today, the capitalist farming model is entrenched in the social structure. It seems the days of subsistence farming are far behind us; farming has been taken over by Big Business (Hauter: 11). And while there are various counter-trends such as the Slow Food Movement and the growth of farmers’ markets, the power that large corporations have in shaping the agriculture landscape is not a pressure that is easily shirked.

Many of the characteristics of our modern agro-industrial system were developed post-WWII, when Depression-era policies meant to protect farmers were disassembled. New Deal policies sought to improve conditions for farmers who, despite many misconceptions, were in fact in a crisis of over-production. In order to support crop prices the government introduced parity programs that paid farmers not to cultivate their land, and in some cases paid them to slaughter livestock.

After WWII, farmers were heavily targeted by policies that aimed to release a large body of reserve laborers for work in cities. In 1955, Ezra Benson -Eisenhower’s Secretary of Agriculture- began to disassemble these New Deal agricultural policies. Industry leaders saw farmers as excess labor that could be directed towards the. These same leaders –presidents and executives of major companies such as Kodak, Sears, and Ford- formed the Committee for Economic Development, and used their academic and media connections to weaken farmer’s political power. At the time farmers were an active and forceful constituency and industry leaders. If food is power –and we have seen this concept
exemplified in history numerous times from the Roman Bread and Circus used to pacify the masses - then Big Business wanted to make sure they had control of the supply. Dismantling of parity programs continued and farmers had to sell their land or take out large loans to stay in business. The hardships facing farmers continued when Nixon’s second Secretary of Agriculture, Earl Butz took his position. Notorious for slogans like, “Get big or get out!”, “Adapt or Die,” “Agriculture is big business,” he advised farmers to invest in larger operations. This, alongside the dismantling of parity programs and heavy subsidization of cash crops such as corn, created a crisis of overproduction and caused prices to drop. Hardship was in store for farmers yet again.

Another important aspect of these changes was the emphasis on the crash crop production. Today only 2 percent of corn grown is sweet corn, Grade A corn, meant for direct human consumption. The rest is converted for use in processed foods, commercial products, and animal feed. This is another critical aspect of the development of the Corn Belt as a regionally specialized territory. Prices for corn-based animal feed fell, making Concentrated Animal Feeding Operations –large-scale livestock raising- a reasonable investment. A spatial separation of livestock and crops caused a disconnect in the food production system, tearing apart one network for the sake of profit margins and efficiency. Today the trend continues due to increasing use of technology and capital inputs in place of extra labor.

This has led to widespread population loss in rural areas and the condensation of population in urban zones. While Nebraska’s total population has increased 27 percent since the implementation of these policies in the 1960s, the rural population is only two thirds of what it once was, a 25 percent decrease. This means that infrastructural changes were made to accommodate the loss of population. Rail and road networks were bolstered in order to preserve the efficiency of the system.

Representations of the landscape have created a chasm between the idea of agricultural landscapes and the type of industry actually occurring there. Advertisements depicting an idyllic countryside proliferate on supermarket shelves. This is a political landscape; the representation and construction of an architectural response must refer to these dynamic systems. This is a political landscape; the representation and construction of an architectural response must refer to these dynamic systems.
While the number of acres in use for cultivation of corn has remained relatively stable over the past 50 years, the output of the land has increased dramatically. And while, this might seem like one of the supreme achievements of technological advancements, we must keep in mind the effects of such changes. For many farmers, this meant the loss of their land due to the pressures of capitalist expansion. Displacement was the major trajectory of this rural dispossession. Rural populations moved to urban areas in search of better opportunities due to the inability to survive in the agricultural market. Another aspect of increased corn production was the corn production treadmill. In order to maintain profits, farmers increased production, but as this was the general trend more corn came on the market and prices would fall once again.
Acres of Land in Farms as Percent of Land Area in Acres, 2007

Corn for Grain 2012, Harvested Acres by County
At the national scale, regionalization and specialization of agricultural production have been important trends in the development of economies and cultural geographies. If we compare data across the maps we begin to see larger trends that illustrate national systems of production. For instance, if we look at the first map shows areas of the nation that are dominated by agriculture, and then compare this map to the third map, we begin to wonder why, in an area of heavy agriculture, there would not be more direct farm sales. Particularly for the Corn Belt region, illustrated in the second map, the farmland is not producing diverse varieties of crops. The region produces commodity crops that are processed to add value.
**VEGETATIVE STAGES**
- V₁: Emergence
- V₂: First Leaf
- V₃: Second Leaf
- V₄: Third Leaf
- ...  
- Vₙₙ: nth Leaf
- V₇: Tassling

