FIELD NOTES & OFFICE MEMOS

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A picture worth a thousand words

Above my desk on the wall of my home office is a print of a fascinating painting by Canadian artist Christopher Walker entitled "Survey." I received it as a retirement gift two years ago from my older brother, a retired surveyor himself.

The picture depicts a parka-clad surveyor on a snow-covered mountain ridge engrossed in the taking of measurements. Unbeknown to the surveyor who is hunched over the instrument with his back to the viewer, a silver-gray wolf has just arrived unannounced behind him from below the ridge. The wolf, undoubtedly surprised by the presence of the surveyor, is captured in mid-stride with its head turned toward the unexpected visitor while its body is making the adjustment to turn and retreat in the opposite direction.

Christopher Walker was born in Montreal in 1964. As a child he painted Quebec rural landscapes, which engendered a love and dedication towards art and the environment. He now resides in British Columbia, and the influence of the mountains of Western Canada is apparent in "Survey." With a strong interest in science and nature, Walker has developed the ability to blend artistic licence with respect for scientific accuracy.

On Walker's web site (*www.christopherwalkerart.ca*) his art is described as "perceptual realism…the artist attempts to convey a unique interpretation of the subject based on personal associations and intellectual perspectives. The concept then progresses to multiple juxtaposition of various elements to achieve an infinite range of distinctive metaphoric combinations."

A portion of the painting "Survey" by Canadian artist Christopher Walker. [Photo credit: W.R. Brookes]

In "Survey," Walker has used colour and shadow masterfully to produce a background with an intriguing blend of mountains, snowfields and clouds. By concentrating on different portions of the background, the viewer can mentally change the perspective of the picture.

In one view, the surveyor seems to stand on a high ridge that faces a distant white horizon as darkening clouds drift from behind a nearby mountain. Shift your eyes and the distant horizon dissolves into a massive snowfield while the clouds become rocky outcrops, and the surveyor (probably a topographical surveyor) now seems to be more in a valley than on a ridge.

And if you again look carefully, the background's aspect becomes a topographical image viewed from space—the white snow and sky now appear to define a frozen coastline of some landmass whose relief emerges from the shadows of rocks and clouds. Thus we are given two simultaneous views of the same setting at different scales, one from the ground and one from above. In the same instant we see the surveyor at work and the map image that will result from his or her endeavour.

However, to me the most fascinating thing about this picture is the fact that I have been there. I was there in my early days with the federal Topographical Survey and in my later days with Geodetic Survey. I do not know the exact physical location of the scene, but I have been there in the figurative sense. I have experienced the feeling that the picture imparts.

I learned early in my survey career the truth that Walker has so keenly acknowledged in his painting. One of my first topographical survey experiences was with a helicopter-

supported mapping control project in the mountains of British Columbia. The party operated with two 2-man traversing crews, each with a helicopter. The traversing progressed in a leapfrog manner, with the helicopter moving the rear surveyor ahead of the front man once the distance between them had been measured.

This meant being left on station by oneself for limited periods of time between drop-off and pick-up by the helicopters. During that period there were a number of tasks that kept you busy: turning angles, measuring distances, recording notes, drawing up station descriptions, setting out target cloth for the aerial photography that would follow, setting up a signal over the station to serve as a backsight for the man ahead, not to mention trying to gulp down a coffee or munch a sandwich in between.

And the truth of the matter was that most often you were so busy with the work that you were oblivious to your surroundings. You were for a brief time a transient in a beautiful foreign place, high in the mountains that few had visited before. You were among a privileged few who actually got paid to go there and work. But it was only later, either on the flight to the next station or at the end of the day, that the fact would sink in and you would think to yourself "Golly, that really was a pretty spot. Too bad I didn't have the time to enjoy the view."

