



Sohon: Mapmaker and Artist

Last summer the museum had as a guest Dr. Paul McDermott from Montgomery College in Rockville, MD. He brought with him a copy of the first issue of a new publication "Mercator's World" dealing with maps, atlases, globes and charts. We asked for and received permission to reprint the materials dealing with Sohon and the Mullan Road. We think you will find it very informative.

THE MAPMAKER AS ARTIST:
Early Visuals of the American West
By Paul D. McDermott
and Ronald D. Grim

The Mullan expedition explored, mapped and constructed a 624-mile military wagon road from Fort Walla Walla in Washington Territory to Fort Benton in Nebraska Territory from 1858 to 1862. At a total cost of \$230,000 and with a relatively small force of 230 men, John Mullan led his band of scientists, surveyors, topographers and military personnel across mountains and rivers, not only establishing an important west-east link but also accurately documenting the rugged terrain with maps and illustrations that preserve their efforts in the early American West.

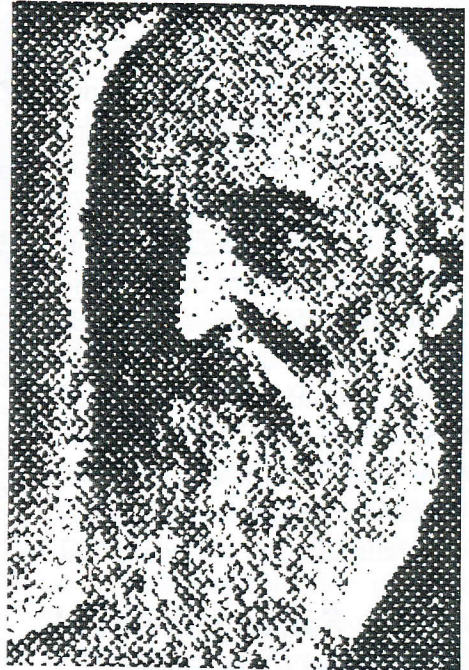
As a young boy, Professor McDermott (co-author of this article) had the opportunity to travel, by both road and rail, along sections of the Mullan Road. Little did he realize that these adventures would lead to a life-long pursuit of understanding the road and its builders. In the 1970's, his good friend and college, Ronald Grim, be-

gan work in the Cartographic Division of the National Archives. Familiar with McDermott's interest in the Mullan Road, Grim called with news that he had located the road's original map manuscripts. Several days later, they examined the find together, both mesmerized with the contents of the collection. Spread before them was the work of cartographers, explorers, and artists representing ten years of work.

The Artist—Gustavus Sohon

In 1842, young Gustavus Sohon stepped ashore from a ship that had landed at New York City. For him it had been a long journey from Tilsit, Prussia. He must have felt a sense of relief for he had fled Prussia to avoid service in the military. Yet, Sohon, who was only seventeen, surely wondered about the future. Where was he going to live? What was he going to do to make a living? What adventures did the future hold for him?

After spending his early years working as a book binder in New York City, Gustavus elected in 1852 to join the Army, an ironic decision considering his earlier desire to avoid such service in the old world. His change of heart was influenced by the times—for the West had been recently opened to exploration and settlement. Trails were now established to such exotic places as Oregon, California and Santa Fe. Magazines and newspapers were filled with reports describing the adventures of explorers and settlers as they moved westward. Young Sohon was caught up in the fever of the times and he



Augustus Sohon

elected to go West.

Little did he know he was to play a pivotal role in the exploration of the Pacific Northwest—a role unequalled by many. During the next nine years, Sohon worked a various disciplines, mostly as a topographer, artist, interpreter and surveyor. He was competent in all; examination of the documents he created in these tasks demonstrates that each of the diverse roles was undertaken with meticulous care. With the exception of one map, all the material used in this article was drawn by him.

Unfortunately, Gustavus has not been given due credit for his substantial contributions to our understanding of the early Pacific Northwest. The intimate detail provided in the portraits, landscapes, and maps he drew while ex-

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Sohon's language skills were important

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ploring the countryside are highly significant. And he brought invaluable skills as an interpreter to each assignment.

