Climate Change on The Great Plains: An Introduction

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CLIMATE CHANGE ON THE GREAT PLAINS
AN INTRODUCTION

In April of 1990 the Center for Great Plains Studies held its thirteenth annual symposium, entitled “Looking Back from the Twenty-First Century: Impacts of Climate Change on the Great Plains.” Scholars from a number of fields, especially climatologists and geologists but also social scientists and literary critics, presented papers dealing with past evidence of climatic conditions and climate change, with present evidence of global warming and predictions about its consequences, and with human responses to weather and to climate change. In addition the symposium featured readings by poets and prose writers dealing with climate, weather, and perceptions of the Plains, and an art exhibition entitled “Of the Sky,” a dramatic collection of skyscapes reflecting the daily changes of weather. The program committee, chaired by geographer Kenneth Dewey, combined both scientific and artistic perceptions to suggest ways of understanding what climate changes may come to the Great Plains and what they will mean for the land and its inhabitants.

This issue of Great Plains Quarterly includes two of the papers scientists presented at the symposium plus an article responding to the book Great Plains, by Ian Frazier, who spoke at the conference. This introduction also focuses on the art, the poetry, and the fiction that formed an important part of the intellectual milieu of the symposium.

In Alvin Turner as Farmer, William Kloefkorn has created a sixty-poem cycle about a Kansas farmer he calls Alvin Turner who, with his wife, Martha, lives out the farm’s cycle of seed time, growth, and harvest as well as their own human cycle of birth and death, joy and endurance, exuberance and grief. For them the land is always constant, though its returns are not, and saying yes to the land has meant loss as well as gain. In the last poem of the cycle Kloefkorn writes:

To say There is always the rock
Is not to forfeit the harvest.
Below, beside each hard place
Lies the land,
Though I remember how one summer,
Wanting rain,
I watched my topsoil disappear in wind.

. . .
After a recent shower then
The soil turned comic and dark.
On and within it the rock chuckled . . .

Throughout the cycle the rock represents what
the farmer cannot change and what is often cruel. But out of this obdurate boulder and the climate that flays the topsoil from the land, the poet creates affirmation and a final reconciliation, as the rock, like the farmer himself, welcomes rain and renewal.

For Alvin Turner and for Kloefkorn's readers, "the rock," this limestone outcropping in a Kansas field, is a powerful image of stability: *There is always the rock.* But in his article "Plate Tectonics, Space, Geologic Time and the Great Plains: A Primer for Non-Geologists," R. F. Diffendal, Jr., explains that for geologists rocks are also records of change. Kloefkorn's limestone outcropping is, after all, the calcareous remnant of a sea that once covered most of what is now the Great Plains.

Diffendal explains how geologists have learned to read the story of the past in rocks and tells us, briefly, what that story has been for the Plains. He begins by tracing the workings of geologic forces worldwide: the drift of continents on their plates, the eruption of volcanoes, the opening of undersea trenches, the thrusting up of mountains, the impact of space debris, and the effect of living organisms, especially plants, on earth geology. Diffendal then looks at the particular history of the Great Plains, from 66.5 million years ago when the region was first defined to 1.65 million years ago. The process of rock formation and wearing away is so slow that large-scale patterns cannot be discerned for rocks younger than 1.65 million years old. Geologists remind us that the human time scale is exceedingly minute compared to the time scale of rocks, but rocks, too, change and witness to change.

Robert Kroetsch also uses rock to instruct his characters and readers in the enormous scope of the past. A poet and critic as well as a novelist, Kroetsch combines careful observations of people and places with a post-modernist sensibility that registers the essential unknowability of the universe. In Kroetsch's novel *Badlands*, William Dawe, a monomaniacal scientist out to establish his fame by discovering the skeletons of hitherto unknown dinosaurs, comes to the rich bone beds of Alberta's Badlands. When one crew member deserts, Dawe stops at a coal mine in Drumheller, hoping to recruit a miner who can help him blast the bones out of their protective earth. Down in the mine, facing leaf shapes fossilized in the shining coal, Dawe recognizes "the truth of what he already knew: here, once, there were green branches of fig trees. Sycamores. Magnolias. A delta and a swamp." Here is evidence of a climate almost unimaginably different from that of present day Alberta. Dawe realizes that the river he and his crew must raft down to the bone beds cuts through different strata of exposed rock, that they will literally be moving back in time. The bone hunters will float down below this geological level to still an earlier age; somewhere to the south and east they would fall below this Edmonton level, onto a bed of fossils buried a few million years before this one came into being, or flourished, or itself perished, itself was buried into oblivion.