**REPRODUCTIVE STAGES**
- R₁: Silking
- R₂: Blister
- R₃: Milk
- R₄: Dough
- R₅: Dent
- R₆: Physiological Maturity

**GROWING DEGREE DAYS**
- V₁: 125
- V₆: 470
- V₁₂: 815
- V₁₈: 1160
- R₇: 1250
- R₆: 2360

**APPROX. DATES**
- Planting
- V₁: 7-10 days after planting
- V₆: 24-30 days after V₁
- V₁₈: 56 days after V₁
- R₁: 69-75 days after V₁
- R₆: 130 days after V₁ or 50-60 after Silking
The physical and biological characteristics inherent to corn affect its utilization patterns as well as an agricultural community’s seasonal habits. Of course, these change from year to year alongside weather patterns, but general guidelines help farmers gauge the development of their crop. Regardless of the type of corn being grown, one looks for particular traits at critical stages that indicate potential yields. According to industrial agricultural methods, there are also ways to manage and increase potential yields through irrigation, pesticide and fertilizer application.
QUADRANT
TOWNSHIP
SECTION
1/4 Section
160 Acres
1/16 Section
40 Acres
1/32 Section
20 Acres 10 Acres
5 Acres
2.5 Acres
One of the most significant elements in the creation of a pictorial landscape is a sense of rationality through geometric repetition. Nebraska is the state most heavily settled through the Homestead Act of 1862. This act took advantage of the Jeffersonian grid which on one hand was meant to develop a land of yeoman farmers and promote a country of independent and democratic men, and on the other was a very useful tool in the development of land markets.

Figure 14. Land division according to the Jeffersonian grid.
The Big 6 are the largest pesticide and seed producing companies. Often these companies agree to share patented traits for their genetically modified seeds. These products are often engineered (as in Monsanto’s Roundup Ready Soybean) to withstand the company’s own pesticides and herbicides. There is also concern that the consolidation of these companies poses threats to the market balances. In 1999, Monsanto allegedly pulled out of an acquisition of Delta & Pine Land Co. after learning that the U.S. Department of Justice intended to sue over the anticompetitive effects of the deal. Because of technological advancements as well as legal changes, barriers to accumulation on the part of corporate powers are dissolving. Additionally, agricultural treadmills make farmers more likely to participate in the dissolution of smaller seed firms.
Over the past 50 years, the nature of farms in Nebraska has changed dramatically. The majority of counties have experienced a decline in the number of farms while roughly the same amount of land is being cultivated. Even if the data didn’t show the trend of increased farm size, we could easily guess this, by the pressure that big business farming has had on agricultural regions. Alongside this consolidation there has also been a decrease of physically marked boundaries, not only between parcels of land belonging to different land owners, but also within farms.

**FARM CONSOLIDATION**
LOCATION OF GRAIN ELEVATOR
(Sorghum, Soy, Wheat or Corn)

SHUTTLE CAPACITY AT CORN ELEVATORS
(Unload and Load Car Capacity)

LESS THAN 75

75 TO 100

110 OR GREATER
Corn production in Nebraska increased from nearly 941 million bushels in 2002/03 to about 1.5 billion bushels in 2007/08, an increase of 56%. Railroad revenue in Nebraska reached $926.7 million in 2007/08 as shown in Table 18. Nebraska’s corn was railed an average of 1,122 miles in 2001/02, increasing to 1,373 miles in 2007/08. Nebraska’s corn moved by rail is mostly shipped to California, the Texas Panhandle and the PNW. Geographically, Nebraska’s position provides it better access to the PNW and California as compared to Iowa and Illinois.
LEACHING AND RUNOFF

- NH₃ (Ammonia)
- NO₃ (Nitrate)

- PLANT UPTAKE
- DECOMPOSITION PLANT RESIDUE
- NITROGEN FIXING RHIZOBURUM
- DECOMPOSING MICROORGANISMS

- ANIMAL BIOSOLIDS

- SOIL MATTER
  - FUNGI
  - BACTERIA
  - NEMATODES
  - PROTOZOA
  - ARTHROPODS

- ATMOSPHERIC NITROGEN
- ATMOSPHERIC FIXATION

- HERBICIDE AND PESTICIDE APPLICATION
- FERTILIZER
- RUNOFF AND EROSION

- LOSS OF BIODIVERSITY
- LOSS OF AQUATIC LIFE
- ALGAE BLOOMS
- SOIL DEGRADATION

- PLANT UPTAKE
- ANIMAL BIOSOLIDS

- SOIL MATTER
- DECOMPOSITION PLANT RESIDUE
- NITROGEN FIXING RHIZOBURUM

- LEACHING
- SOIL DEGRADATION
- ALGAE BLOOMS
Prior to widespread agricultural industrialization around the 1950s, farming relied primarily on internal resources. A family labored to produce crops without the use of special equipment and many of the inputs needed to maintain the farm were outputs from other parts of the farm. The pre-industrial farm often sustained livestock, perhaps cattle and poultry, each animal playing a special role on the farm, providing manure for fertilizer or eating specific varieties of grasses. This ensured corn was planted in fertile soil. It would likely be one of many crops planted. Diversification of crops ensured lower risk to any particular plant population if a pest came, and was also important in providing a varied diet for the family.