That is the message, as I see it anyway, that Walker is portraying in his painting "Survey." The surveyor in red parka and red wind pants, with yellow painted tripod stands out conspicuously against a landscape of white snowfields and blue-gray mountain slopes—an intruder in a setting foreign to him or her. The surveyor is so preoccupied with the task at hand that he or she fails to see the immediate beauty and wonder around him or her, which is represented by the wolf who comes with silent footfalls on the soft snow.

As observers of the painting, we can see the complete picture, the magnitude and magnificence of the landscape, while the surveyor with his instrument focuses only on some distant point and misses the moment.

There's seldom a day goes by that I don't pause to admire Walker's painting. Yes, I have been there; I was that surveyor, in that exact setting…if only figuratively speaking.

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The Degree Confluence Project—a cure for insomnia or a tool of discovery?

Are you one of those people who can't sleep at night? Awake at 3 a.m., watching info-commercials on TV? Playing solitaire or FreeCell on the computer? Well, just log on to the Internet and punch in *www.confluence.org/,* and your insomnia will be cured.

The Degree Confluence Project web site will provide you with tens of thousands of very boring photographs. Photos of wearisome wheat fields, photos of uninteresting water bodies, photos of barren plains, and photos of tedious forests, most so dense they look like night itself.

That was my initial impression when I first visited the site over two years ago. Having revisited it several times since, I am softening my opinion and am finding it more and more entertaining and educational than expected.

A confluence is usually defined as a flowing together of streams, roads, etc. In this case, a degree confluence is defined as the exact spot where an integer degree of latitude intersects with an integer degree of longitude. An example is the point 60º 00' 00" N 102º 00' 00" W, which happens to be about where the provincial boundaries of Manitoba and Saskatchewan intersect with the territorial boundaries of Nunavut and the Northwest Territories.

There are 64,442 degree confluences on the globe (get out your world atlas and count them—that ought to be enough to cure your insomnia). Since oceans cover about seventy per cent of the Earth, landlubbers will not be visiting about 40,000 of these spots. However, the coordinators of this web site have identified some 24,470 degree confluences as "fair game," or points worth visiting—points on land (21,540); points on water within sight of land (2540); and points on ice caps (390). Interestingly, at any place on Earth, a confluence is no more than 79 kilometres away.

The aim of the Degree Confluence Project (DCP) is to visit each of these geographical intersections and to take pictures at each location. Anyone with a GPS receiver and a digital camera can take part. (The project uses the WGS84 datum to define confluence locations.) The pictures, along with a narrative describing the adventures taken to reach these points are then posted on the web site. According to the web site, this will create "an organized sampling of the world."

Another stated goal is to document changes at these sites over time, so participants are encouraged to revisit confluence sites, even though the project's primary aim is to record as many different locations as possible.

Ten years ago Alex Jarrett bought a GPS device and then puzzled over what the heck to do with it. While on a vacation trip, he noticed that on a topographical map a line of longitude intersected a line of latitude not far from where he was. Out of curiosity, he hiked to the point and took a few digital photos of the spot. Back home, he created a web site and posted the photos online.

For about three years no one really paid much attention to his web site. But as GPS devices and digital cameras became less expensive and more readily available, people began to take notice and to add their own photos and travel stories. It snowballed from there.

As of August this year, visits to just over 5000 unique degree confluences, scattered throughout 171 countries, have been posted. This is about 20 per cent of the anticipated goal. Of course there is a question as to whether or not the quest will ever be completed. For example, some points in Nepal near Mt. Everest would

require an expedition to reach them. And then there is the point in a heavily guarded nuclear testing site in the Nevada desert.

The majority of the currently posted 56,000 photos show little more than empty spaces and dense forests (remember my rant about the boring photos). Actually, the lack of human activity is to be expected given that most of the world's population is highly concentrated in urban areas, which constitute a very small percentage of the Earth's surface.

On one of my first visits to the DCP web site I decided to look up the degree confluences that were near some of the places in Canada where I had worked during my survey career. Not surprisingly, no one had yet visited 66° N 90° W near Wager Bay, Nunavut. (I camped out at mapping control point near there in 1973.) Oh yes, there were the typical prairie photos of flat, barren pasture land at 49° N 108° W near the geodetic station Monchy on the International Boundary in southern Saskatchewan.

