



Hard Road West: History and Geology along the Gold Rush Trail

Keith Heyer Meldahl

[Download now](#)

[Read Online](#) 

Hard Road West: History and Geology along the Gold Rush Trail

Keith Heyer Meldahl

Hard Road West: History and Geology along the Gold Rush Trail Keith Heyer Meldahl

In 1848 news of the discovery of gold in California triggered an enormous wave of emigration toward the Pacific. Lured by the promise of riches, thousands of settlers left behind the forests, rain, and fertile soil of the eastern United States in favor of the rough-hewn lands of the American West. The dramatic terrain they struggled to cross is so familiar to us now that it is hard to imagine how frightening—even godforsaken—its sheer rock faces and barren deserts seemed to our forebears.

Hard Road West brings their perspective vividly to life, weaving together the epic overland journey of the covered wagon trains and the compelling story of the landscape they encountered. Taking readers along the 2,000-mile California Trail, Keith Meldahl uses the diaries and letters of the settlers themselves—as well as the countless hours he has spent following the trail—to reveal how the geology and geography of the West directly affected our nation’s westward expansion. He guides us through a corrugated landscape of sawtooth mountains, following the meager streams that served as lifelines through an arid land, all the way to California itself, where colliding tectonic plates created breathtaking scenery and planted the gold that lured travelers west in the first place.

“Alternates seamlessly between vivid accounts of the 19th-century journey and lucid explanations of the geological events that shaped the landscape traveled. . . . The reader comes away with both an appreciation for the arduous cross-continental wagon journey and an understanding of the events that created such a vast and difficult landscape.”—*Library Journal*

“[Meldahl] draws on his professional knowledge to explain the geology of the West, showing how centuries of geological activity had a direct effect on the routes taken by the travelers. . . . Meldahl provides a novel account of the largest overland migration since the Crusades.”—*Science News*

Hard Road West: History and Geology along the Gold Rush Trail Details

Date : Published November 1st 2007 by University of Chicago Press

ISBN : 9780226519609

Author : Keith Heyer Meldahl

Format : Hardcover 352 pages

Genre : Science, Geology, History, Nonfiction, North American Hi..., American History

 [Download Hard Road West: History and Geology along the Gold Rush ...pdf](#)

 [Read Online Hard Road West: History and Geology along the Gold Ru ...pdf](#)



Download and Read Free Online Hard Road West: History and Geology along the Gold Rush Trail
Keith Heyer Meldahl

From Reader Review Hard Road West: History and Geology along the Gold Rush Trail for online ebook

Priscilla says

Wow! I come away with a hugely improved grasp of plate tectonics, mountain building, continental drift, etc. Also with a sense of amazement about human endurance.

Jonathan says

I thoroughly enjoyed Hard Road West. The story the author tells is so captivating and intriguing. I loved every minute of reading this book! Well researched full of primary sources. J. Goldsborough Bruff's drawing are used and with the authors great writing a full exciting yet dangerous and exhilarating tale is revealed. A must read book! I will re-read this book again. Definitely a keeper to tell family and friends about!

Janis says

Meldahl intertwines geologic history with accounts from early travelers to the west to show in fascinating detail how the emigrant experience was shaped by forces millions of years in the past. Many of the concepts were new to me so I had to do some careful reading but the author's clear style combined with generous and detailed illustrations helped me understand. I look forward to someday taking this book along on a road trip of the west to reread and see for myself the features of the landscape that the author describes.

Nissa says

Great telling of Western Geology.

Naomi says

A really interesting history of the California gold rush and the geology of the west!

Margaret Sankey says

This is a magnificent melding of geology and geography with history as Meldahl explains how events millions of years ago created the deserts, canyons, ridges and alkali flats that determined the routes of emigrants to Oregon and the California Gold Rush--a tectonic plate's movement connected to the anguish of leaving the furniture by the side of the road, or misunderstanding of geology that stranded a wagon train for the winter, along with the handful of canny people who did understand and landscape enough to set

themselves up in strategic locations with supply depots, livestock grazing, bridges and ferries (sometimes yielding far more than if they had gone into gold mining). Because I have driven the Nebraska-Wyoming-Idaho-Oregon leg of this more times than I can count, I was particularly interested to have the route explained so well.

