Mysterious Detour While Driving? It Could Be Due to the Curvature of the Earth

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Photographer Gerco de Ruijter's new project explores the places where our highway system goes astray, thanks to the challenges of imposing a rectilinear grid onto the spherical surface of the planet.

Geoff Manaugh December 10, 2015

When the Dutch photographer Gerco de Ruijter arrived earlier this year for an artist's residency at Wichita's Ulrich Museum of Art, he noticed something strange while driving to a friend's house outside of town. At several points, the rural road he was on came to an abrupt halt at a T intersection in the middle of nowhere, requiring a quick zigzag to continue on the same road. The detour could be anywhere from a few dozen yards to nearly half a mile, but, in every case, there was no visible reason why the road should shift at all. This wasn't the urban street grid of Wichita, throwing a few random twists and turns de Ruijter's way. It was the large-scale grid of the country itself—those huge squares of agricultural land visible from airplanes—seemingly gone haywire.

De Ruijter soon learned that these kinks and deviations were more than local design quirks. They are *grid corrections*, as he refers to them in a new photographic project: places where North American roads deviate from their otherwise logical grid lines in order to account for the curvature of the Earth. You could drive out there your whole life, de Ruijter realized, and not realize that certain stop signs and intersections exist not because of eccentric real estate deals, but because they are mathematical devices used to help planners wrap a rectilinear planning scheme onto the surface of a spherical planet. In order to avoid large-scale distortion, the Jeffersonian grid—shorthand for the founding father's 18th-century geometric vision of six-square-mile township parcels, intended to guarantee equal and democratic land-distribution nationwide—is occasionally forced to go askew.

These panoramic aerial photographs by Gerco de Ruijter offer distorted, 360-degree views of grid correction roads within driving distance of Wichita, Kansas.

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"It did not take long for legislators to understand that a township could not be exactly six miles on each side if the north-south lines were to follow the lines of longitude, which converged, or narrowed, to the north," explains landscape architect James Corner in *Taking Measures Across the American Landscape*. "The grid was, therefore, corrected every four townships to maintain equal allocations of land." This added up to a detour every 24 miles, from sea to shining sea.

In his 2004 book *Correction Lines*, author Curt Meine explains that these are "places where theory and reality meet." His book uses them as a metaphor for the idea that, in the real world, a perfect plan must always be imperfectly implemented. As the writer Alexander Trevi once observed on his landscape blog Pruned, the results are "sites of displacement" where the road system appears to lose its way, "as if sheared by an ancient earthquake." These particular doglegs are most clearly seen far from urban centers, in the agricultural countryside, where the regular, quilted appearance of rural land use makes them more visible.

These images of grid corrections near Leota, Minnesota, taken with Google Earth, reveal nearby land-use patterns.

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De Ruijter's firsthand experience of these grid corrections came with an interesting artistic irony for de Ruijter. Since the early 1990s, his work has taken altered landscapes as a particular point of focus. Some of his more recent work has included photos of circular pivot-irrigation systems squeezed awkwardly into square property lines, while another project looked at the surreal geometric landscapes of Dutch tree farms.

As de Ruijter explained to me from his studio in the Dutch city of Rotterdam, when he first began producing work in the United States he was ⁻ nned by the sheer scale of the landscape here—a common reaction for anyone visiting the vast farmlands of the Midwest or the Great Plains for the first time. The scale inspired him not only to pursue the artistic possibilities of aerial photography even more intensely, but also to look into satellite photography as a means for orienting himself in the open landscape. It was while poring over satellite imagery from Google Earth that he had an epiphany: the Jeffersonian grid and the property lines it created were, in effect, a huge framing mechanism for the landscape. That is, they acted as a kind of photographic viewfinder imposed upon the land, he suggested. In a sense, it was less a technique of federal land management, and more a kind of continental-scale act of graphic design

All of these themes came together for "Grid Corrections," de Ruijter's newest project, produced during his residency and accessible on his website. (Selected photographs from "Grid Corrections" will be on display at the Van Kranendonk Gallery in The Hague from December 12 through February 6.) De Ruijter wanted to transform these small turns and detours where the grid seeks to correct itself into a photographic series about locations where abstract ideas collide with on-the-ground realities. He located more than a dozen of these places—including a few in Canada—and extracted aerial images of them using Google Earth. He then traveled to specific corrective intersections in the countryside near Wichita to produce spherical panoramas of the sites. Using a fish-eye lens, he stitched these together into scenes that can best be seen through a virtual reality interface such as Google Cardboard.

But even the traditional flat photographs that resulted from this are intriguing. De Ruijter's catalog of geographic distortions were, he laughed, simply one way to make "a boring landscape" like the one outside Wichita more interesting, uncovering the embedded rules that govern every straightaway and unexpected turn.

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