Then I tried 51° N 57° W, which is just east of another survey station at Ferolle Point on Newfoundland's west coast, and I unexpectedly stumbled upon a little tale of modern day adventure.

Elda and Mark, a couple from Boston, Massachusetts, only heard about the DCP one week before heading to Newfoundland on vacation in June 2001. Their driving and hiking trip took them up the Great Northern Peninsula and close to 51° N 57° W. Taking a small detour they managed to locate the spot with their GPS device. They returned to Boston, but it seems that they were hooked, not just on confluence hunting but on Canada as well.

Over the course of the summer in 2001 they visited, on six different weekend trips, 11 degree confluences in seven provinces. On the 4th of July weekend they decided to use up some frequent flyer miles and so they flew to PEI for the day to find the 47° N 64° W intersection. Another weekend trip to Nova Scotia and New Brunswick in August found them locating degree confluence number three. Two weeks later they were off to Ontario, bagging their fourth and fifth confluence trophies. On the Labour Day weekend they returned to Nova Scotia, and two points in Cape Breton were added to their growing list.

On their sixth and last trip of the season (using the last of their frequent flyer miles), Mark confessed to being a "confluence junkie." This time they flew to Saskatoon and in the mere span of 24 hours and 1200 km of driving they located four more sites (two in Saskatchewan and two in Alberta) before returning to Saskatoon and flying home.

In the travel notes posted on their eleventh and last confluence point, Mark states that "the weekend was a lot of fun, but I don't think we'll be doing anything quite as hectic for a while." Apparently not, for that was in September of 2001 and now, nearly five years later, there is no further record of their exploits on the DCP web site. Did the novelty wear off? Did they suffer confluence burnout? Or maybe they just ran out of frequent flyer miles.

In any case, this is only one of probably hundreds of interesting little tales hidden away in the many travel stories on the DCP web site, just waiting to be discovered, if one will only look.

Then there is the unrivaled Captain Peter. While the coordinators of the DCP keep such statistics as "Confluences with the most visits" (52° N 00° Hertfordshire, England, with 18 visits) and "Confluence visits with the most visitors" (48° N 09° E Baden-Württemberg, Germany, with 469 people in a single visit), they do not view the project as a competition. There are no statistics about who has the most visits attributed to them. For me, I would put my money on Captain Peter.

I accidentally came across Captain Peter's name while checking out the degree confluence near Sable Island, NS. Since August 2001 he has racked up 196 successful visits to confluences in 45 countries. It seems that he is captain of an ocean-going freighter that travels the Atlantic, visiting countries in Europe, Africa, South America and the Caribbean. Known on the web site as simply "Captain Peter," he writes wonderfully detailed accounts of his travels, filled with nautical lore and geographical facts.

CIG members Stan Hutchinson (second from right) and Celine Gilbert (front) with friends at degree confluence 64° N 69° W, about 38 km northwest of Iqaluit, Nunavut. Stan Hutchinson is a Canada Lands Surveyor and head of the Nunavut Client Liaison Unit with the Canada Centre for Cadastral Management.
[Photo credit: Stan Hutchinson]

It would seem that a seafaring career has given Captain Peter a decided advantage in the ability to travel and visit degree confluences over a large portion of the globe. But then I have only scratched the surface of the over 8000 reports of visits. There could be an airline pilot among the bunch with a list of visits longer than that of the Captain. Once again, to discover, you have to look.

Remember the childhood notion that if you dug a hole in your back yard deep enough you would reach China. Well, if you were to dig your way to China through the centre of the Earth you should really start digging in South America. The DCP web site lists a number of visited antipodes that illustrate this point. Antipodes [ann-*tip*-uh-deez] are pairs of points that are directly opposite each other on the globe. Your best bet is to start digging in Chile or Argentina. For example, the point 33º S 69º W near Las Compuertas, Mendoza, Argentina is directly opposite the point 33º N 111º E near Dayan, Hubei, China.

