

CHAPTER IV

RAILROAD

The true history of the United States is the history of transportation... Philip Guedalla (3/12/1889 – 12/16/1944) British barrister, historical and travel writer and biographer.¹

Having proposed a fitting epitaph for Thomas Hudson Wigglesworth, let us now salute his most lasting monument -- the Durango-Silverton Railway. Unique in its conception and execution, this 45-mile spur of track is equally unique in its longevity. It is today the *only* fully ICC regulated,



100% coal-fired, narrow gauge railway remaining in the United States, and (save for mountain slides, floods and blizzard snows) has been in continuous scheduled service since 1882, celebrating its first 100 years of operation on 13 July 1982. As the monument at the Cascade Canyon wye (the 26 mile post) implies, the "Spirit of Colorado Mountain Railroading" is embodied in this short but tortuous line. No finer monument to any railroad man exists anywhere, nor could one even be imagined.

Monument here refers to a historical signpost with commemorative text. *Wye* is a railroad term for a specific configuration of track that had a specific purpose. (DFJ) ³

In 1879, Tom Wigglesworth, then Otto Mears' crack location engineer, arrived on site by burro pack train, the surest and safest way over the mountains embracing the area. His preliminary survey team reached the Animas valley from Silverton on 8 Oct 1879. The next morning an

unprecedented three-foot snow covered the ground and his party fought their way to Animas City where they camped during the night.

This picture from the Photographic Division of the U.S Geological and Geographic Survey of the Territories (1874 – 6/30/1879) illustrates what Wigg's survey crew might have looked like. (DFJ)



“The 1874 Photographic Division on the way to Los Pinos and Mesa Verde. Left to right: Smart, Anthony, Mitchell, Whan, Ernest Ingersoll, and Charley, the cook. Dolly, the mule, stands between Charley and Ingersoll. Colorado. 1874.” ⁴

Tom then retreated to complete his construction chores in Antonito, but was back surveying the Durango - Silverton run in the early spring of 1880, as soon as the weather permitted. Construction work was begun at once, although the location survey was not completed until July 1881. Track laying was finished at Silverton in July 1882.

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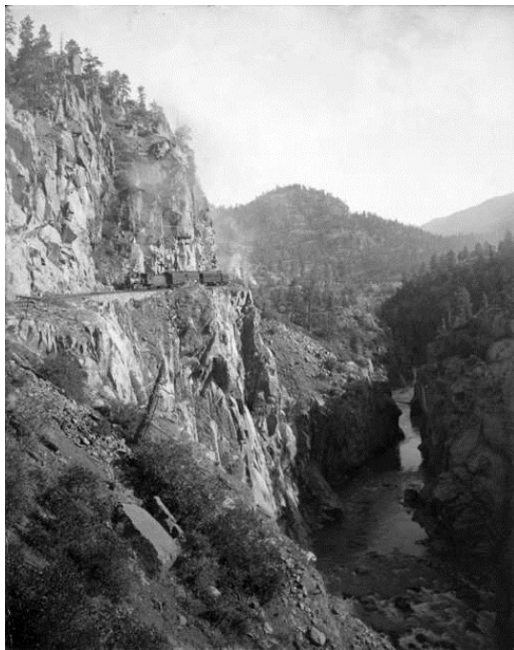
A D&RG train crew poses with locomotive #61, possibly in the Animas Valley in the 1880s. Number 61, one of the earliest types of locomotives used on the San Juan Extension, was a Baldwin class 56 consolidation (2-8-0 wheel alignment) built in 1880 and named the "La Jara." It was leased to Otto Mears' Silverton Railroad in 1890 and dismantled in 1908. (DFJ) ⁵

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The Durango-Silverton train traverses a remote wilderness area of rare and majestic beauty, part of the San Juan National Forest, following the Animas River gorge. This area is only accessible by railroad, horseback or on foot.

Scenes for many Hollywood films about the west have been enriched by the gorge's lush but rugged grandeur: notably Mike Todd's *Around The World In 80 Days* (1956), and the movie *Ticket To Tomahawk* (1950) featuring Dan Dailey and a cameo by Marilyn Monroe. Other films shot in part in the area include: *Across The Wide Missouri* (1951), *Night Passage* (1957), *Naked Spur* (1953), *The Denver & The Rio Grande* (1952), and *Butch Cassidy and the Sundance Kid* (1969).⁶

The Animus River Gorge is the genuine locale of the truly "Wild West." No doubt most modern-day, city-soft Americans would concede, "It's a nice place to visit, but I wouldn't want to live there." It is only through Tom Wiggs' path-finding railroad that they are even offered the option of visiting.



This 2 ½" x 4 ½" photo is marked "1895." I have no idea who took it. It's an excellent shot of the train on the narrow ledge -- the "Highline" -- and the Animas River below. To build this they lowered men on ropes to drill holes and stuff them with black powder to blow the rock away. The suspended men lit the fuses and then were hauled up, hopefully, in time before the powder blew. (A method also used in building the transcontinental through the Sierra.) Here, sometimes the rock didn't break as anticipated, but covered areas they'd already cleared, or didn't break enough, etc. (Russ Wigglesworth, 2013.) 7

The following two pictures from the Library of Congress show groups of railroad (construction) engineers and survey teams from the Deadwood, South Dakota area in 1888. These pictures are of non-work scenes. The subjects are dressed as they probably would have been on a Sunday or holiday. Thomas Wigglesworth would have been working with men like these. The photos were taken by J. C. H. Grabill, *“Official Photographer of the Black Hills and Fort Pierre Rail Road and the Homestake Mine Company, Deadwood and Lead City, Dakota Territory.”* (Captions below photos by the Library of Congress.) (DFJ)



Deadwood Central R.R. Engineer Corps.

Outdoor group portrait of ten railroad engineers and a dog, posing with surveyors' transits on tripods and measuring rods, on the side of a mountain. Most of the men are sitting; all are wearing suits and hats. [1888] Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 ^{7a}



**Happy Hours in Camp.
G. and B. & M. Engineers Corps and Visitors**

Group of men and women and two deer in front of a tent. Some of the men are playing musical instruments. 1889. Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540. ^{7a}

How did the engineering marvel known as the Durango-Silverton Railway come to be anyway? Where does one even begin to tell this fascinating story? Well, to give credit where credit is due, we shall rely mainly on three excellent sources:

first: Zeke and Russ Wigglesworth's "*Ride The High Iron To Yesterday*" from *Trek Along The Navajo Trail*;

then, Doris Osterwald's mile-by-mile guide to the railway entitled, *Cinders & Smoke*; and,

last, Allen Nossaman's excellent piece, "*The D&RG Finally Makes It To Silverton*" in the 100th RR Anniversary issue of *The Silverton Standard & The Miner*, the longest surviving paper (from 1875) west of the Continental Divide.

