

## About the Cover

# Corn, Flour, Blue

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Yokvaqö'ö paavön- yeevewmanatu  
Hàalay'unangway paasimasayu puma'a puyayatani  
yanga'a  
When it rains the corn plant maidens  
Will be fluttering their wet wings along here with  
happy hearts.  
Twentieth century Hopi song, as performed by a  
hemis kachina (Sekaquaptewa and Washburn 2004).

The striking image of a Hopi kachina dancer, frozen midstride, graces this cover of *EcoHealth*. A work of award-winning O'odham artist Michael Chiago, this traditional dancer represents an integral part of Hopi culture and spirituality. The word *kachina* refers to three manifestations of a spiritual concept: the spirits of nature, known as Cloud People; the masked performers who speak as Cloud People in ceremonial dances; and the brightly painted cottonwood dolls traditionally used to teach Hopi children and now widely collected (Colton 1959). Every year, the Cloud People arrive from the San Francisco Peaks—Nuvatukya'ovi—to bring rain to the Hopi, and the kachina dancers welcome them in ceremony.

The kachina dancer on our cover is bedecked in blue corn, the cornerstone of Hopi life and myth. Although the details of the story vary from clan to clan, Hopi believe that their people emerged from three unique creations or ways of life (Vecsey 1983). Each way of life fell to destruction—by fire, ice, and flood—when people forgot to honor their Creator and quarreled among themselves. When the Hopi emerged into their current world, the fourth way of life, they became an agricultural people. To make this change, they encountered the god Måasaw and asked permission to

live in the fourth world. He responded, “It’s up to you. All I have is this planting stick” (Sekaquaptewa and Washburn 2004). When Mâasaw gave them a choice of corn to plant, the Hopi chose blue corn from among the myriad varieties. Nutritionally rich, with a low glycemic index and possessing a sweet nutty flavor, blue corn is the product of thousands of years of agricultural development and is still a critical part of Hopi life (Society of Chemicals Industry 2007).

To this day, a common perception of Native Americans is one of a sparsely populated culture living hand-in-hand with nature, a society adapted perfectly to the post-glacial wilderness of North America. History books still introduce European immigrants as “settlers” who cleared the American land for agriculture and trade, while Native Americans are portrayed as peoples of untamed deserts, untouched plains, and pristine forests. Of course, this is mistaken in many ways. Throughout more than 10,000 years of their history, civilizations in the Americas repeatedly reached dense populations and developed more sedentary agricultural lifestyles (Mann 2006). While native societies lived according to the demands of the environment, they also modified it extensively for hunting, agriculture, and trade. Furthermore, while Native Americans were successful at “settling” the New World, their spiritual and oral histories are also ripe with disaster and change, hinting at what we now know as failures in some tribal groups’ efforts to deal with harsh environments (Mann 2006).

History books get one thing right: the most recent and lasting pressure on Native American culture has been from European colonists, their descendants, their pathogens, and their pests. In the 1600s, European immigrants to North America thrived on east coast farmland carved out by the Native American communities that collapsed as a result of introduced diseases (Mann 2006). Meanwhile, in the dry deserts of the southwest, the Hopi also modified the land for an agricultural society. Planting in the fertile valleys and washes, or terracing into sloping mesa walls, the Hopi relied on a cycle of direct rainfall and a diversity of crops. If European and American settlers had not interrupted Native American civilization, could the Hopi have continued farming their land indefinitely? What environmental pressures would the Hopi have encountered? How would Hopi society have grown, struggled, and changed?

We, as a global population, struggle with unsustainability as one of our most critical problems. Agriculture and energy production have become inextricably linked. As

we strive to find fossil fuel alternatives, monocultures of yellow-eared corn, often heavily subsidized and with high sugar concentration that lends them to ethanol production, have become a seemingly simple solution. The price of corn is driven up, more land is dedicated to its production, and the environmental crisis is compounded rather than solved. We look for longer-term solutions—perhaps biochar, perhaps algae, perhaps wind—but oil and gas tip the political and economic scales and a vibrant corn industry seeks new ways to exploit its crop.

Absorbed in our lives, we feel little sense of urgency to radically change our behavior. Across our busy world, people live out each day and plan for next week, next season, and next year; however, the ecological problems we face are multi-decadal. Time ticks by, yet we are unable to conceive of the burden placed on future generations. Is this shortsightedness a failure of Western culture? Is it universal to human nature? Linguist Benjamin Lee Whorf once argued that Hopi “had no words, grammatical forms, construction or expressions that refer directly to what we call ‘time’” (Carroll 1956). Like that perception of a culture in harmony with a pristine wilderness, however, this claim has been passionately challenged in the academic community.

The solution to our crisis may therefore require a more fundamental change in thinking. In this change, Native American culture does not contain a mysterious secret to living in harmony with nature. Rather, its long history as a population ebbing and flowing with environmental change might help us see beyond the horizon and motivate local, regional, and global corrections now.

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## ABOUT THE ARTIST

Michael Chiago (1946–) was born on the Tohono O’odham Reservation in the village of Kohatk. One of twenty-one federally recognized tribes in Arizona, the Tohono O’odham Nation is the second largest reservation, both in land and population (Tohono O’odham Nation 2012). After graduating from high school, Chiago enlisted with the U.S. Marines, and he served in Vietnam and Okinawa. Chiago studied commercial art at Maricopa Technical College (now GateWay Community College) in Phoenix, Ariz., but the strongest influence on his art comes from traditional Tohono O’odham dance. He performed as a dancer for many years, touring through Arizona, California, and the East Coast, and including a performance at the 1964 New York World’s Fair (Griffin-Pierce 2010). Chiago’s works

typically portray vibrant moments of traditional Tohono O'odham life, placed firmly in the context of the living desert landscape. In contrast, "Corn Kachina" is part of a series of paintings that suspend traditional Native American dancers on a blank background. Chiago's works are featured in public and private collections throughout the U.S., and twelve of his watercolors appear in the children's book *Sing Down the Rain*.

## ON THE COVER

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"Corn Kachina," by Michael Chiago, 1976. Watercolor on matte board, 16 × 20 in.

## REFERENCES

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- Carroll JB (1956) *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf*, Cambridge: Massachusetts Institute of Technology
- Colton HS (1959) *Hopi Kachina Dolls: With a Key to Their Identification*, Albuquerque: University of New Mexico Press
- Griffin-Pierce T (2010) *The Columbia Guide to American Indians of the Southwest*, New York: Columbia University Press
- Mann CC (2006) *1491: New Revelations of the Americas before Columbus*, New York: Knopf Doubleday
- Sekaquaptewa E, Washburn D (2004) They go along singing: reconstructing the Hopi past from ritual metaphors in song and image. *American Antiquity* 69(3):457–486
- Society of Chemical Industry (2007) Blue Tortillas May Help Dieters and Diabetics. *Science Daily*. <http://www.sciencedaily.com/releases/2007/07/070730092559.htm>. Accessed 12 March 2012
- Tohono O'odham Nation (2012) *Official Website of the Tohono O'odham Nation*. <http://www.tonation-nsn.gov/default.aspx>. Accessed 12 March 2012
- Vecsey C (1983) American Indian religions: the emergence of the Hopi people. *American Indian Quarterly* 7(3):69–92