Linda says

Loved this book! Has plenty of maps and diagrams and Meldahl finally made a couple of my favorite geological topics understandable. Geology has to do with landscape, and the tough landscape of the West severely affected the wagon trains to the California Gold Rush. He summarizes their travels well and provides nuggets from their diaries. I always enjoy pioneer tales, but who knew the number of dead animals caused a stench mile after mile. After a Nevada roadtrip paralleling part of their trail, I can't imagine walking even a mile across that dusty, upheaved ground. Long live the Laramide Orogeny!

K.A. Krisko says

I read this as the first in a stack of western emigrant history books when I got hooked on the time period recently. I figured I'd start with the geology and then move to the people...I really came out with a much clearer understanding of why the emigrant routes went the ways they did, what the obstacles were, and why things tended to fall apart where they did. If you're a fan of John McPhee this should be right up your alley. On the other hand, it's not fast reading (at least not for me). Plan to take some time with it.

Robert says

More science than history, Meldahl conveys the geological formation of the American West from the perspective of the mid-nineteenth century emigrants who traversed it during the great American migration. Unable to explain it for themselves, those seeking gold in California found the formations of rock and cutting rivers both divinely beautiful and devilishly encumbering for their covered-wagon parties. Meldahl explains why the trail was so difficult for the emigrants in terms of the tectonic forces that shaped the route. The book is full of photographs, maps and drawings that justify the dramatic undertones of the emigrant's accounts. Also, Meldahl explains the dynamics of geology and loosely explains how eons of compression, expansion, uplift and erosion have not only shaped the events of America's very recent past (accumulation of gold in the Sierra Nevada foothills) but will also continue to sway our future. Meldahl only passively, and to the disappointment of the reader, suggests that the events of the Civil War et al could have been drastically altered without the bravery of so many fortune seekers. Overall, a fascinating read for someone light on geology who wants to know more about the intent behind the raw beauty of nature.

Erica says

Starting out, I wasn't quite as thrilled with this book as I later became. I wasn't quite what I was expecting. I was thinking it was going to cover the journey of the gold seekers, but it could have just as easily been the migration of any group of people as it was generic in this sense. Actual historical gold rushers weren't even

mentioned until the last chapter. But once I got over the fact that it wasn't tackling the subject in the way I was expecting, I really grew to love it.

M. gives us a step by step overview of the California trail and all the geology encountered along it. It's more a general geology review of the geologic provinces they traveled through (they- being any west bound emigrant) explaining the concepts behind the fold and thrust belt, the basin and range, the Snake River plain, the Sierra uplift, etc. The book is speckled though with writings of actual emigrants, and their observations of these features along the trail.

Although most of the geology was old hat, I was happy to have learned a few things. Most notably, I never quite grasped why the eastern Rockies, the stuff clear over in eastern Wyoming and Colorado were really there. I was happy to find the cause in these deep basement uplifts of the Laramide Orogeny. Hmmm, I wonder that we ever covered that in school? Also, surprised that I had never heard of the exhumation of the Rockies. All in all I feel like I better grasp why the Rockies are, excepting now I am wondering what the Ancestral Rockies are.

I also learned the sources of the gold that the 49's were after. I had never realized that they were blasting down old "fossil" stream channels that had drained Nevada before the Sierra had risen. On top of that there is a suture between the west side of the Sierra and an accreted terrane that hosted the Mother Load,- quartz/gold veins that filled the suture zone. I had before assumed that the load type gold was washed into the streams and that is what they were hydraulically mining.

Overall, a really good read. Well written, though at first, I thought he was too into trying to copy McPhee in style. Even the cover says, "Fans of McPhee will find many familiar pleasures.." But I think he finally got into his own style and pulled out a great book. Could have been made better had he brought the actual personalities into it a little bit more...they were really only sidecars to the journey. Had the people had motives to get across the west, and stories to tell, it would have brought a little more depth to the story. Instead they seemed to be generic emigrants, commenting from their journals only on the topography of the land.