Given this rich vein to mine, a problem still remains as to where to begin. Perhaps it is only fitting that we start with the material authored by folks named Wigglesworth [Zeke and Russ, two of Tom's great grandsons], thus:

"The year 1882 was a banner one for Silverton, (1986 pop. 9,032) [2011 pop. only 631. DFJ], That was the year the mines produced \$20 million in gold and silver ore (at that time there were some 27 active mines within a 2 ½ x 1 ½ mile area), and it was also the year the RR came up from Durango. The D&RG was quite a system, and its eventual consolidation with the Rio Grande Western was probably the most important factor in Colorado's economy except mining. (\$300 million in gold and silver rode these 45 miles.)

In 1882 Silverton, was quite a town. Bat Masterson was imported from Kansas to help maintain the town's law. The mines were pouring forth riches the like of which King Midas only dreamed. Money was free and easy, the drinks were cheap - if watered - and a ribbon of steel was about to connect the outside world with Silverton.

This 1900 photo shows Otto Mears in front of locomotive No. 100 while two men and a woman look over a valley to the right. At least nine other people look on and wait. (DFJ) ⁸



[The quote from “Ride The High Iron To Yesterday” from *Trek Along The Navajo Trail*, continues:]

“A few years before all this, a wealthy and well-known evaluator of men, mountains and railroad tracks, Otto Mears, decided a railroad should be built southward from Silverton to haul away the ore. Looking for men with the knowledge, experience and courage, he decided on a man he'd met and worked with before, Thomas H. Wigglesworth. The choice was apparently a good one. Even then, railroads all over the United States had wound their ways through his fingers and across his maps in Kentucky, Colorado, Tennessee and Utah.

And the Silverton was going to get rough before it was finished. Narrow gauge track was obviously the only choice for pushing rail through the Animas Canyon.

(*Obvious?* Perhaps to the authors.)

[The quote from “Ride The High Iron To Yesterday” from *Trek Along The Navajo Trail*, continues:]

“The infinitely cheaper sub-standard gauge (three feet as

opposed to the normal four feet and eight and one-half inches) meant a less wide cut had to be blasted through narrow granite-walled canyons; less wide grades had to be built-up across vast and deep gorges; less heavy rolling stock could be used, which also abetted conquering steeper grades (an unusual 2.5% maximum here, although Tom had encountered unbelievable 4% grades out of Antonito through Cumbres Pass into Chama), and permitted less sturdy bridges, and sharper and less expansive curves (although up to 30% curves were accommodated) following wildly meandering canyons could be more readily negotiated.) A track from Silverton to the smelter south of Durango was the answer for which the men at the mines were waiting. (Closed in 1930, this smelter was re-opened during WWII to handle vanadium (used to obtain finer grain steels with improved tensile strength) and uranium - for you know what.)

“Selecting a route north from Durango was simple (the authors volunteer) just follow the canyon of the Animas River. A few minor (?) problems, of course. How push the track through the narrow canyon near Rockwood? How build the roadbed so the river won't wash it out? What about snow in the winter? Three times the track went out on the highline above Rockwood before rails, ties, boulders, dirt and human sweat pegged it to the cliff-side. In places, the bed is so narrow that you get the impression of flying, because the track and the roadbed cannot be seen from the coach.

“(North from Rockwood the so-called highline was the most difficult and costly section of the Silverton to construct - \$100,000 per mile.) The 900-foot Rockwood Cut took hundreds of carefully placed black powder shots - some drill holes are still visible from the train - to blast clear.

[The quote from "Ride The High Iron To Yesterday" from *Trek Along The Navajo Trail*, continues:]

Ernest Ingersoll of Harper's again details the dividends:



Ernest Ingersoll. ⁹

"Finally, we jolt down the last steep declivity, turn a sharp corner and roll out upon the level railroad bed. And what a sight meets our eyes! The bed has been chiseled out of solid rock until there is made a shelf or ledge wide enough for its rails. From far below comes the roar of a rushing stream, and we gaze fearfully over the beetling edge which the coach rocks so perilously near, down to where a bright green current urges its way between walls of basalt whose jetty hue no sunlight relieves, and upon whose polished sides no jutting point would give any floating thing an instant's hold." (Old Ernie always did have a way with words!)

"Accidents too, claimed time and money. A fifty-foot section of rail dropped on a leg can make quite a break. Survey stakes were washed out time and again by spring flooding, only a prelude to what would happen when the trains began running. But a RR construction engineer is a stubborn man. To him, there is only one goal in mind: keep pushing the track out until you arrive at its destination! In all, 47 miles of track had to be laid, bridges had to be built, curves had to be plotted, grades had to be surveyed: a town was waiting for the *Iron Rail*."

"How did these hardy pioneers survive the ordeal presented by the rugged San Juan Mountain country, the so-called *Alps of America*? The Continental Divide is just six miles east of Silverton - *the mining town that wouldn't quit* (from 1860), and the headwaters of the Rio Grande are just

[The quote from "Ride The High Iron To Yesterday" from *Trek Along The Navajo Trail*, continues:]

another three miles east of that, while some eight miles south of Silverton, Snowden Peak rises to more than 13,000 feet.

"In any event, an article by Ernest Ingersoll in the April 1882 issue of *Harper's* details the plight of the plucky railroad mountain-busters: ¹⁰

"Presently we came upon one of Mr. Wigglesworth's construction camps. Long, low buildings of logs with dirt roofs, where grasses and sunflowers and purple asters make haste to sprout, are grouped without order. Perhaps there will also be an immense tent where the crew eats. Besides the larger houses, inhabited by the engineers, foremen, etc., you will see numbers of little huts about three logs high, roofed flatly with poles, brush and mud, and having only a window-like opening to creep in and out through; or into a side-hill will be pushed small caves with a front wall of stones or mud and a bit of canvas for a door: in these kennels the laboring men (\$2.25/day) find shelter."

"As the saying goes, *not a pretty sight*. In fact, the foregoing is the only construction camp description Doris Osterwald could find in researching her *Cinders & Smoke*.

"The further opinion is there ventured that few if any pictures of the camps survive because builders didn't want prospective investors and stockholders to see the wild terrain and primitive living conditions surrounding the building of these lines, since Easterners were probably already overly disposed to regard such mountain endeavors impossible of success. After a line was completed, of course, publicity pictures were welcome." ¹¹

In any event, Allen Nossaman's newspaper article next picks up the thread of our story, offering a perspective on these developments from the Silverton end of the prospective railway line:

"Silverton, proudly and patiently awaiting its destiny, was in

dire need of a boost when the D&RG finally worked its way up the River of Lost Souls In Purgatory (so called because the area was “so hard to get into, and so hard to get out of”) in the summer of 1882.