The biodiversity of an entire region was also rich as many distinct plant populations provided food and shelter for other organisms. After the introduction of capital and technologically intensive farming—and with this, the advent of fertilizer and pesticide treadmills—soil became increasingly depleted due to over farming, and the lack of crop rotation. Poor soil health requires more fertilizers which often seep into water systems to produce algal blooms. The energy input to produce the same amount of calories is 50 times more in industrialized agriculture than traditional agricultural methods. The energy equivalent of 400 gallons is needed to produce the average American’s annual diet.

Figure 16. Crop Rotation Model versus Monoculture Model
Nebraska relies primarily on groundwater to supply irrigation. According to a 2007 Census of Agriculture report, Nebraska ranks first nationally with about 8.5 million irrigated acres. Most of the irrigated acres receive groundwater, followed by acres receiving commingled ground and surface water. Over the past 50 years, the number of irrigation wells in operation has increased by 300 percent to over 90,000. The highest density of wells are located in the Central Platte Valley where over 16 irrigation wells have been installed per square mile of land. The location of irrigation wells in 2007 reflects the availability of groundwater—due to the location of the Ogallala Aquifer, the suitability of the land for irrigation and the need for irrigation to meet crop water requirements. The development of irrigation systems has resulted in the decline of groundwater levels (depth to groundwater from the soil surface) in some areas of the state. The most severely affected areas are the Box Butte area, western end of the Republican River Basin and parts of the Blue River Basin.

Figure 17. Crop Rotation Model versus Monoculture Model
Increasingly, large food companies have consolidated the market. In order to maximize profits, they look for ingredients that can decrease cost. High Fructose Corn Syrup became a great candidate for replacing sugar because it was less expensive due to heavy subsidization of corn as well as tariffs on imported sugar. By taking advantage of economies of scale, they are also able to have a major effect on corn markets and need to support the continued production of corn. These large companies are producing large quantities of food products and therefore need stable supplies of ingredients such as cornstarch, dextrose, and high fructose corn syrup.

1. Cargill
2. Nestlé
3. PepsiCo
4. Coca-Cola Company
5. Tyson
6. Mars
7. Kraft
8. JBS
9. General Mills
10. Kellogg’s
11. ConAgra
12. Smithfield
13. Dean Foods
14. Hormel
15. Dole

Figure 12. Timeline of Largest Food Companies’ Establishment
If we follow the channels of distribution that deliver food products to consumers, we are able to gain an understanding of the relationship between different actors. Also, through the comparison of the supply chain in a less-industrial condition from 1968 to the supply chain of a food product in the modern agro-industrial complex, it is apparent that power has shifted from the producer to the processor. There are also spatial implications to this system. Local business and local markets were closely linked in the 1968 system, while today, the farmers of commodity crops would not profit from selling their product to nearby towns and communities.

Figure 19. Corn Distribution Channels
When engaging the design process questions regarding context arise; to define the scope and scale of a project, the site is identified according to various principles. We study site carefully because critically analyzing and then representing site is the first way we design. Site is much more than location or physical adjacencies; it refers to the wider scope of cultural and environmental networks that an area of land is linked to. It refers to the memory embedded in that place, and the social and economic structures that simultaneously construct and are constructed by the site. By studying site we can also question the link between what is natural and what is artificial, the way that physical space has been and continues to be manipulated by human force.

Carol Burns gives us two models for understanding site: the cleared site and the constructed site. The former, she writes, is most commonly prescribed to undeveloped land—although I posit that this is also the way we view regulated agricultural land—and seems to look past the various ecological systems already at play on the land. It ignores the regimes of power that define landownership, the structures which define land value. Placing a rational geometry on the land lends itself to objectifying parcels. One land can be exchanged for another, indeed they each refer to a spatial area, but it makes no reference to the memory of that land, of the way that this location sits within larger infrastructures or systems of power. The latter, the constructed site, conceptualizes the site as a series of layers corresponding to different eras of development, ranging from prehistoric era to the more recent suburban developments.

We must conceded that site is not an easily definable term; site is dynamic, there is always a simultaneity of networks acting on site. How can architecture respond to the variable nature of site? Stan Allen has written about using ecological models to determine the efficacy of architectural indeterminacy.

