

1st Place Winner: Of Men and Martians: A Close Reading of a Cow Pea

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By Alicia Webb

I was really looking forward to going to the “Food: Fact or Fiction” exhibit at the Perlow-Stevens Art Gallery, and I was disappointed when the weather interfered with our class trip. This exhibit seemed like it might be a good place to find ideas regarding the Mizzou Advantage initiative of “Food for the Future,” so my friend and I decided to make our own excursion to the gallery one afternoon. We were blown away at the quality of art throughout the gallery! As far as the specific exhibit went, it was interesting to see how the assorted artists explored different food-related themes. The media varied from fibers to ceramics and glass, from oil-color paintings to photography. Some were a critique on consumer culture, while others challenged conceptions of what the essence of a particular food actually is. However, a common theme ran through the pieces: all managed to use their respective media to convert the seemingly mundane topic of food into art.

As we wandered farther through the gallery, I kept coming back to one piece. Something about this piece struck a chord with me, though I initially couldn’t figure out what. The piece was entitled, “Cow Peas on Mars.” This digital photo was created by Bill McKelvey of Columbia, and if I had \$400 extra lying around, I would have bought the piece on the spot. Initially, it was hard to figure out why this particular piece resonated so well with me, but upon “chewing it over,” I began to realize a few key things.

First, the outstanding colors attracted my attention. To me, the vibrancy evokes images of Andy Warhol, pop artists, and the modern art lining the halls of the Georges Pompidou Modern Art Center in Paris. The black frame with the white mat makes the bold colors pop. The geometric regularity of the four repeating photos lends a journalistic air of reality to a piece that is fundamentally based in abstraction.

After four or five viewings, I finally realized that the photo in the top right corner was the closest frame to reality. (Upon talking with the artist, I learned that all four of the photos had been retouched using Photoshop.) The red soil of the first photo plays up the red tones in the soil of the second photo, and the vibrant green of the leaves so perfectly matches the vibrancy of the other colors that the second photo initially blends into the piece as just a green-tinted continuation on the re-colored theme. The viewer forgets that plants actually are normally green. Next to the other plants, the reality shown in this second photo is the least believable and most abstract of all four photos. “Cow Peas on Mars” leaves the viewer questioning reality by imposing its own reality.

The title of the piece intrigued me so much that the first question I had was whether or not cow peas actually could grow on Mars. As images of little green men planting seeds danced in my head, I realized that there has been a long-standing fascination with the possibility that we may not be alone in our universe. From Bugs Bunny’s pal Marvin Martian to the bendy-straw-wielding space ships of the 1950s film *War of the Worlds*, alien iconography has been part of the childhoods of the last several generations of Americans. As we approach the 43rd anniversary of the Apollo 11 manned lunar landing, we now may be one giant leap closer to solving the eternal interstellar mystery of whether or not life could exist on other planets.

Our first leap is to Mars (which is a leap of between 36 and 250 million miles, depending on when you try to go) (Dutch np). As our nearest neighbor, Mars has long been the subject of scrutiny. Since no conclusive evidence was found for either the presence of life or fossils indicating past life on Mars during the Viking Lander mission in 1976, McKay and colleagues examined meteorite ALH84001, which was recovered from Antarctica and is believed to have originated on Mars (924-930). The structure and composition of the meteorite led McKay and his colleagues to conclude that they had found evidence to support the idea that life may have existed on Mars. The pores and cracks in the structure of the meteorite were found to be consistent with the presence of fluid (i.e. water) that seeped into the rock. Other features of the rock were noted for their similarity to our own terrestrial microorganisms, which are hypothesized as suitable models for what Martian microorganisms might have looked like. Though their findings are far from conclusive, a likely explanation for the simultaneous appearance of all of the structural features of the meteorite is at the very least that primitive live *could* have existed on Mars.

