

Ain't She a Butte?

By Eric Heidle

“Everything in the way of hill, rock, mountain, or clay-heap is called a butte in Montana.”

—CENTURY ILLUSTRATED MONTHLY MAGAZINE, October 1882

By the time you're atop the windswept, grassy summit of Crown Butte near Simms, about 25 miles southwest of Great Falls, you'll have hiked over any number of obstacles including muddy roads, cow pie mine fields, crumbling cliffs, and maybe a rattlesnake or two. But the view is worth it. On a bluebird day, you can see a hundred air miles north, nearly to the Canada border. To the west, the jagged, snowcapped spine of the Rocky Mountain Front races away toward Alberta. Closer, there's Haystack Butte, a steep volcanic cone rising like a pyramid before the Front; the flat, eroded bench of Shaw Butte to the northeast; and the sharp profile of Birdtail Butte, not a peak at all but a jagged fin of eroded stone that requires ropes to climb.

Which raises the question: So what exactly is a butte?

The word itself is a quirky term native to the West and Montana in particular. After all, the most famous butte in the state isn't a butte at all but a town famous for the opposite, a giant hole in the ground. Over time, Montanans have slapped the word on all manner of hills, mountains, peaks, ridges, and rocky prominences without much regard to what they actually are. And we've done it frequently. More than 600 named buttes exist in Montana.

Despite their modest elevations, these remote summits are among the most dramatic geological formations in the state. Buttes can loom like massive islands above the surrounding sea of prairie. West Butte, at 6,983 feet the high point of the Sweet Grass Hills, would in fact be the highest spot in 35 other states. So it's higher than many mountains, despite being a butte in a chain of hills. Stranger still, a portion of the Sweet Grass Hills' East Butte includes a named "mountain," Mount Royal (6,917 feet), that is lower than West Butte itself.

Picking the right term for a big pile of rock isn't a challenge confined to Montana. A Welsh mountain was recently demoted to a lowly hill. Some keen surveying revealed that Fan y Big, in Wales' Brecon Beacons National Park, was tall enough to be a mountain but

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CLASSIC Square Butte in Cascade County epitomizes what people think of when envisioning a butte. This and another butte of the same name east of Great Falls were immortalized in several paintings by Charlie Russell.

not quite distinct enough from a neighboring peak to qualify. Geographically, it's a distinction called "prominence," which measures mountains by the differences between their summits and the lowest point between them and the next highest peak. It turns out that, despite the name, Fan y Big is not quite big enough.

But size isn't everything, and in a state whose very name means "mountainous," Montanans might be forgiven for making mountains into molehills. The highest named butte in Montana is 10,542-foot Black Butte, the apex of the Gravelly Range. In terms of elevation, it's a relative monster, higher than any peak in Glacier

above the Going-to-the-Sun Road, no more than a geologic footnote to the mighty peaks around it.

ISOLATED LONERS

Any consensus on buttes seems to involve some combination of shape and location. Mountains and peaks tend to run in chains, while buttes are typically isolated landmarks commanding the ground around them. And they tend to have distinctive shapes, appearing steep-sided and flat-topped, though often only from certain angles. These characteristics are borne out in the language as well—because we know where the word "butte" comes from.

It's a French term originally meaning landmark or target. The word evolved under the usage by early American explorers to indicate a "conspicuous elevation," steep-sided and isolated. John Frémont, writing of his explorations in the American West, noted, "The French word *butte*...is applied to the detached hills and ridges which rise abruptly, and reach too high to be called hills or ridges, and not high enough to be called mountains." More recently, the *American Heritage Dictionary* defined it this way: "n. Chiefly Western US. A hill that rises abruptly from the surrounding area and has sloping or vertical sides and a flat top."

With this definition in mind, finding a true butte should be easy, especially right here where I'm standing, on the summit of the Crown Butte near Simms. Its top is relatively flat but slants earthward toward the west and is split in two by a deep cleft. So in the strictest terms it perhaps doesn't quite qualify. But look due east from here and you'll see its larger, more famous cousin, which could be the dictionary's photo accompaniment in the "butte" entry.