The idea that a site is not bounded to a particular place but in actually responds and extends into cities and territories which may be far removed is not a new idea, however when designing an architectural project that reveals and physically manifests a site in all of its networked complexity, we must therefore question the way this site is represented and then consumed within the other nodes of the network as well as the paths it must take to get there.

The purpose of creating various maps is to illustrate the way that site is constructed through the interaction of a multiple networks. Site is not singular; it is in a constant state of flux. To reject the conceptualization of static site means that we must engage issues such as the change in actors open site: we must question population loss and its effects on rural landscapes, more nebulous actors and influences such as government regulations. We must recognize physical transformation in larger scales of networks extends beyond socially constructed boundaries such as county and state lines: after all environmental phenomena take no notice of our attempts to divide and rationalize space. Shifts in boundaries should be embraced; architecture is a lens, and as such it must reveal the mutable landscape.
PLATE 1.
Quadrangle Intersections in York County, NE.
PLATE 2.
Unharvested, Harvested, 2013
PLATE 3.
Center Pivot Irrigator
PLATE 4.
Combine Tracings
PLATE 6.
Harvesting on uneven surface, 2013
PLATE 7.
Combine on Open Field, 2013
PLATE 8.
Preparing Land
PLATE 10.
Train passes by pond in a fallow field
PLATE 11.
Rust
PLATE 12.
Rationalized Pond near Barn
PLATE 13.
Ponds disrupt the grid, 2013
PLATE 14.  
Landscape graining and Small water body
Plate 15.
Soil Map, Aerial Mapping: York County, Nebraska
PLATE 16.  
*Cultivation Pattern*
PLATE 17.
The Machines and their Field.
PLATE 18.
Cuttings across Field, 2013
PLATE 20.
Roads in the Jeffersonian Grid
PLATE 21.
Meandering Highway
PLATE 22.
Rural Homesteads, Rural Roads
PLATE 23.
Networks in Space, Rail and Electricity, 2013
PLATE 24.
Freightless
After developing representations of York County that illustrate its non-static nature, it is important to develop responses that take these characteristics into account. These projections illustrate architectural devices that move along with the site. They are rooted to the landscape, but represent the site through kinetic means. The aim is to design an architecture that unveils the landscape. It is an architecture that aims to create ‘place,’ and to call attention to the power rural landscapes have in shaping we understand the world.

By developing these architectural devices, the goal would be to engage with the performance of landscape over time. While questions of representations remain important, these provocations aim to change the mode of thought that the goes along with architecture’s relationship to landscape. The aim is to widen the scope that architects work within, to suggest the relevance of engaging other disciplines within our work. We must question perspectives that define landscape as surface.

Rural landscapes provide a site for the expansion of architecture from an autonomous field; they necessitate the inclusion of geography and geology. These landscapes are visibly influenced by economics and politics in order to adequately respond to the site. Corner notes that landscapes are often experienced in a state of distraction unlike photographs or paintings, which are removed from their context of production and reproduced for the sake of study. The goal then would be to great an architecture for the landscape that is meant to be reproduced in other media.

The routines and cadence of life bring a sense of place in the absence of topographical landmarks, J.B. Jackson notes. The notion of narrative and embracing the mutability time brings can be a generative mode of engagement.
INDUSTRIALIZATION OF CORN PRODUCTION

- Increasing Corn Production
- Agro-Industrial Corporations
- Corn Subsidies
- Increasing Chemical Inputs
- More Monocultures
- Less Crop Rotation
- Regionalization Specialization
- Closed Loop Production
- Watershed Governance
- Low Cost Processed Foods
- Poly-Cropping

- Museum of Zea Mays
- Food Research and Action Center
- Community Supported Agriculture
- Center for Rural Affairs
- Guerilla Gardening
- Awareness Material
- Eco-label Index
- Billboards

- Internalizing Externalities
- Industrial Ecology
- Guerilla Gardening
- Awareness Material
- Decrease in Soil Health
- Increase Mechanization
- Closed Loop Production
- Increased Chemical Inputs

- Transport and Storage Networks
- Local Businesses
- Community Center
- Slow Food Movement
- Closed Loop Production
- Poly-Cropping
- Low Cost Processed Foods
- Watershed Governance

- Museum of Zea Mays
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- Closed Loop Production
- Watershed Governance

- Awareness Material
- Decrease in Soil Health
- Increase Mechanization
- Closed Loop Production
- Increased Chemical Inputs

- Rural Population Loss
- Irrigation Systems
- Regionalization Specialization
- Closed Loop Production
- Watershed Governance

- Food Research and Action Center
- Community Supported Agriculture
- Center for Rural Affairs
- Guerilla Gardening
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- Decrease in Soil Health
- Increase Mechanization
- Closed Loop Production
- Increased Chemical Inputs
We have established the importance of understanding the rural landscape as a series of systems. It is within these constructed networks in which interventions must be projected in order to transform the way in which we understand places such as York, Nebraska. This guidebook is meant to question the limits of traditional representational techniques.