“The town had been struggling for eight years as one of the highest, and definitely the most remote, of the Colorado mining camps in the post-statehood (1876) era. Since the community's platting¹² in 1874, a hardy handful of prospectors and merchants had held forth in 9,305 foot high Baker Park [Silverton's original name] awaiting some viable link with the markets they knew existed for the ores they uncovered . . .

“At its founding, Silverton's closest rail point was Pueblo -- 250 miles away by the most favorable route. While during its halcyon period of 1900-12 it marked the confluence of four RR lines . . .

“Old timers felt certain the RR would take the tried and true route into Silverton over the Continental Divide at Stony Pass - even the first piano had come that way.

[In fact, the D&RG (like the Ford Motor Co. slogan of the 1970's) "had a better idea." They proposed to use the Animas Canyon and continue on south, deep into New Mexico, to effect the link-up there.]

The quote from Allen Nossaman's, *“The D&RG Finally Makes It To Silverton”* continues:

“RR survey parties were in Animas Canyon in October 1879, showing the RR's "hand" to all who would observe. By November, the track started due south of Alamosa, and extension contracts were let to the point where the Animas Canyon decisively broadened out into a valley, at a little settlement named Animas City.

[Sadly, as recounted earlier, the city fathers and the D&RG failed to see eye-to-eye, so Animas City was by-passed, the RR effectively digging the city's grave with every shovel full of dirt turned at its brand new town of Durango.]

Grading started north of Animas City as early as February 1880, and . . . arrival in Silverton was joyously predicted everywhere from Oct 1880 to Aug 1881. As the (southern link-up) railroad literally inched across the Continental Divide at Cumbres Pass (just about on the *Colorado-New Mexico* border directly north of Albuquerque) and began to turn north toward the San Juan Basin, grading work continued in the Animas Canyon into December 1880, with as many as 400 men at work preparing roadbed through the challenging canyon.

"A harsh winter in 1880-81 provided fodder for skeptics. Heavy snows hampered both work and travel on the "southern route," and advocacy of the (northern) Del Norte/Rio Grande River approach revived. A fatal accident on the Cumbres Pass route in April and the traditional lawlessness accompanying the "end of track" gangs turned many against the new line even before it reached Durango. The D&RG purchase of the popular hot springs at Wagon Wheel Gap on the (northern) Stony Pass route added to the confusion.

"But the locomotives of the (northern) Rio Grande never saw the head-waters of the Rio Grande on Stony Pass (just east of Silverton). The company had too much invested in its complex southern approach to the San Juan Mountains, and by July 1881, the first work train steamed into Durango. (It arrived from the south, of course, and would become Silverton's umbilical connection to the world at large. In fact, the *Durango Herald* of 8 Sep 1881 reported: "A lady purchased a ticket at the D&RG office in this city, this morning, direct to Liverpool, England. We may be 'out of

this world,' but we're well connected.")

"Silverton's hopes for an 1881 rail connection with the outside world faded just as they had for 1880 in the face of the monumental task, but the D&RG general manager D. C. Dodge did come to town in August 1881, to begin negotiations on a "fair" depot site and to allay fears that the RR would snub Silverton as it had Animas City. Dodge's mission was an important one, because the confining San Juans didn't really offer him any sites for a rival town.

"Track was about three and a half miles north of Hermosa by November when Durango out-polled Parrott City to take the county seat away from that now obscure settlement. The railroad had made a booming metropolis of Durango, and Silverton - its ultimate objective - could barely restrain its anticipation. It targeted 4 July 1882 for a celebration to end all celebrations. Manpower on the grade between Rockwood and Silverton gradually increased from 200 to 500 men as spring wore on.

"(The entire distance from Rockwood to Silverton, about 25 miles, is through a series of canyons and narrow gorges, with walls of solid granite rising abruptly on either side from 500 to two and three thousand feet in height. The mile of road passing through the grand canyon of the Animas, immediately above Rockwood, is a miracle of engineering skill and audacity -- and presents probably the grandest scenery on the American Continent. The traveler's eyes at once sweep up the massive walls from near the river level, then down hundreds of feet into the mysterious and awful depths of the Animas canyon, even as they remain transfixed by the lingering vision of the green waters of the Animas rushing furiously through the narrow gorge immediately below.)

“Thomas H. Wigglesworth, the engineer in charge of the Silverton extension, reported 4 May that all but nine miles of the grade were completed. A rail shortage had curtailed work in Dec 1881, and Wigglesworth noted that 100 carloads of the Pueblo-made rail were still needed to finish the job into Silverton. On 20 May, it was reported that Pueblo had to fill an order for the CB&Q's [Chicago, Burlington and Quincy. DFJ] new line into Denver before it could ship any more steel into the Animas Canyon. During the last week in May, however, five carloads finally passed through Durango on the way up the Animas River. While Silverton continued to build its 4 July observance around arrival of the train, it moved to within 11 1/2 miles of Silverton. The "iron gang" foreman complained not about rail, but about the inability to get ties to the front fast enough in the narrow gap canyon. Track laying progressed at a mile and a half a day. Wigglesworth was reportedly under orders to work (his gang now swollen to 850 men) night and day if necessary to finish the line by 2 July. Meanwhile, Silverton and Durango exchanged formal invitations and acceptances.

“The exact moment of arrival of the D&RG in Silverton is obscured by the embarrassment surrounding the fact that it did not keep its 4 July appointment. The patriotic celebrations came off in fine style anyway, but the press of San Juan County was faced with the task of obliterating the bitter truth while grasping at a thousand and one ways to tout the proximity of the train, the most beautiful of which was probably the spine-tingling references to hearing the first distinct locomotive whistle come echoing out of the canyon the evening of 27 June 1882. The track was apparently within three and a half miles of Silverton on 1 July, but the road was not completed to its destination in time for the 4th of July.

“The *San Juan Herald* of 13 July ... barely noted that the railway company that very day was building its bridge

across Mineral Creek, thus entering the town limits with rail on the date both the Herald and its rival, the *La Plata Miner*, would agree in less than a year was the date upon which the RR reached Silverton itself.