Sohon is known to have spoken three languages fluently—English, French and German. His quick mind and multilingual talents provided the groundwork to establish friendly relationships with the region's Native Americans. Adept in learning their languages and translating them into English, Sohon worked to communicate the purpose of the mapping expeditions to reduce the danger of cultural conflict.

In 1853, Sohon joined a work party under Isaac Stevens, conducting one of the many Pacific Railroad surveys to explore possible routes for a transcontinental railroad. In this case, the

In 1853, Sohon joined a work party under Isaac Stevens to explore possible routes for a transcontinental railroad

Stevens group was to explore and map a route which roughly paralleled the northern boundary of the United States between the Great Lakes and the Pacific Coast. After its completion, Sohon continued interpretive, illustration and mapping work under the leadership of John Mullan as they conducted further exploration of the region and eventually, the construction of the military wagon road from 1858 to 1862.

Oddly, in all documentation that exists from the expeditions of this era, very little of the illustration shows topographers, surveyors or artists at work. Fortunately, one detailed image does exist showing these dedicated and



A reach of the Mullan Road near St. Regis, MT, as sketched by Sohon.

hardworking craftsman carrying out the task of compiling and drawing maps. This highly unusual illustration is published for the first time here in the premiere issue of *Mercator's World*. Drawn by Gustavus Sohon in the dead of winter of 1858-59, the picture features characteristics of the main members of the Mullan Road party; John Mullan, the expedition leader, is shown smoking a pipe and reading notes from a small book. Other members of the team included Theodore Kolecki and W.W. deLacy (aside from Gustavus Sohon, they were the expedition's main cartographers) and though they are unidentifiable in the drawing, we may conclude that they are probably portrayed here sitting around the drawing table. The site was western Montana at an isolated location known as Cantonment Jordan.

Sohon's drawing shows the cartographers devising maps from the data and notes collected in the field. These maps were eventually published in official government documents report-

ing the work accomplished in constructing the military wagon road, which became popularly known as "the Mullan Road." Maps and other illustrations used in these official reports produced by Congress reflect the painstaking effort by the cartographers and artists of the day to capture all possible detail about the region's geography. For example, the window cut into the ceiling of this crude log cabin demonstrates an early "skylight" designed and constructed to illuminate the drafting table below. Also unexpected is the use of three-legged drafting stools. Close examination of the table reveals the outlines of assorted maps and typical drawing tools of the period. The Mullan Road maps and illustrations and other published documents from similar expeditions provide the public with very detailed descriptions of the American West.

The Journey—The Mullan Military Road

One of the natural routes to the West was based upon two of the nation's largest river systems—the Missouri and the Columbia. Lewis and Clark had pioneered the feasibility of this route when they conducted their expedition in 1803-1804. By the 1850's shallow draft steamboats were able to effectively navigate sections of both rivers. One major barrier remained to transcontinental travel—the Rocky Mountains.

Work conducted in the early railroad surveys helped to eliminate geographic ignorance regarding the character of the region. Further exploration conducted by John Mullan, and his friend Gustavus Sohon in 1855-56, augmented these efforts. So by 1856, John Mullan was able to argue to the

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Bitterroot Mountains slowed construction

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military and ultimately to Congress for approval and funding to construct a military wagon road. The purpose of the road was two-fold: to provide and overland link between the Columbia and Missouri rivers (essentially, the road was to connect two military posts—Forts Benton and Walla Walla) and secondly, its route was to serve as a path for a future transcontinental railroad. The latter became an obsession for Mullan and many of his subordinates. Each had a vision that they would be responsible for promoting the settlement and development of the region by finding the route or routes to be followed by a new railroad; to this end, many of the maps compiled and drawn for the project reflect the concern for railroad construction by noting possible grades, bridge crossings, passes and tunnel locations.