Laws and Subsidies
- Regionalization || Diversify Economic Ventures!
- Increased Corn Production || More Fruits and Vegetables!

Mechanization
- Seed Consolidation || Options for seeds!
- Distribution || People should know where their food comes from!

Homogeneity
- Sense of Place || Give people something to be proud of, note ways that a place is different from others
- Sense of Time || Meaning to cycles of Farming
- Rural Population Loss (Farm Consolidation) || opportunities for new businesses
- Rational Landscape || Make people understand that there is a lot going on behind the surface.

Food
- Consolidation of Food Companies || Increase Local Businesses and agriculture
- Nutrient Poor and Processed Food || Healthy food options, People need to know where it comes from

Ecology
- Loss of Biodiversity || Increase Diversity
- Water Pollution || Cleaner water
- Soil Degradation || Improve Soil
Strategies

Billboards [H, L, F]
Billboards boasting the industry and systems that are rooted in York County serve to give a sense of identity and particularity for the residents.

Buy Fresh Buy Local Nebraska
Buy Fresh Buy Local Nebraska encourages the purchase and enjoyment of locally grown food. They have created a guide to farmers’ markets, CSA providers, restaurants and grocery stores that offer local food as well as gathering information about local farmers and ranchers who grow and produce local Nebraska food. They reason that supporting local food allows for food security and while most conventionally produced food is extremely resource intensive, traveling an average of 1,500-2,500 miles from field to plate, local food is not. This reduces fossil fuel dependence, carbon dioxide emissions, and use of packing materials and garbage. Additionally, buying local allows farmers to retain more profit. In conventional foodways, on average, only 10 cents of each dollar spent on food returns to the farmer. The other 90 cents goes to corporations for packaging, marketing, transportation, etc. However, farmers who sell direct to consumers receive 80 cents of each food dollar. Their website is designed as a guide to Nebraska locally grown foods. Whether you’re just starting out or are considering pursuing local food more actively, we can help you decide which route is best for you, as either a consumer and/or grower of local foods.

Center for Rural Affairs [L]
Supporting organizations such as the CfRA are essential as they aim to maintain strong rural communities, social and economic justice, environmental stewardship, and genuine opportunity for all while engaging people in decisions that affect the quality of their lives and the future of their communities. They work to ensure that even rural communities have access to grocery stores that have healthy and nutritious options and that are critical infrastructural elements to sustain population growth. Their REAP program serves to support small and self-employed business ventures through micro loans and business training.

Closed Loop Production [E, M]
Production techniques that use, what in industrial production is
usually thought of as waste—such as manure and plant biomass—as productive inputs characterizes Closed Loop Production techniques. Another way to understand this process is thinking of a complete, sustainable ecosystem where plants and animals produce waste that is food for another organism. In York, using Closed Loop Production could include increased crop rotation, where nutrient fixing bacteria could increase soil health, chicken could eat small pests, and cattle could consume naturally occurring grasses.

Community Supported Agriculture

In Community Supported Agriculture (CSA) programs, consumers pay for a season’s share of crops thereby helping farmers pay up-front farmer costs of a reducing a farmer’s need to take out loans. Many farms that take part in CSA programs also reach out to their customers and invite them to the farm, giving them more of an understanding of how their food is produced. Often, the food received from CSAs is much fresher and depending on the year, significantly less expensive than produce from supermarkets. This also decreases the power of large stores to set prices for goods and helps support local economy.

Community Centers

Especially in rural areas it is important to promote events and spaces that bring the community together. These provide necessary opportunities for exchange and engagement.

Complete Streets

The notion behind Complete Streets is that the current model for streetscapes in the United States is lacking due to the lack of material and lighting consideration. Complete Streets aims to use landscaping to provide space to walk, ride bikes, picnic, gather. It aims to promote social public spaces.

Cooperative and Communal Management

While many farmers in Nebraska belong to a cooperative—the United Farmers Cooperative—the land is not communally owned as would be the case in traditionally cooperative models. Instead, it is the cooperative that is communally owned and provides assistance to farmers for their agronomy needs. The provide reduced rates for seed, and form a larger network that farmers can sell their seed to. The limitation in this model is that the farmers can only use the services that the cooperative offers, and changes to these services are voted on.
Corn Futures Website [L, M]
Similar to other Public Service Announcements, like the Got Milk? campaign, this project aims to inform and educate the public about the changing face of rural landscapes. This is done by making research easily available and also by providing ideas for action.