The *Miner*, in a comprehensive recap edition 30 Dec 1882 would make two separate references to 13 Jul 1882 as the day the RR was "completed to this place," and the *Herald* would make like references in a special edition 8 March 1883. Finally, there is the further fact that 13 Jul 1982 celebrated the 100th Anniversary of the arrival of the first train in Silverton with a "special car arriving on a 10 a.m. train with Colorado Governor Richard Lamm and other dignitaries." The great holiday announcement continued: "Bar-D Wranglers will play at train. Judging of beard-growing contest will be at Smedley's Ice Cream Parlor at 9:30 am." ¹³

This same 100th Anniversary Edition of *The Silverton Standard & The Miner* ran a current ad proclaiming a reward of \$5.00¹⁴ by the "Standard Metals Corporation for information leading to "the arrest and conviction of the person or persons responsible for placing a dynamite bomb in the electrical sub-station and stealing two gold sponges¹⁴ from the Mayflower Mill. *Butch Cassidy and the Sundance Kid Live!*



A model of what gold sponge looked like after being removed from the retort furnace. The holes in it are caused by mercury vapor bubbling out.

So, the D&RG had come to Silverton at last. Does this end this sub-saga? Hardly. "Silverton had its train and its party. The party ended, but the train ran on, and on, and on ...

We revert now to the article by two of Tom Wiggs' great grandsons, Zeke and Russ Wigglesworth's "*Ride The High Iron To Yesterday*" from *Trek Along The Navajo Trail*.

"In 1952 the last shipment of ore went down the track from Silverton. An era had ended. The year 1941 saw the last of the daily passenger trains, and now the train ran only twice a week - a mixed train. Railroading was slowing down all over the system . . .

"Of the early roads only a few remained. The list of spurs and lines that went by the board would make old Thomas Wigglesworth and his son W. H. cringe, for they built or worked on just about all of them:

**The Colorado Southern, Pagosa Junction to Pagosa Springs,
abandoned in 1936;
Lumberton to Gallinas, abandoned in 1928;
Antonito to Santa Fe abandoned in 1942;
Colorado City to Manitou abandoned in 1939;
Eureka to Silver City abandoned in 1943;
Montrose to Sapinero abandoned in 1949 to 1953;**

and others (like much of the Antonito-Durango run, abandoned in the late 60's) that are too numerous and heart-breaking to mention to a live-steamer man.

"In 1958 things began to look even grimmer for the Silverton. Rumors flew like quail flushed from a wheat field. "The entire line is losing money, except for the Silverton run." we were told by a local man in 1958. "The only thing I'd do, if I were in control of the line, would be to really bust loose on this tourist thing. My Lord, man, it's amazing to think of the number of people who may come here just to

ride the train from here to Silverton!" He was referring to the then small tourist business that had begun to develop back in the 40's. More and more people were riding the train from Durango to Silverton, not just to get to Silverton, but because they'd discovered - or re-discovered - that it was plain fun to ride a steam powered train, and a narrow gauge at that! There was no advertising except enthusiastic word-of-mouth stories about the tremendous scenery and the never-to-be-forgotten thrill of the highline above Rockwood! But what had begun as a trickle of tourists now became a torrent! Still, the rumors flew.

"I don't know how much longer the railroad will be able to keep the Silverton line going," another told us in 1958, "but if they let it go, they're out of their minds. This train is going to be the biggest tourist attraction in the world." Then the disturbing rumors suddenly became fact. The RR was going to sell or abandon the Silverton run. The Helen Thatcher White Foundation stepped in and generously offered to buy. The price? \$250,000.! Almost that much in ore went down the track in one day just 70 years before. The White Foundation's avowed purpose was to keep the line as a tourist attraction, preserving what they could of Colorado railroading. (Is that last really a word?)

"Sure, they'll run it for a couple of years," the gloom spreaders said, "then a snow slide'll take the track out below Elk Park, and that'll be it." Residents of Silverton alike held little hope for the line. One thing: The White Foundation was a non-profit organization. As such, it would not, of course, have to pay the huge taxes the RR had paid. The offer to buy was withdrawn, however, as the ICC denied the RR's right to sell.

"Rumors still flew. For several reasons, a group of businessmen formed the Durango-Silverton RR Company (a profit-making concern) to purchase the line and assure operation. They didn't buy, and again the rumors came

flying. "I heard that some Swiss outfit is going to buy the rolling stock. They're going to build a new tunnel between Switzerland and France and need narrow gauge equipment."

"I heard that the State of Colorado is going to make the line into a state park." These, and similar rumors, went back and forth like flotsam on the sea. Then, in 1961, the no-hope rumors were apparently going to be ended. Hearings were held in Durango, and the request by the RR to abandon the Silverton was under consideration once more. This time cattlemen, sheep-men, merchants, motel and hotel owners and operators, and townspeople - all - presented reasons and opinions why the line should not be abandoned. In June 1961, the ICC examiner submitted a negative recommendation, and the Silverton seemed spared once again. The railroad "excepted," however, and did win a grant to discontinue operation each year between 1 Oct and 1 Jun. The exception taken by the RR was denied on 2 May 1962. A new era in Colorado railroading began.

"The old era - the era of Giant Men and Giant Mountains - had closed many years before, really. In its early days, the era was part and parcel of the lusty youth of a vigorous nation. In 1880, the only form of transportation worth thinking about was rail transport. Nothing else, they supposed, could carry so much so fast, so easily and so inexpensively. Nothing else would ever be built to surpass the carrying capacity of a RR car or carry it so fast across the nation. And America was a lusty, lung-busting youngster -- growing by leaps and bounds -- conquering the "unconquerable" mountains and plains with ribbons of steel, tying the nation into a truly United States.

"And, the men who built the RR's knew that they were not just building them for the here and now, but for the future. They knew they were giant men building giant things. They were men of genius like Otto Mears, who knew how to get

the money and the men they needed. And there were men of genius like Tom Wiggs, who literally walked across the mountains, marking where to lay the steel that would unite the States, each with the other. If Chief Wig could walk down the main street of Durango today, many things would be familiar to him. And look there! There's a huge crowd waiting to board the train to Silverton.

"A 4th of July expedition?" he might ask. "No," we'd reply, "just the usual summer-tourist crowd, trying to catch the flavor that made the 1880's and '90's such wonderful days of steam and coal-smoke and clickity-clack along the track up the Animas Canyon."



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"Old Wig might not understand why the train ran only during the summertime, but he'd understand our reasons for trying to keep it, and your reasons for riding it. He'd understand all the thrill and magnetism of the "Trip to Yesterday" aboard the Silverton. The Durango-Silverton RR, then, remains as a monument to its builder, Thomas Hudson Wigglesworth. On 1 Jun 1967, the National Park Service endorsed it as a permanent memorial by designating it an officially Registered National Historical Landmark. How appropriate! And, in March 1968, the American Society of Civil Engineers honored it by declaring it to be one of its National Historic

Civil Engineering Landmarks -- fitting recognition, indeed, from Tom's professional peers.