Contrary to belief, the Mullan Military Road was not constructed from the east to the west. Supplies for the construction of the road were brought up the Columbia and deposited at a small fort complex known as the Dalles in Oregon Territory. Significantly, one of the most important items brought from the East was a barometer. Aside from its predictive characteristics indicating prevailing weather by measuring changes in air pressure, the barometer had one further use—measuring changes in elevation. For each 100-foot increase or decrease in elevation, barometer pressure changes by one-tenth inch. From this data, combined with accurate location coordinates, the expedition's topographers

were able to construct accurate contour maps.

In fact, it is the authors' contention that maps drawn by Gustavus Sohon, Theodore Kolecki and W.W. deLacy were our government's first extensive

The road ascended over a pass discovered by Gustavus Sohon (and named for him) then proceeded down the St. Regis de Borgia River.

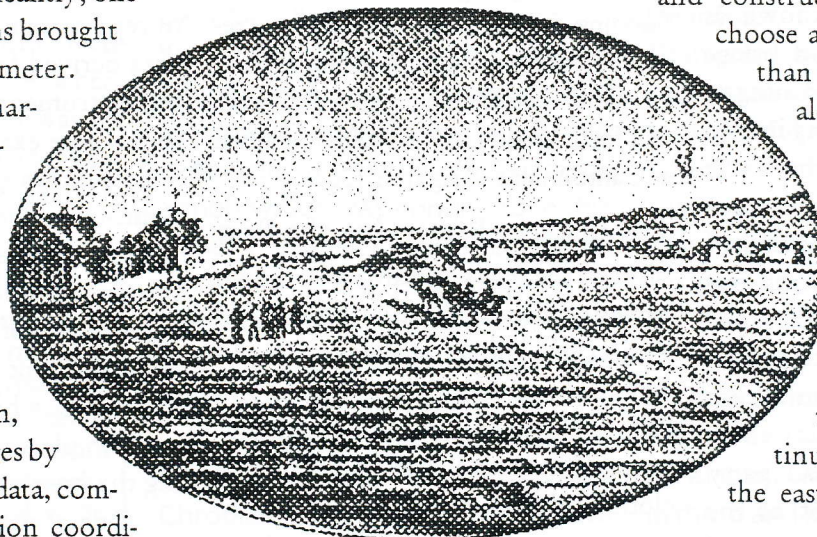
experimentation with contours on its topographic maps—a practice that was not fully implemented until the 1890's on U.S. Geological Survey quadrangles.

The main thrust of road construction began at Fort Walla Walla in Washington Territory in 1859. Construction had been planned to begin the previous year but it was postponed due to hostilities created by tribes living in the Territory. The road crew of some 230 men proceeded toward the north-northeast across the Palouse and the

SNAKE RIVER. They continued north-eastward and then east towards the Coeur d'Alene region. After crossing the St. Joe River at the southern end of the lake, they moved towards Cataldo Mission which had been established through the efforts of the Jesuit missionary Father DeSmet in the early 1840's.

Once the work party entered the Bitterroot Mountains, progress was slowed by the heavily forested, rugged terrain. Construction problems were compounded by the need to build many bridges over the Coeur d'Alene River and its tributaries. But the road eventually crossed Fourth of July Pass and then proceeded through the now famous mining region of Kellogg and Mullan, Idaho. The road ascended over a pass discovered by Gustavus Sohon (and named for him) then proceeded down the St. Regis de Borgia River. Here the Mullan Party established a camp called Cantonment Jordan. During the cold winter of 1859-1860, the topographers, under the leadership of Theodore Kolecki, compiled and drew maps reflecting the previous year's work.