Distribution Tags [F, M]
Momo, a graffiti artist, tagged New York City with his name by riding his bike around the city with a paint can dripping orange behind him. Seen from the ground, the tracing illustrates a large scale system at a personal scale.

Eco-label index [F]
A resource that gathers information used by manufacturers to articulate environmental and social impact of products and services. By gathering and standardizing many different indices, they allow subscribers to compare labels based on sixty different characteristics. Transparency in labelling is critical because it gives consumers the information they need to make informed decisions and better understand production processes.

Food Research and Action Center [F, L, M]
One of the consequences of our food system is the link between poverty and the accessibility of nutrient-poor foods. FRAC is the leading national nonprofit organization working to improve public policies and public-private partnerships to eradicate hunger and undernutrition in the United States. FRAC works with hundreds of national, state and local nonprofit organizations, public agencies, corporations and labor organizations to address hunger, food insecurity, and their root cause, poverty. One of FRAC's significant initiatives is the Food and Agriculture Policy Collaborative. Among their four main goals are increasing healthy food initiatives through access to local farm produce and strengthening local and regional farm and food system infrastructure.

Guerilla Gardening [G]
A tactic often used in urban settings, Guerilla Gardening is the act of gardening on land where one does not have the legal right to utilize. There are many reasons why guerilla gardening occurs, whether to beautify neighborhoods, to protest land usage or reclaim neglected land.
Integrated Pest Management (IPM)

IPM growers practice techniques that aim to keep pests at a manageable level rather than kill them with pesticides. They do this because of the knowledge that having some pests may actually promote the health of their harvest and maintains biodiversity. IPM growers may use tactics such as pest traps, or apply natural substance such as kelp or rock powders and compost to lessen crop susceptibility to pests. Pest levels are monitored and potential damage is calculated so that pesticides are used only as last resorts. Many IPM farmers believe that promoting healthy plants and preventative measures are the best way to deal with pests. This includes careful decisions about when and where to plant, and planting a diversity of crops which reduces risk of any particular pest attack. Another reason that pest management is important in sustainable agriculture is that it maintains a base level of pests so natural predators like birds will continue to have food and will keep their role as natural pest managers.

Internalizing Externalities [F, L]

Externalities are unintended positives or negatives whose cost or value is not are not reflected within the price of a good or service and which is not agreed to by affected parties. When we speak about externalities, they are usually negative impacts, such as water pollution, soil degradation, or ____. When these impacts are (fines on corn companies)

Local businesses [H]

One of the most important steps in promoting the health of rural areas is supporting economic health in the area. While large businesses provide jobs, there is also a danger that these businesses could relocate.

Mobile Services [H]

Because rural populations lack density, providing mobile services could be an important step

Museum of Zea Mays [E, H, L, M]

Inspired by a recently opened Museum of the History of Cattle, a Museum of the History of Zea Mays would be located at the end of the corn supply chain in order to inform large populations of consumers. The Museum of Zea Mays would follow the five systems described in this project.
Natural Fertilizers

It is important to reduce the usage of petrochemical derived fertilizers, which are used to increase soil health in order to allow for a greater capacity of plants per acre (PPA) than the soil could normally sustain. This process depletes the soil of its own nutrients and creates what is frequently referred to as fertilizer treadmills. One way to combat this is to increase the usage of naturally derived fertilizer like manure, guano, or dung. This means that there must be changes in the spatialization of industry so that cattle ranches may be near farms and can share in local production loops. Historically, farmers in Europe and the Middle East would build structures for birds to live.

Organics

Food grown without the use of chemical pesticides, herbicides or fertilizers may be certified organic, Animals that are organic may only have organic feed and may not be given hormones or antibiotics. While this is an important strategy because it allows consumers to know what practices were used to grow their food, it also places a large advantage on larger businesses that can afford certification, a lengthy process that begins with three years where growers must use organic techniques, but cannot sell their produce as such. There are discussions that push for the implementnation of a transitional organic label that would allow farmers undergoing the change into organic market to be compensated for losses that might occur in the transition period by allowing them to sell produce at a premium, as they would be once their organic certification had passed.

Poly cropping

Poly cropping and Crop Rotation can serve to reverse the effects of soil degradation. rotating corn with a nitrogen fixing plants helps improve soil health, while introducing other produce types helps reduce the risk of crop failure by disease or pest. Additionally, poly-cropping helps promote biodiversity. Approximately 40 of the land in York County is used for corn cash crop production, with another 40 percent set apart for farming soy.