"It's only 45 miles of track, you may say, wrought only of wood, iron and sweat. No! There's more there - much more. There's the physical manifestation of a living dream - a dream that won't die - a dream that's lingered for more than a century, sustained by nostalgia for past glories, and repeatedly re-awakened by the sights, sounds and smells that are the spell of the railroads of yesteryear: a glimpse of the Silverton edging fly-like along a granite ledge 1500 feet above the Animas, the re-echoing whistle and rumble of a double-header to Hermosa, the acrid but morning-meadow-tinged aroma of billowing coal smoke across the canyons. Isn't this what we ride trains for? To escape today, and take a Trip to Yesterday? If and when you ever have the pleasure and unforgettable thrill of that trip, nod a: "Thank you, Tom Wigglesworth!"¹⁶

With some reluctance we must now conclude this tribute with a rather whimsical postscript. *Old Wig* may well have spun in his grave in August 1982 if aware at all that one of the cars on "his train" had run off the track while his grandson Jack and Jack's wife, Virginia, were aboard with a Smithsonian group touring the old mines and railroads of Colorado. Naturally, to make matters worse, Jack was in the very process of proudly proclaiming how his grandfather had almost single-handedly been responsible for the path-finding and building of the marvel that was and remains the Durango-Silverton railroad. It seems that it still never pays to flaunt the alleged taming of *Mother Nature*!

Now it remains only to remark upon two other items of Durango-Silverton RR whimsy, courtesy of traveler-writer Horace Sutton. (Died in 1991, age 72. Wrote the "Footloose in ..." series. DFJ)

Mr. Sutton also made a recent run up the line. He notes that a posted original menu reveals that earlier riders were offered a choice of a bowl of chili or premium Russian caviar - each at 50 cents a bowl!

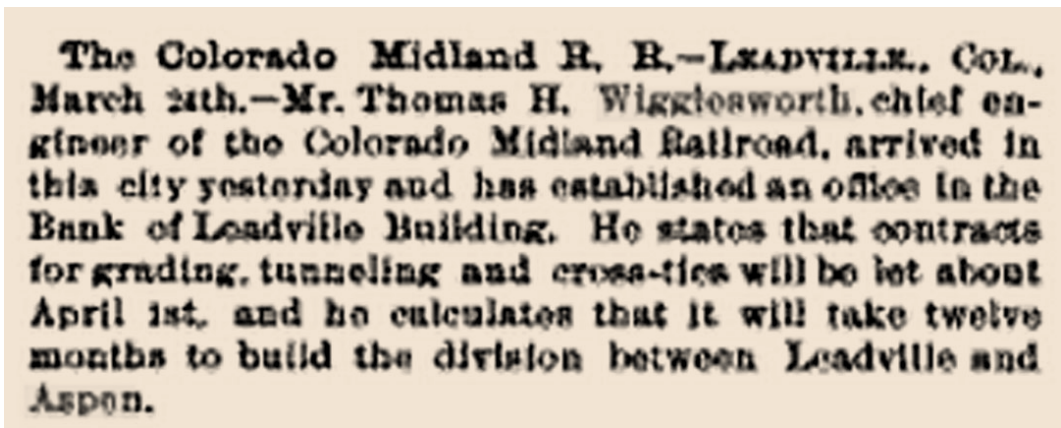
However, Mr. Sutton marveled even more at the modern *Miner's Martini*: 5 ounces of straight gin in a glass "as big as the Rockies."

Russ Wigglesworth's additional comments of January 2013 are appended here: (With notes and pictures I have added. DFJ)

In 1884 Wig (that was the way his friends and family referred to him) was approached by a group of Colorado Springs businessmen, and did a preliminary survey for a standard-gauge route over the Ute Pass between Colorado Springs and Buena Vista, Colorado. Having assured them that such a route was feasible he was hired as Chief Engineer for the newly incorporated Colorado Midland Railway.

I might interject here that a Chief Engineer was basically the person who was in total and consummate charge of building railroads at that time period. He supervised all aspects and made all decisions. Where some historians give credit to, for example Hagerman (see below), for "building" a railroad, it was actually the Chief Engineers who did so.

Illustrative of the role of the Chief Engineer is the following notice published in 1886 in Engineering News and Contract Journal, currently known as ENR: (DFJ) ¹⁷



**The Colorado Midland R. R.—LEADVILLE, COL.,
March 24th.—Mr. Thomas H. Wigglesworth, chief engineer of the Colorado Midland Railroad, arrived in this city yesterday and has established an office in the Bank of Leadville Building. He states that contracts for grading, tunneling and cross-ties will be let about April 1st, and he calculates that it will take twelve months to build the division between Leadville and Aspen.**

One of the things that irks me when reading about American railroads is that the money-men are always identified as the roads' "builders." I think TH summed it up best when he was quoted as saying about the first standard gauge crossing of the Rockies: "...other engineers sat around saying we were a lot of damn fools, that it couldn't be done. But THERE is the road!" It was he who did it, not Hagerman. ¹⁸

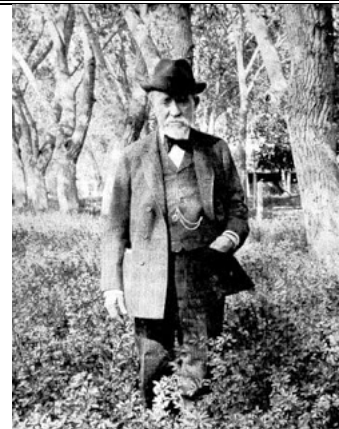
We put that phrase on the back of the tee-shirts we had made for the Wigglesworth reunion in Durango. For what it's worth here are pix of the front and back. The printers did a terrible job on his photo.



19

At the same time (1884) a Milwaukee businessman, James John Hagerman, (here shown standing in a field of alfalfa,) who had moved to Colorado Springs for his health, was approached by the same group and agreed to take the position as President of the Colorado Midland.

(<http://yetstillstanding.blogspot.com/>)



20

James John Hagerman had made his fortune in the East and was not particularly looking for a position, but the lure of building the first standard-gauge rail line across the Rockies caught his imagination. Hagerman had very few good words for other railroad companies, saying that they had but one purpose: to make stockholders rich and to hell with what might be good for the company. He vowed to run the Midland a different way.