In the spring of 1860, road surveys and construction resumed. Mullan choose a mountain route, rather than attempting to proceed along the St. Regis de Borgia river which posed more difficult problems—multiple river crossings which would necessitate bridge construction and numerous road cuts. For about town miles, the party continued over the mountains to the east and south of Canton-



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Most of Sohon's maps still in existence

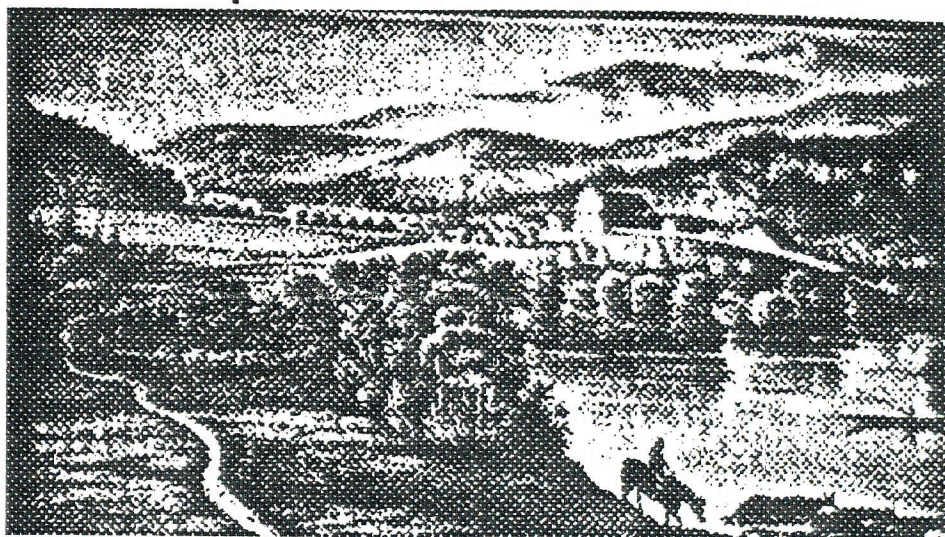
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ment Jordan. Construction continued southeastward through the sites of communities that would later develop from the benefits of the road's existence; such as Superior, Alberton, and Missoula. Near Alberton, the party was forced to construct a massive cut along steep mountain slopes that became known as the "Big Side cut". East of Missoula, the road changed direction through the Hells Gate of the Clark's Fork. The pace quickened as the landscape opened up.

One Challenge remained—the crossing of the Big Blackfoot River (which has recently received national recognition in the book and movie *A River Runs Through It*). Mullan and his party constructed another major camp

Not wishing to undergo the ordeal of working in cold mountain water, they built the bridge's triangular footings on the river's ice cover in the dead of winter.

on the river's south side known as Cantonment Wright. Here a bridge was built ingeniously. Not wishing to undergo the ordeal of working in cold mountain water, the men built the bridge's triangular footings on the river's ice cover during the dead of winter. The interior of each crib was then filled with stone boulders and holes were cut into the ice to permit the structure to sink to the river's floor. Cross trusses were added, followed by the planking. Then the road party moved on towards the crest of the Rocky Mountains and the Continental Divide. A crossing was made which



Sohon's romantic sketch of Cataldo Mission in Idaho

today is marked by a gravel road more or less following the path of the original road, located west of Helena, Montana and appropriately called "Mullan Pass."

After cresting the mountains, the road follows an eastward path for a few miles and then turns to the northeast toward the site of Fort Benton on the northern banks of the Missouri River. Construction efforts were eased once again as the terrain became more forgiving. Although road construction was officially terminated at Fort Benton, work was not finished. Sections of the road faced ongoing difficulties, primarily flooding. Subsequently, the road was rerouted from the southern shores of Lake Coeur d'Alene to its northern perimeter and final touch-up work was concluded at Cantonment Wright in 1862.

The Legacy—Preserving the Past

Most of the maps and art work drawn depicting the Military Wagon Road Project are still in existence. Several were published in official House and Senate documents; others are manuscripts drawn on ledger paper, tracing cloth, and drafting paper (apparently paper was a scarce commodity and any drawing material was exploited when

needed). All of these are preserved in the Cartographic and Architectural Branch of the National Archives at College Park, Maryland. They are placed in the Headquarters Map File in the Records of the Office of Chief of Engineers.