Converse says

This book is a fascinating combination of earth & human history. The author traces how geology influenced the routes the Anglo immigrants to California took in the 1840s, and how the western lands of the U. S. were created.

The north-south trending mountain ranges of the western United States were the main obstacle to migration from the west. These ranges arose because of the collision of the eastward-moving & now mostly non-existent Farallon plate with the westward-moving North American plate. With the exception of a couple of remnants, the Nazca and Juan de Fuca plates, the Farallon plate was forced down into the mantle, the layer of the earth below the crust. The plate collision caused much solid rock to become upward-flowing magma, which either forced up the rock around it or reached the surface as lava flowing from volcanoes. After the Farallon plate was in the mantle, the western United States then began to stretch east and west, creating faults running north and south along which blocks of crust simultaneously sank and tilted, creating the basin (lower spots) and range (mountains) region. The Sierra Nevada mountains are the tallest mountains that arose from this stretching.

These mountain ranges restricted the paths available to the migrants to those that lead to mountain passes

that a wagon could cross, such as South Pass in Wyoming.

Not just the mountains arose from this plate collision; so did the gold deposits in California that the migrants were after. The magma created by the collision heated groundwater to temperatures well above the boiling point (the high pressure kept the water in a liquid state), which dissolved gold and (much more) silica out from the surrounding rock. When the water cooled, the gold and silica were deposited as quartz veins.

This rugged terrain created substantial obstacles to the migrants after they left the Great Plains, which are built upon the rubble sloughed off of the mountains to the west. Furthermore, the rain shadow the Sierra Nevada creates to its east dried the land in the basin and range region, reducing the grass available for the animals, mainly oxen, who pulled the wagons and water for both the animals and the people. This forced the migrants to follow the one water source that was available, the Humboldt river until it simply disappeared. There was then a roughly 40 mile track through desert to the Sierra Nevada. Many animals died along the Humboldt and the death rate was even higher in the 40 miles of desert that followed. Crossing the Sierra Nevada was also difficult, as it had the highest and most difficult mountain passes the migrants encountered.

Larry Schwartz says

It's about the West, it's about history, it's about geology: what's not to like?

Chris Gager says

I'm picking this up from the Bath library today. I ordered it based on a recommendation in a magazine article(I think). Supposed to be a great book. I hope I can hack the geology... Day one: So far the science is do-able and the rest is fascinating. I've been across the continent a few time by car and train taking various routes except the most northern. I recommend the train trip between Oakland(Emeryville)and Denver on the Zephyr. It's beautiful and follows a lot of the route(s) described in this book. Day two and about halfway through. Lots of maps and diagrams help to tell both stories: travelers and landscape. I just finished a chapter with lots of geology and it was kind of a slog but now I'll be back with the wagon trains for a while. I like that better although the geology will probably go smoother now that I've learned some of it. The story of the planet in general and more specifically the Rockies is interesting but it's - you know - science. All finished now as of a couple of days ago. The geology continued to be borderline readable for me but I was able to understand enough of it to "be" where the author wanted me to be and that was to understand both stories. Still, I wouldn't call it a "great" book. If there'd been any Humane Society presence out West at the time they'd have been thoroughly appalled at the animal suffering and death. All in the name of "progress".

Martha Schwalbe says

The combination of pioneer history and that of the North American continent kept the journey moving west. When the story of human suffering became to intense or the science of the earth too deep, Meldahl changed the pace. The charts, diagrams, pictures, and maps provided a wealth of information into formations of the earth, the journey of the pioneers, and how the geography appears today brought into focus the trail. I'd recommend this book to anyone with an interest in geography, geology, and history.

C. says

Very informative and easy read about the Oregon-California Trail,the gold rush,and the geology of the western U.S.

I was very pleased with what an engaging read the book "Hard Road West: History and Geology along the Gold Rush Trail" is. Very well written,and the personal accounts from the emigrant's diaries added to my reading pleasure,as did the black & white maps and hand drawn sketches.Read in one sitting.

I enjoyed this book very much and highly recommend it for those interested in this period of American history.