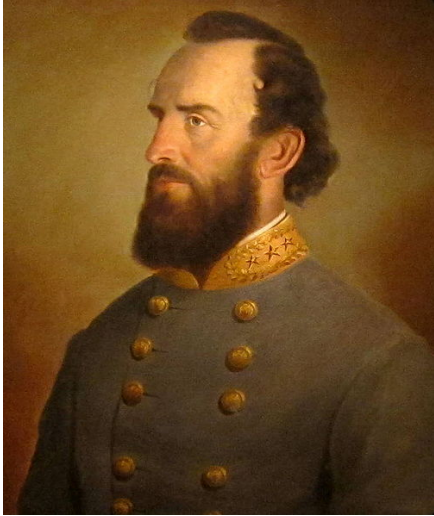
To some extent he did, yet few of the problems the Midland was to meet in breaching the Rockies were ever to be made known to Eastern stockholders. Hagerman and Wigglesworth were to argue about the focus of, and the pace of, construction of the Midland. In the end,

when the Midland faced a huge financial crisis, Hagerman would fire Wigglesworth and Fisher, the company Manager, and lay the blame for high costs on them. Just a year before the firings, Hagerman had written to his people back east, extolling the engineering skills and dedication of Wigglesworth.

Hagerman too would leave the Midland and go on to other things, including the building of railroads in Mexico – ironically, at the same time Wigglesworth would be doing the same thing for the Mexican Southern Pacific. Between the two of them, history would note that they built the world's highest railroad tunnel, and were first to “let daylight through the divide.” (This phrase was used in the title of a book first published in 1989: Abbott, Dan, & Ronzio, Richard A. *Colorado Midland Railway: Daylight through the divide*. Denver, CO: Sundance Books. 1989. [ISBN 0-913582-45-X](#))

(The Hagerman Tunnel through Hagerman Pass west of Leadville—originally Wigglesworth Tunnel and Pass but renamed after Wig and Hagerman had their falling out. The tunnel is at 11,500 feet above sea level and so Wig's Midland was the *first standard-gauge* RR across the Continental Divide. Today one can walk the old grade up to the tunnel.)

One interesting facet of Wig's life was that during the Civil War he was working for the Louisville and Nashville RR as Division Engineer. The last time it was taken over by the Federals he refused to work for them and spent the rest of that year in jail. I found it interesting that he had sympathy for the South even though he was originally from New York.



So much sympathy that his and Anne Catherine's first child was named Charles Stonewall in admiration for the Confederate hero, General Thomas Jonathan "Stonewall" Jackson (1/21/1824 –5/10/1863). (The picture to the left was done in 1864 by J.W. King and hangs in the National Portrait Gallery.)²¹

(It is not often noted that New York at the time had deep sympathy and involvement with the South because of lucrative and longstanding trading arrangements for cotton and slaves and because of fear of the loss of jobs to freed slaves. DFJ).

Charles is buried in Manitou Springs, but Andrea and I never attempted to find the burial site. It's still on my bucket list.

The ironic twist to that Southern sympathy, of course, was Wig's deep life-long friendship with ex-Union General William Palmer who, among other achievements, founded Colorado Springs. Palmer was the one who suggested Wig's name to the C&MCRR people.



22

Another railroad note: Thomas and his son, WH, were part owners of the Marble and Crystal River Railroad. TH served as the company's Chief Construction Engineer. The "Yule"²³ marble of the Tomb of the Unknown Soldier, the largest single piece of marble quarried in the US, rode on C&MCRR rails to get to Washington.



24

Shortly after the war my father, who had a switch key that he had found in the dirt of my grandparents' garden in Durango, attempted to open a locked switch on the C&MRR with the key and did so. Unfortunately there is almost no trace left of that road. The quarry is once again in operation, however. In all our moving the key has been lost, along with a very large rusty iron link that I was told came from the Louisville and Nashville and was used to couple RR cars together.

Another story of no consequence: (from an email on 3/1/2013) during the war my father was on a troop train going somewhere in the middle of the country and got into a conversation with another officer. Eventually they began chatting about railroads, then about narrow gauge railroads, and then about Colorado railroads. My father talked about how the "idea-guys" and the "money-guys" got all the credit for building railroads while the real builders, the location and construction engineers, were seldom mentioned and soon disappear from history. He presented his grandfather, THW, as a shining example and while he didn't say any derogatory things about Otto Mears he certainly wasn't particularly complementary. At which point the other officer explained that the two of them had something in common: their grandparents. His grandfather was Otto Mears. They both had a good laugh at that point. My dad corresponded occasionally with him until after the war.

But among engineers at the time Wigg's name was very well known throughout the country and often cited as a standard of achievement. The following quote from Engineering News and Railway Journal, January 1888, illustrates the ease with which it came to mind within the select circle of professional railroad engineers as far away as Buffalo, New York: (DFJ) ¹⁴

The following comes to us from Buffalo:

"The rapid increase of our population allows us to call our city a great railroad center, but some of our prominent citizens are still in the Kindergarten period of their education in railroad matters.

"A conference was held yesterday between the counsel and engineers of one of our new roads; to elucidate some point the chief engineer displayed a progress profile, the gaudy colors caught the eye of the counsel and they viewed it admiringly although it was upside down. At last the senior counsel said: "What is this?" "This" said the chief, "is a progress profile of Section A. This is the excavation, and this the embankment." "I understand all that perfectly: but what is this red line?" "That is the grade line." "Are you not mistaken," said the senior, "are not all grade lines necessarily horizontal?" There was a pause; then the chief said softly, as he rolled up his profile. "No, not always."

"Shades of Tom Wigglesworth! how far could the Colorado Millard have gone towards Leadville with a level grade?"

The anecdote is certainly a good one, and shows the consequences of meddling over-confidently in what one does not understand. But it may also serve as a warning to engineers as to how easily they may make themselves a laughing-stock by wrong action or advice on business, architectural or other questions, with which their legitimate duties give them a certain kind of familiarity, but in which they often make calamitous mistakes.

Another recognition of THW's contribution has been made by the Hotel Strater in Durango, Colorado in early 2013. It has designated room 321 as The Thomas H. Wigglesworth Room because of the significant role he played in the development of Durango. (Announcement courtesy of Andrea and Russ Wigglesworth. DFJ)

THE HISTORIC STRATER HOTEL PRESENTS

ROOM: 321 THOMAS H. WIGGLESWORTH

THE PATHFINDER OF THE SAN JUAN'S RAILROADS—SURVEYOR, ENGINEER AND CONSTRUCTION SUPERVISOR PLAYED A SIGNIFICANT ROLE IN DURANGO'S EARLY DEVELOPMENT.