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National Park. And yet, in name at least, it's merely a butte.

A butte's given name isn't much help at distinguishing location. You may be standing on Crown Butte—but which one? Seven are scattered throughout the state. Montana is also home to at least 21 Haystack Buttes. Black Butte takes the prize with 30 entries, including one named, unhelpfully, "Black Butte Mountain."

Like cartographic step-siblings, buttes that share a name often share little geological DNA. Haystack Butte near the Front is a vertical plug of volcanic magma eroded into that distinctive conical shape. Haystack Butte in Glacier National Park looks nothing like it; it's mostly limestone, a remnant of ancient sea beds uplifted and sculpted by glacial action. Glacier's Haystack is also a bit underwhelming. It's a ridgelike hump attached to massive Mount Gould



HARD AND SOFT Above left: an aerial view of Square Butte in Cascade County, 20 miles west of Great Falls. Above right: Igneous rock resists weathering more than the softer layered limestone sedimentary rock underneath, resulting in the iconic capstone that forms many flat-topped buttes.



SAME NAME, DIFFERENT SHAPE Of Montana's more than 600 named buttes, few look the same, raising questions as to what constitutes a hill, a butte, or a mountain. Clockwise from above left: Haystack Butte on the Rocky Mountain Front; Black Butte in the Gravelly Range; Birdtail Butte near Simms; haystack buttes in the Terry Badlands. All are shaped by different geological forces, including volcanic activity, sedimentation, and erosion.



LEFT TO RIGHT: CRAIG & LIZ LARCOM; ERIC HEIDLE

CLOCKWISE FROM TOP LEFT: JEFF VAN TINE; SHUTTERSTOCK; JOHN LAMBING; JOHN LAMBING

Square Butte, about 20 miles west of Great Falls, is massive, much larger than this Crown Butte, with nearly symmetrical steep, sloping sides below vertical cliffs encircling a flat, level top. Like Crown Butte, Square Butte is a laccolith—a giant mushroom of magma that forced its way up through weaker sedimentary layers of rock before cooling in place. Erosion has worn away the softer layers around its igneous cap, leaving a steep, cliffy remnant in its wake. Even if you've never driven past it on Interstate 15, you're almost certainly familiar with Square Butte's distinctive shape. You'll have seen it in the western art of Charles M. Russell. Russell made frequent use of the buttes surrounding Great Falls in his vibrant landscapes—Square Butte (and its eastern counterpart near Geraldine, also named Square Butte) in particular.

It's easy to see why. The Square Butte west of Great Falls so utterly dominates its surroundings, and is so perfectly shaped and steep and flat, so buttelike, that it's the region's iconic feature. Its haughty summit holds court over Crown Butte, Shaw Butte, and a constellation of lesser humps of rock scattered between these geological formations and Great Falls (a city that just as well could

have been named Great Buttes). Square Butte shows up in paintings today by artist Monte Dolack and others, and it remains a compelling landmark no matter how often you pass by.

That was just as true for some of the explorers who laid eyes on it, before it took its present name. Shortly after completing their epic portage of the Great Falls of the Missouri in the summer of 1805, Lewis and Clark first sighted Square Butte on the western horizon. Peering through his spyglass from a dozen miles away, Captain Meriwether Lewis made a ballpark estimate of the huge feature, noting in his journal, "This mountain has a singular appearance. It is situated in a level plain, it's [*sic*] sides stand nearly at right angles with each other and are each about a mile in extent." In his record describing this most buttelike of buttes, he happened to give it a name. If any feature the Corps of Discovery had seen thus far could be called a butte, it was this. It should have been a slam dunk, like shooting fish in a barrel.

So what did Lewis dub this mother of all buttes, in the very heart of butte country?

He called it "Fort Mountain," of course. 🐾