Public Transit

The benefits of public transportation are many. It reduces usage of petrochemical fuels and allows mobility for people who many not be able to own a car. In rural areas this is vital for individuals who do not have access to cars or cannot drive them. York County Public Transportation operates the public transportation system.
for residents of York County, Nebraska, on a non-emergency, demand-response basis.

Rural Studies [E, M]
This is a field of study that attempts to define what rural areas are and how they can be developed. Because the range of conditions that are seen in rural areas are diverse, it is important to understand what makes place rural and if there are general characteristics that should be preserved. Rural studies also look at that way that rural and urban areas interact, and can find within their symbiotic relationships ways to improve the quality of life and equality between residents of both zones.

SEED network
SEED® is a principle-based network of individuals and organizations dedicated to building and supporting a culture of civic responsibility and engagement in the built environment and the public realm. By sharing best practices and ideas, these parties create a community of knowledge for professionals and the public based on a set of shared principles. The SEED Network connects similarly minded members of the public with designers from the fields of architecture, industrial design, communication design, landscape architecture and urban planning.

Slow food movement [F, M]
A campaign that began in Italy, the slow movement strives to preserve and share local foods and food cultures. It is a response to the industrial food system and its emphasis on easily accessible fast food. Their goal is to defend and advocate policies that promote holistic alternatives to the industrial system. They attempt to do this through tastings, workshops and social opportunities through local Slow food groups. Hosting culinary events that showcase local food traditions, Slow Food celebrates regional culinary heritage.

Sustainable Food Project [F, M]
Begun at Yale, the Sustainable Food Project serves to educate college students on food systems issues. They have done this by implementing lecture series, panel discussions, and practicing sustainable farming techniques for produce sold at local markets. Sustainable Food Projects also aim to influence institutional purchasing plan and provide guides that describe how to make institutional changes within university food services. University of Nebraska’s own Sustainable Food Project called “Good. Fresh.
Local." serves a meal once a monthly at the university dining halls. The menu items are selected to promote the value of local food. GFL's mission is to educate students on sustainable agriculture and the positive impact it has on the environment, local economy and communities. By allowing local farmers to enter into distribution partnerships with the university, they also provide more opportunities for local farmers and producers.

The Unveiled Cookbook [F]
In 1930, the Italian Futurist, Fillipo Tommaso Marinetti wrote il Manifesto della Cucina Futurista in which he described the proper mode of cooking that related to the Futurist movement. He wanted to transform the way food was conceived and release the country from Italian culinary tradition. This meant the abolition of dry pasta, enemy of speed and modernity. In the same way, a Manifesto for the Unveiled Landscape should be created that promotes a new way of seeing our food in terms of their relationship to how their production has spatial consequences.

Watershed Governance [E]
Watershed governance is the notion that decisions that alter a particular watershed should be made by a political body that represents all the residents that are affected by polluted water.

Wetland Terracing [E]
Wetland terracing is a strategy that aims to restore the health of marsh areas by creating diverse ecological zones through patterned land and waterscapes. The first phase of implementation is dredging the wetlands so that small landforms about ten feet wide may be inserted. These landforms form a zigzag pattern and are then planted with new vegetation. Increased topographic variance and surface area lessens the effect of wind activity and stabilizes soil runoff. These steps promote the return or growth of local flora and fauna populations and serves to restore the natural habitat.

York Towne Centre Farmer's Market [F]
Established in 2005, the York Farmer's Market is a weekly event where local farmers and craftspeople can sell their goods. Farmer's Markets aim to connect small scale producers with consumers and provides opportunities that facilitate a knowledge of food production processes while simultaneously supporting local businesses. Additionally, smaller-scale production allows for more sustainable farming techniques.

On the way our food system is systematically uneven, its distribution and effects on how our food system is spatialized. Albritton notes the way that technologies outside of agriculture, such as the car, have changed social structures in such a way as to necessitate a particular mode of food production. Also details ecological ramifications and health impacts on the consumer, effects that are felt hundreds of miles away from the agricultural landscape that produced them.


Primarily used for two chapters, From Object to Field and Infrastructural Urbanism; the former look at as a way to frame ideas of networks and the way we can design and spatialize them. This also asks us to develop the definition of field conditions, a concept which Allen says can be used to unify diverse elements while retaining their distinct definitions. The latter chapter looked at for its discussion of architecture as a material practice, straddling both built and notional worlds and with the need to reassure itself its functional processes not simply its semiotic capabilities.


Drosscape provided a case study for studying landscape typologies; Berger catalogs and maps ten different American cities and notes patterns that create “Dross”.