JULY 31, 1835–MARCH 15, 1909

HIS LEGACY IN DURANGO

Thomas H. Wigglesworth began his railroad career at age 18 as an axe man working in Tennessee for his older brother. The fifth of ten children born in Palmyra, NY, he was an industrious and hard worker whose skills and knowledge quickly progressed as the railroads expanded across the country. With formal engineering training, surveying, and construction experience under his belt, he left his wife and young family behind and came to Antonito, Colorado, in 1878 where he began working for the Denver & Rio Grande Railway.

The discovery of gold and silver ore in the San Juan Mountains had created a great demand for railroad transportation. In as early as 1875, D&RG had identified the need for expansion to reach the rich mining camp of Silverton. Wigglesworth became the locating engineer to do survey work for the line through the Animas Canyon, requiring surveyors to be let down the canyon's

sheer walls on ropes and ladders. At some points vertical cliffs dropped nearly 600 feet straight to the Animas River below. Tracks had reached Durango in July, 1881, from the East but Silverton, the goal of the San Juan Extension as it was called, still lay nearly 45 miles north and east up the winding Animas River, and over 2,800 feet higher in elevation. Construction of the line was delayed several times due to weather, shortages of supplies, and delays in financing, but finally on July 13, 1882, the first regularly scheduled train traveled from Durango to Silverton.

The Durango-Silverton line, surveyed and constructed under the direction of Thomas Wigglesworth, was acclaimed from the beginning and continues to this day. The American Society of Civil Engineers (ASCE) named the Silverton Extension a National Historic Civil Engineering Landmark in 1968, stating "Built in 1882 through one of the most rugged mountain areas of the nation, its complexity remains a testament...in the development of the western United States."



Thomas, his wife Ann Catherine, and their five children made their home for many years on a farm in the north Animas Valley called Waterfall Ranch. When he suffered a stroke and died in 1909 at his home the Durango newspaper stated, "He was a man decided in his views and pronounced in his likes and dislikes, a true friend, a worthy citizen – a man honest in all his dealings. It is sufficient to say that he was an engineer of recognized ability and untarnished integrity".

His legacy continues today; those who travel the scenic Durango and Silverton Narrow Gauge Railroad have this amazing pioneer to thank.

SPECIAL POINTS OF INTEREST:

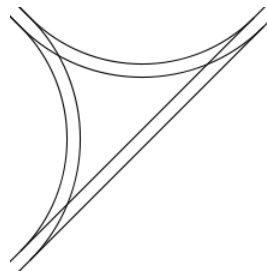
- Crew members referred to him in later years as "Sunny Jim" because of his resemblance to Sunny Jim on the package of Force, a favorite breakfast food.
- "Chief Wig" was known as a man whose "dignity was always in presence, never mingled or kidded and was never grouchy or fault finding".
- Thomas and Ann Catherine named their first child Charles Stonewall in obvious admiration of Confederate General Stonewall Jackson.
- The Wigglesworths owned 400 acres in the Animas Valley, a few miles north of Durango, called Waterfall Ranch. The waterfall still flows and is visible from the west side of the train.
- Thomas and Ann Catherine's second child, Will, was Durango's City Manager at one time.

NOTES

1. **Philip Guedalla. *The Hundred Years : A history of the Western World 1837-1936.* ([London]: Peter Davies, 1934). "For its true history was always the history of transportation in which the names of railroad presidents are more significant than those of Presidents of the United States. Those names emerged – Gould, Vanderbilt, Hill, Huntington, and Harriman."**

2. **Logo taken from: Wikipedia contributors. "Durango and Silverton Narrow Gauge Railroad." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 18 Dec. 2012. Web. 25 Dec. 2012.**

3. **A wye or triangular junction, in railroad terminology, is a triangular shaped arrangement of rail tracks with a switch at each corner. In mainline railroads, this can be used at a rail junction, where two rail lines join, in order to allow trains to pass from one line to the other line. Wyes can also be used for turning railway equipment. By performing the railway equivalent of a three point turn, the direction of a locomotive or railway vehicle can be swapped around, leaving it facing in the direction from which it came. Where a wye is built specifically for turning purposes, one or more of the tracks making up the junction will typically be a stub siding.**



Wikipedia contributors. "Wye (rail)." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 19 Dec. 2012. Web. 25 Dec. 2012.

4. **Photo of U.S. Geological Survey Team taken on 12/24/2012 from the website: Chipeta: Ute Peacemaker. "Hayden Survey: 1874 Los Pinos" by Cynthia Becker. <http://chipeta.wordpress.com/tag/william-henry-jackson/>**

5. **Photo and caption taken on 12/24/2012 from the website of the Animas Museum: An article by Allen Nossamen, (1940-2006): "The Railroad Arrives." <http://www.animasmuseum.org/railroad%20arrives.html> (Best quality available.)**

6. IMDB. (The Internet Movie Database) IMDB.COM

7. Picture of highline courtesy of Russ Wigglesworth.

7a. Taken on 8/1/2013 from Citi data website. <http://www.city-data.com/forum/south-dakota/1234969-historical-photos-black-hills-library-congress.htm>

8. This picture taken on 12/24/2012 from a website advertising a DVD: "The Denver and Rio Grande Multimedia Adventure Kit (DRG MAK) *The Largest Collection of Rio Grande Information Ever Assembled Into One Product.*" <http://ghostdepot.com/rg/history/otto%20mears.htm>

9. Sketch of Ernest Ingersoll taken from the website NYPL Digital Gallery. (New York Public Library) 12/21/2012. <http://digitalgallery.nypl.org>

10. Ernest Ingersoll. "Silver San Juan." Harper's Magazine. April 1882. Pp. 689-704

11. Doris Osterwald. Cinders and Smoke. A Mile by Mile Guide for the Durango to Silverton Narrow Gauge Trip. 6th Ed. Western Guideways, Ltd. Lakewood, Colorado. 1990.

12. A platt is a scaled map of an area of land showing it divided into large blocks which would then, in later maps, be subdivided into smaller blocks.

13. Allen Nossaman. The Silverton Standard & The Miner. 100th Anniversary Edition. Not clear whether the 100 anniversary is of the newspaper or of the railroad.

14. The Mayflower Mill was opened in 1929. "Gold sponge" was the result of the smelting process which produced a piece of gold riddled with holes resulting from mercury vapor that bubbled out as the gold cooled. The fine of \$5.00 was perhaps an error introduced by the OCR scanning process. It may have actually been \$500.

Picture of gold sponge taken on 6/8/13 from the website: The Elements Unearthed, Our Discovery and Usage of the Chemical Elements. Colorado Mines Day 5, Part 2: The Mayflower Mill. November 22, 2012, by David V. Black.