A decade ago Alex Jarrett never dreamed that his degree confluence idea, which started "as a fun game," would evolve into the serious project that it is today. Thousands of people from all around the world now participate. Geography teachers have used the project as part of their curriculum. The web site is chock-full of useful and fascinating information. In many of the travel narratives, visitors have included links to other web sites that provide information complementary to those specific degree confluences.

There is also a section that covers special visits to unique non-degree confluence points around the world. It includes spots such as the Prime Meridian at Greenwich, England, the International Date Line on the island of Taveuni, Fiji, and the geographical centres of North America, Australia and Europe.

By the way, Canada has 2000 degree confluences and my latest visit to the web site indicates that only 368, or 18 per cent, have been visited. This leaves lots more for our readers to get out and discover. Good luck.

Or, if you are like me and do not claim ownership of a GPS device, you can still be an armchair explorer and cruise around the DCP web site and make your own discoveries. (If you can just get beyond all those boring photos.)

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Parting shots

A sign of the times

I am a bit of a museum nut, always have been, always will be. I have fond memories of visiting the provincial museum in Victoria as a child when it was still housed in the eastern wing of the British Columbia Legislative Building. Years later I dragged my own children around to all the museums in Ottawa. And now I am enjoying the excitement of discovery again through the eyes of my grandchildren.

The other day I logged on to the Canada Science and Technology Museum web site in order to check the summer visiting hours in anticipation of taking the grandchildren there. I clicked on the "Visit Us" portion of the menu and, along with the address and phone numbers for contact information, up popped the instructions on how to get to the museum. As well as the typical, simplified road map (major roads only and no map scale), there were written driving instructions (from downtown Ottawa), and the numbers of the bus routes that serve the museum.

What really caught my attention was a section titled "GPS coordinates," with the following instructions.

If your car is equipped with, or you have, a GPS device, enter the following data:

longitude: 75° 36' 21.6" West 75.606000
latitude: 45° 21' 59" North 45.36639
elevation: 70.0 metres (217 feet)

Well, beam me up, Scottie! Aside from the Star Ship Enterprise's transporter, that's about as technologically up-to-date as you're going to get for directions to a museum. For curiosity's sake, I checked some of the other museums in town and found that none of them included GPS coordinates in their "how to get there" instructions. But then none of the others were science and technology museums, either.

Picture this

If a picture is worth a thousand words, sometimes a few words can tell a complete story on their own. Take for example six short words written by one of my student assistants during a 1994 survey project.

We were taking the first GPS measurements of the newly established Canadian Base Net (CBN) in Eastern Canada. Each student in the crew worked alone and each was given a schedule with a list of specific points to be occupied. One of their chores at each survey site was to write a new station description for that site.

The station description routinely includes: directions to the site from the closest landmark or road intersection; mode of transportation used; accessibility; the type of survey marker occupied; and land ownership information. As well, any comments about the site that would be of interest to the next person to visit the marker are also noted.

The student that I mentioned was assigned one of the main CBN stations in Quebec's Beauce region. The station was on a small hill behind a house and access to the site was by a path from the back of the landowner's yard. Following a successful occupation of the point, the student submitted his observational data along with the station description.

The CBN operation was a highly mobile one with GPS observers moving locations every second or third day. Our field party positioned a network of control points throughout the Maritimes and southern Quebec and into eastern Ontario during a hectic 49-day schedule. As such, the party's priority, first and foremost, was to collect and validate the GPS data. So it was not until after the fieldwork was finished and the students had returned home that I got my first chance to make a detailed check of the station descriptions.

Even after all these years I still get a chuckle over the short comment written by the student at the bottom of the description for the Beauce station. The words speak for themselves:

"Don't try to pet the dog." ❑