The cracks indicative of water seepage found by McKay and colleagues lead us to a very important point. For cow peas to grow on Mars (and really, for life as we know it to have existed at all), the presence of water would be absolutely crucial. According to an article published by the Mineralogical Society of America, the surface of Mars exists as it does today due to the ancient presence of flowing water (McSween 135-137). Ice has been found at both of the poles of Mars, but liquid water is not stable anywhere on present-day Mars. At some time in the distant past, however, it is believed that Mars was covered with water, much like Earth is today. Could the current state of Mars possibly be a glimpse at the fate of our own planet? What caused the water on Mars to dry up? If we do nothing regarding the environmental impact of humans on Earth, could the Earth dry out as it appears that Mars did? Alternatively, would there be anything at all we could do to stop the drying process, or is our Earth destined to become barren and inhospitable like its red cousin? If Mars really was once home to liquid water, could it be made to hold water (and even life) in the event that our Earth met the fate around which so many science fiction movies have centered their plots?

With these thoughts still swirling in my head, I moved on to the next problem. For Earth-like life to exist on Mars there would need to be a carbon cycle analogous to our own carbon cycle. In fact, it has been hypothesized that methane clouds not only exist but are continually produced on Mars (Chassefiere and Leblanc 207-217). Whether the methane is produced by microbes or by geological formations is arguable; the main point of most studies of Martian methane is to show that life *could* exist, not that it actually currently does. It may seem Earth-centric to assume that all life must function using the same building blocks (i.e. carbon, water) that life on Earth uses, but since life on Earth is the only life we know anything about, it is the first place to start our hypotheses. In actuality, a species of microbe was recently found *on Earth* that fixes sulfur in its DNA instead of the phosphorous that all previously-known life forms use (NPR np). The discovery of these sulfur-using extremophiles may be considered support for the existence of other, nontraditional ways of ordering life and biological systems and may provide a new way of looking for extraterrestrial life forms.

Now that my thoughts were orbiting around the sun, I decided I needed to rein them in and head back toward the practical. "If I'm going to grow cow peas on Mars, I need to know how to actually *grow* cow peas." For this, I turned to Bill McKelvey, rural sociologist, master of healthy outreach initiatives, urban agriculture extraordinaire, and artist responsible for the "Cow Peas on Mars" piece that so fascinated me in the Perlow-Stevens Gallery. We chatted for awhile on the ins-and-outs of photography, discussing his use of a point-and-shoot camera and his fiddling with Photoshop to bring out the high contrast in his original photo by playing with the color scheme, ultimately creating the striking color contrasts found in the piece. "Cow Peas on Mars" started in McKelvey's home garden during a hot, dry period in late June. After harvesting garlic at the Summer Solstice, McKelvey was left with an empty bed. He had learned of cowpeas from African American community gardeners in Kansas City and how these heat- and drought-tolerant plants could fill in space when most other plants wouldn't germinate and wouldn't grow. This particular summer was an *especially* hot summer, yet these heirloom Ozark razorback cow pea seeds (bought from the Baker Creek Heirloom Seed Company out of Mansfield, MO) not only grew, but thrived. Ninety days later, the cow peas were ready to harvest, and the crop was especially good. McKelvey was so impressed with the resiliency of a plant that would defy the hot July weather that he decided to get out his camera.

For McKelvey, both photography and gardening are outlets of creative expression. Photography not only helps him appreciate his gardening, but it also helps "share the creative process with others and captures beauty through photography." For someone so infectious about the wonders of the world around him, it's no wonder that he tries to share his passion with others through his work. McKelvey was hired by the MU Interdisciplinary Center for Food Security to handle outreach with local food pantries. Most people who donate food tend to take cans out of their kitchen cabinets at random. For this reason, the shelves of food pantries are typically stocked with strange assortments of canned fruits, soups, and vegetables with the focus primarily being caloric quantity over caloric quality. To fix this, McKelvey has spearheaded several healthy initiatives. He emphasizes the importance of donating healthy food during food drives and the importance of accepting food stamps. He distributes garden seeds and gardening information to the food pantries. He also tries to provide the food pantries and their clients with healthy recipes and food tastings. His current big project is working to pair food pantries throughout central and northeast Missouri with farmer's markets. In communities where McKelvey is active, vendors at farmer's markets can donate any unsold produce to the food pantry at the end of the day. In this way, McKelvey is providing fresh produce to people who normally could not afford it. He attempts to cultivate new relationships or enhance existing relationships to help the pantry make use of all possible community resources. Ultimately, McKelvey's goal is to improve the nutrition and well-being of the people served by the food pantries and the regional Food Bank.