<http://elementsunearthed.com/2012/11/22/colorado-day-5-part-2-the-mayflower-mill/>

15. Wikipedia contributors. "Durango and Silverton Narrow Gauge Railroad." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 11 Feb. 2013. Web. 14 Feb. 2013.

16. T. Ralph Bennett and Russell H. Wigglesworth. "Ride the High Iron to Yesterday." Trek Along the Navajo Trail. 1964-1965 Yearbook. (Citations I found do not mention Zeke Wigglesworth. DFJ)

(Russ W. comments: Re: note 16. “The article in *Trek* was written by me; my brother, William David “Zeke,” helped by looking up some dates. He was working for the Minneapolis Star at the time. He used his nickname as his professional name until he retired as the Travel Editor of the San Jose, CA *Mercury News*. Prior to publication I had deleted (I was the editor, too) a paragraph about “There’ll Be a Hot Time in the Old Town Tonight,” a song being written by an itinerant whisky drummer in Silverton as a result of the train’s arrival. Probably of interest only to music historians.”

(The Wikipedia report that the song was published in 1896, music by Theodore A. Metz, lyrics by Joe Hayden does not necessarily disprove Russ’s claim .

http://en.wikipedia.org/wiki/There'll_Be_a_Hot_Time_in_the_Old_Town_Tonight

A recording of the piece by the “Sousa Band” in 1904 can be heard here:

<http://www.loc.gov/jukebox/recordings/detail/id/220/>)

Russ continues: “*Trek* was an ill-founded magazine T. Ralph and I dreamed up. We scavenged for a year trying to find backers with enough money to allow us to start the magazine. The issue with the article was issue number one and the last one. Our financial backer, the same one who was behind Purgatory Ski Area north of Durango, pulled financing shortly after the magazine went to print and even refused funds for distribution of the first issue so it died aborning. I have what may be the only surviving copy. My only income during that time was what I made in tips while serving drinks to patrons of the Diamond Circle’s melodrama. I was an actor that summer and the pay was negligible. My newly-married wife was of great support that summer for which I am eternally grateful.”)

17. Engineering News and American Contract Journal. (Later: Engineering News Record or ENR) (Engineering News Publishing Company, Tribune Building, New York, NY. Vol. XV, Saturday, April 10, 1886. p. 238.

Close reading of this item may cause some readers to be puzzled about the dates. What’s the use, they might say, of announcing on April 10th something that already happened on April 1st? They should consider that periodical publications then, as now, were given dates that were later than their actual publication and that the journal, a fortnightly, was actually printed in New York City. The item was probably sent to the ENR editorial office by telegraph by the ENR Leadville correspondent on March 24th, too late for the 3/27 issue. The 4/10 issue may well have come off the press before 4/1. Also 4/1 may only be the beginning of the “letting of contracts” process, which included issuing RFPs, receiving bids, and awarding the contracts. In addition to inviting bids for contracts such announcements also served to alert workers and peripheral service providers of business or employment opportunities.

The Tribune Building, arguably the first “skyscraper” was erected in 1871 at 154 Printing House Square on Nassau and Spruce Streets in Manhattan. That spot is now

One Pace Plaza, the location of Pace University and near the current approach roads to the Brooklyn Bridge. The Tribune Building was also where Ottmar Mergenthaler first demonstrated his linotype machine in 1886. Next door was the home of Pulitzer's New York World, at which my grandfather Charles Johannes Jensen worked as a linotype operator and "stonehand" after he arrived from Copenhagen in 1887 until his death in 1926.

Readers interested in the skyscraper argument may find the following worth their time: Winston Weissman "New York and the problem of the first skyscraper," Journal of the Society of Architectural Historians, March 1, 1953 (reproduced by www.jstor.org). Charge by JStor for this article: \$14.00.

18. Wikipedia contributors. "E. H. Harriman." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 28 Jan. 2013. Web. 12 Feb. 2013.
http://en.wikipedia.org/wiki/E._H._Harriman

19. Wigglesworth Family Collection

20. "The Streets of Carlsbad: Hagerman Street" Posted by Amorpous Muse / Shelby. Photo taken on 2/28/2013 from <http://yetstillstanding.blogspot.com/>

21. A portrait of Stonewall Jackson (1864, J. W. King) in the [National Portrait Gallery](#). Wikipedia contributors. "Stonewall Jackson." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 28 Feb. 2013. Web. 1 Mar. 2013.

22. Wikipedia contributors. "William Jackson Palmer." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 14 Feb. 2013. Web. 1 Mar. 2013. Photographer unknown.

23. Yule Marble is a [marble](#) of [metamorphosed limestone](#) found only in the Yule Creek Valley, in the West [Elk Mountains](#) of [Colorado](#), 2.8 miles (4.5 km) southeast of the town of [Marble, Colorado](#).^[1] First discovered in 1873, it is quarried today inside a mountain at 9,300 feet (2,800 m) above sea level, in contrast to most marble, which is quarried from an open pit and at much lower elevations.

The localized geology created a marble that is 99.5% pure [calcite](#) with a grain structure that gives a smooth texture, a homogeneous look, and a luminous surface. It is these qualities for which it was selected to clad the exterior of the [Lincoln Memorial](#) and a variety of buildings throughout the country in spite of being more expensive than other marbles. The size of the deposits enables large blocks to be quarried, which is why the marble for the [Tomb of the Unknowns](#), with its 56-ton die block, was quarried from Yule Marble.

http://en.wikipedia.org/wiki/Yule_marble

Wikipedia contributors. "Yule Marble." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 11 Jan. 2013. Web. 10 Feb. 2013.

24. Arlington National Cemetery. Tomb of the Unknown Soldier, side angle close-up. Digital ID: (color corrected film copy slide) thc 5a50867

<http://hdl.loc.gov/loc.pnp/thc.5a50867>

Reproduction Number: LC-H8-CT-A01-015 (color corrected film copy slide)

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

25. Engineering News and Railway Journal. Engineering News Publishing Company – New York. Vol. 19, p.44. Saturday, January 21, 1888. Taken on 6/10/2013 from Google Books:

<http://books.google.com/books?id=PMxBAQAIAAJ&pg=PA44&lpg=PA44&dq=%22following+comes+to+us+from+Buffalo%22&source=bl&ots=mExaA9Tiqz&sig=o-ykTcoYAgzNt8FMEW-XfUcr7Jo&hl=en&sa=X&ei=QvC1UZqAic-30AGZz4GIBA&ved=0CCsQ6AEwAA#v=onepage&q=%22following%20comes%20to%20us%20from%20Buffalo%22&f=false>