As Kroetsch reminds us, vegetation patterns have changed along with climates. In today's Alberta, fig trees grow only indoors, in pots. In "Climate and Vegetation of Central North America: Natural Patterns and Human Alteration," John A. Harrington, Jr. and Jay R. Harman discuss the patterns of grassland and forest established in the midcontinent in response to a fairly stable climate over the last 2000 years. Although the alternation of droughts and rainy periods has led to changes in relative frequency of species and advances and retractions of boundaries between vegetational systems, Harrington and Harman are able to define the different types of grasslands and forests established in the midcontinent in response to a fairly stable climate over the last 2000 years. They conclude with a consideration of how Euro-American settlers have altered vegetation by their agricultural and lumbering practices.

The idea of change is basic to Harrington and Harman's view of Euro-American settle-
Fig. 1. Ben Darling, West of Town, 1988, oil. Courtesy of Ben Darling.

Fig. 2. Norma Cowdrick, Storm Cloud, 1989, pastel. Courtesy of Norma Cowdrick.
ment of the Plains. In one of the early poems in the Alvin Turner cycle, Kloefkorn also shows the permanence of change:

Under transient skies
I cannot hobble change,
Not now or ever.
My mares grew flywheels
One long summer night,
And yesterday my boys
Stood taller even than their trousers.¹

Here change appears in human and technological terms. Mares who grow flywheels are carried by them to transient skies, to the mare's tail clouds of a summer's day, but this line also hints at the change from horse power to tractor power—the early gasoline tractors with their flywheels and magnetos. All of nature is constantly changing, but in human terms the sky is that part of nature that changes most quickly and visibly.

Thus the art exhibition, "Of the Sky," provided a window into change as well as a visible image of weather. Ben Darling's West of Town (Fig. 1) in its vivid colors shows both sun and grass. The brilliant red is a reproach to anyone who has thought of plains landscapes as drab, but it may also record dust in the air, a recognition of the constant disturbance of land and air that has marked the history of the Plains. The horizontal quality of the Plains is underlined by the four main horizontal bands that structure the painting, grass, trees, clear air, and cloud. A diagonal rift in the clear air, however, carries the viewer's eye up to the powerful red clouds, which thus dominate the painting although, like the land, they occupy only one third of the canvas. This same diagonal, below the cloud bank, indicates that we are seeing a weather front, a literal change in the weather, if not in the climate. The transience here is linked with the cyclical patterns of wind, moisture, and temperature that define climate and also help to define, as Harrington and Harman have told us, the boundary between grass and trees that we also see in the painting.

In Storm Cloud (Fig. 2), Norma Cowdrick also shows the sky as the indicator of weather, of change. Here the sky dwarfs both the land itself, a tiny strip at the bottom of the page, and the insignificant human structure—actually a highway sign—that barely interrupts the horizon. In shades of blue, as subtle as the colors of the prairie grasses, Cowdrick presents the drama of weather, the grasping storm cloud to the left advancing menacingly both toward the human structure and toward the azure and sunlit zone of sky.

The work of the artists clearly illustrates the importance of perspective. Where the painter stands obviously determines what he or she will paint. But point of view is important for the writer, too, as Nancy Cook shows in "More Names on Inscription Rock: Travel Writers on the Great Plains in the 1980s." Ian Frazier's address, "A New Yorker Looks at the Great Plains," was one of the high points of the symposium; although he did not directly address climate change, he did deal with the question of how one learns about a place and its meanings through one's own expectations. In her article, Cook points out the limitations of this New Yorker's view of the Great Plains and asks us to look more deeply at this region.

Although the major question addressed by the symposium as a whole was global warming, the three papers in this issue, as well as the poetry, the fiction, and the paintings, invite the reader to consider the larger questions of what climate has changed from or will change to and of how an investigator's perceptions influence his or her report.

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