In addition to the connections with the Food Bank and local food pantries, McKelvey spoke of the many advances in community gardening and healthy food initiatives right here in Columbia. Fruit trees are being planted at Columbia Housing Authority public housing sites to try to provide fresh fruit to community members who ordinarily would not have access to it. Individual gardens are being installed for people with limited means to provide them with fresh produce as well as a fresh outlook on life by building confidence in their ability to grow something on their own. Workshops are being held on chicken care, chicken coops, and chicken processing after the ordinance passed that allows Columbia residents to legally own up to six hens. The Missouri Food for Missouri People program aggregates local food and sells it to such diverse retailers as Campus Dining Services, Columbia Public Schools, and Hy-Vee. The trayless dining initiative at Mizzou is expected to cut food and beverage waste by 65 TONS per year, which is a decrease of about 26% (Carleton np). Trayless dining also will save nearly 100,000 gallons of fresh water each year that would ordinarily have been used to clean trays. The money saved may be used to purchase more locally grown food from the Missouri Food for Missouri People program. Overall, health, sustainability, and accountability appear to have gained a spot in Columbia residents' minds.

Now that I have a thorough understanding of the Martian climate and how cow peas are grown, I can start to work out the logistics of my trip. It's good to hear that cow peas are heat- and drought-resistant, because I think Mars has the heat and drought parts covered. I can stop by the Baker Creek Heirloom Seed Company to pick up the seeds next time we drive through Mansfield on our way down to family vacations at Bull Shoals Lake in Arkansas. Now all I have to do is figure out how to make the 36 to 250 million mile trip without getting so hungry that I eat all the cow pea seeds before I get there. Once I finally figure out how to grow "Cow Peas on Mars," I'll make sure to have one of my new friends among the little green men tell E.T. to "phone home" and let you know how my cow peas are doing.

Bibliography

Carleton, Gerard. "Mizzou Diners Go Trayless" KOMU. 18 August 2011. Web. <http://www.komu.com/news/mizzou-diners-go-trayless>.

Chassefiere, Eric and Francois Leblanc. "Methane release and the carbon cycle on Mars." *Planetary and Space Science* 59.2 (Feb. 2011): 207-217. Web.

Dutch, Steven. "Mars." Natural and Applied Sciences, University of Wisconsin-Green Bay. 2009. Web. Accessed 7 April 2012. <http://www.uwgb.edu/dutchs/planets/mars.htm>.

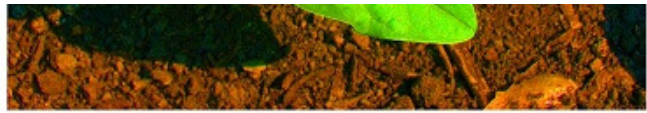
McKay, David S., et al. "Search for Past Life on Mars: Possible Relic Biogenic Activity in Martian Meteorite ALH84001." *Science*, New Series, Vol. 273, No. 5277 (Aug. 16, 1996), pp. 924-930.

McKelvey, Bill. Personal interview. 12 March 2012.

McSween Jr., Harry Y. "Water on Mars." *Elements* 2.3 (June 2006): 135-137. Web.

NPR. "Arsenic-Eating Bacteria Challenge View of How Life Works." NPR: Science Friday Podcast. 3 December 2010.





Cow Peas on Mars (Courtesy of Bill McKelvey)



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One Response »

1. *Marge Hartman* on **September 10th, 2012 at 7:05 pm**:

Dear Alicia,
Congrats on this great piece. Most interesting and lots of insights. I really enjoyed reading it.
Marge

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