A compilation of essay surrounding notions of site, this book was relevant in determining the scope of architecture within the context of landscape discourse.


A collection of academic articles that describe the process and impact of United State’s financialized food system. Provides a global perspective on the agroindustrial farming.


Primarily concerned with the first three chapters which aims to define rurality in the contemporary context.

A series of essays that speak to various aspects of landscape architecture ranging from its construction as a cultural product. Describes lineage of landscape notions, questions boundaries of artificial and natural landscapes.


Corner discusses the disparities between representation (i.e the production) of landscape and the physical qualities of this site. The act of design implicates distance between architect and the landscape they act upon.

Corner, James, and Alex S. MacLean. Taking Measures across the American Landscape. New Haven: Yale UP, 1996.

In Taking Measures, Corner describes the landscape as a human construction. This is an invaluable approach to landscape representations and allows us to question the way seemingly natural figures and fields are actually constructed mechanisms.


To discuss the character of contemporary landscape practices, Czerniak studies three distinct bodies of work and illustrates the use of vision in constructing a cultured landscape.


 Territories, Gissen posits, provide architecture with a way to reengage with the environment, to reclaim facets of our discipline that we rejected when creating an autonomous practice.


A guide to physical features of rural landscapes, in various American regions. Systems such as land division, common agricultural typologies, and farming methods are compiled.


Hauter describes the consolidation of America’s food system as a highly political issue through an in-depth discussion of America’s agricultural past and the current structure, the entrenchment of this structure within government policies for private economic gains.


Clearly describes processes of consolidation and trends towards monocultures within Nebraska from the 1960s to the turn of the 21st century.


J.B. Jackson, in Landscape in Sight, is able to analyze the vernacular architecture of rural landscapes through a geographic perspective where these architectures are reflective of larger cultural geographic trends.


Events and the rituals of time are essential in creating a sense of place, Jackson argues, when there may be no physical landmarks, time helps to organize space.


Carol Burn’s essay On Site provides a critical perspective on the meaning
of context to architectural process. Through the notion of cleared versus constructed sites, Burns notes that a landscape, however bare it may appear is always the locus of multiple, simultaneous networks.


Used to better understand the influence Actor-Network Theory could have on architecture to produce interventions more aware of the changing nature of ‘things’. ANT also has ramifications on the way we interpret site; it is a restless entity, and should be thought of as such.


Used for its identification of aerial photography as a potent media, that provides a distinct way of viewing landscape. Synoptic vision seems to provide viewer with a greater understanding of landscape.


Mathur’s book attempts to reconceptualize architectural interventions on Mumbai’s ever-changing landscape by illustrating the narrative nature of site.


Primarily used for the second part of the book, where Orff studies Cancer Alley through various scales of impact, from large scale ecological influences to chemical changes within the human body.


The first section of this book describes the industrial nature of food production and describes the effects of our food system.


History of early American Landscape painting; describes Cole and the Hudson River School as well as the way the School impacted subsequent generations of painters.


Taken with the notion of restless landscapes, Smout Allen has developed a series of architectural interventions that respond to the landscape that they are situated within.


A compilation of essays relating to infrastructural matters, various authors echo the notion that architecture must create ‘potentials for composite systems’. Specific interest in the chapter, “Of all Things... Reassemblies Staged in Place of the Global Theatre,” in author Cary Stross’ discussion of Latour’s ANT theory.


A guide book that thoroughly describes the physiological characteristics of corn, methods of planting and harvesting corn, as well as potential issues that might arise during corn growing process.
FIGURE CREDITS

Figure 1. Heade, Martin. Summer Showers. 1865. Oil on Canvas. Brooklyn Museum, Brooklyn.

Figure 2. Lane, Fitz Hugh. Riverdale. 1863. Cape Ann Historical Museum, Gloucester, MA.

Figure 3. Wood, Grant. Daughters of the Revolution. 1932. Oil on Masonite. Cincinnati Art Museum, Cincinnati.

Figure 4. Avery, Milton. Harvest. 1953. N.p.


Figure 6. Jim Hamann, Massive Corn Pile Grows Larger at the Hills, Minn. Grain Elevator, 2009


Figure 9. Trends in Corn Production (Data from Project territory, Atlas of the Corn Belt. Ann Arbor, Michigan: University of Michigan, 2013. p 150)

Figure 10. Adapted from U.S. Department of Agriculture, National Agricultural Statistics Service, 2012.


Figure 12. (Data From Hauter, Wenonah. Foodopoly. New York: New Press, 2012.)


Figure 14. Adapted From Hart, John Fraser. The Rural Landscape. Baltimore, MD: Johns Hopkins UP, 1998.


Figure 16. Crop Rotation Model versus Monoculture Model