Two portfolios contain this truly amazing collection—57 graphics including maps, landscape sketches, and road profiles, several of which are reproduced here to share with the readership of *Mercator's World*. Some of the maps were obviously drawn to reflect reconnaissance work. More detailed and precisely plotted graphics exist in the form of report manuscripts. The latter used data derived from traditional surveying instruments as well as the barometer. Close examination of the manuscripts shows a maze of lines reflecting sightings and recorded elevations, usually drawn in pencil. Many manuscripts show symbolic work rendered in a combination of blue and red inks. Sometimes the faint outline of a rectangular grid is seen, which was utilized to facilitate the placement of letters identifying the item's title.

One of the most unusual symbols

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Sohon was early user of contour lines

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used on both the manuscript and published maps in the collection is a contour line (or "curves" as labeled on the maps). Interestingly, contour lines which were applied extensively on maps that were compiled during the road's construction were not used as a primary terrain symbol until the last decade of the 19th century. Close examination of their placement shows that they were only drawn to depict the terrain adjacent to the road's path,

One of the most unusual symbols used on both the manuscript and published maps in the collection is a contour line.

typically at 100 foot intervals, reflecting the use of the barometer to obtain the needed elevation data (contours are isolines connecting points of equal elevation above sea level). The noted historian William Goetzmann has observed that the western frontier was frequently the site for experimentation in application of scientific techniques and equipment. In places where accurate elevation information was not available, more general form lines were substituted by the cartographers in

If you are interested in being a speaker or want to present a program at the May 10, 1997 meeting let us know so we can get whatever equipment or whatever you need. So far we have Robert Dunsmore of Osborne, ID who has wonderful scrapbooks to share as well as Dr. McDermott, co-author of the article on the mapmakers.

order to characterize the shape of the physical landscape.

The published and manuscript cartographic artifacts which have survived from Isaac Stevens' Pacific Railroad Survey and John Mullan's Military Road Project helped create an image of the region's physical and cultural geography (they were used as the data base for drafting several small scale, regional maps depicting large section of the Northern Rockies as well as documenting what the expedition has accomplished). These artifacts record the land-

scape as it appeared during the period—essentially a wilderness in the throes of initial settlement. The essence of the region's geography and the lives of mapmakers in the early West were captured in fine detail by the preceptive eye of Gustavus Sohon.

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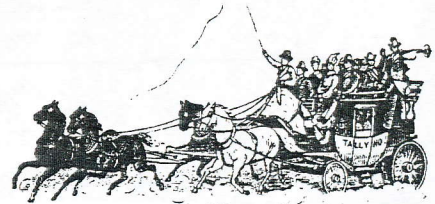
MC

from the mail pouch

We received a note from someone that our Mullanite Dr. G.B. Clancy of Goderich, ONT had passed away in August. It will be a loss, he called me once and was a delightful man.

Dear Deb & Kay,
Your latest issue of the *Mullan Chronicles* arrived here recently and as usual, I found it very interesting especially the story of Gustavus Sohon which was continued in this issue. His ability to sketch Indian life was amazing. You seem to be able to keep finding something new to put in every bulletin. Who knows what you'll uncover next!

I am enclosing \$10. american to cover the cost of next years *Chronicles*. \$5.00 over and above the cost of my subscription to help further your research and I send you



my good wishes for another successful year.

Sincerely,
Joan G. Munholland

Dear Joan,
Thanks for the confidence. With the expansion of Deb's job and I finally took gainful employment, we have fallen far behind. Twenty lashes with a wet noodle! Everyone will still get four issues for their \$5. AND have we ever come across new materials. Hard to believe we weren't sure we would be able to go the first year without running out of information. We have materials to keep us going for at least two more years, so hang in there and have faith we will eventually come through. Kay

We have started a new system to tell you when your membership is due. Note the number below your address. If it is a + followed by a number, it shows the number of issues you have coming; if it's a -, you are behind. Be patient with us, please, for there is HOPE.

Cathryn Strombo and
Deb Davis, Editors.

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