Utah's Big Five, 2017: Marla Perkins, Ph.D.

Back in 2016, dad and I started talking about visiting a national park in Utah during his next visit to the United States. There are five national parks in Utah. Decisions, decisions. We went back and forth for a couple of months about which one to go to: this park has that, but the other park has this, and some other park has something else, etc. Sometimes, I think that my father and I are much too similar. We both wanted everything. Eventually, I gave up, Googled the possibility of doing all five of the parks in a week (that shows my age—I use Google when I've failed with other methods, and I still capitalize Google when used as a verb), and decided to make a whole vacation out of the excursion. Problem solved. Now we didn't have to make a decision. Oh, wait, then we had to decide in what order to see the parks. Dad didn't care, so I decided on a clockwise direction from Z (Zion) to A (Arches). It made sense with the roads and towns, too; I wasn't just being rotationally and alphabetically compulsive.

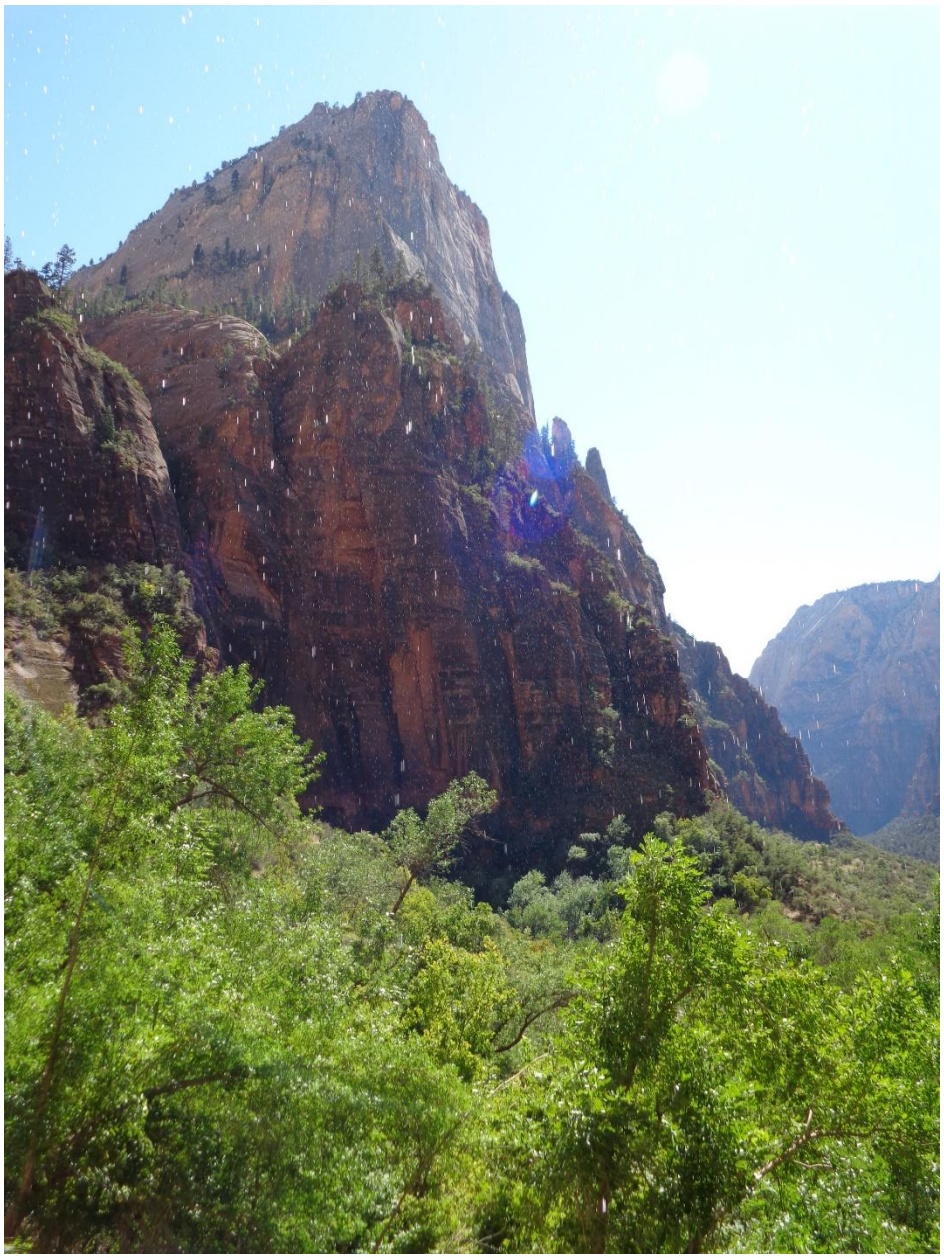
Rock formations within the boundaries of Zion National Park—we drove among these formations on our way to the grand valley.

Because neither of us had been to any of these parks, we couldn't go wrong in deciding what we wanted to do. More-less at random, we pulled off the road and walked up onto one of the formations, fossilized sand formations that had been laid down in layers. It looked like parts of Lawrence of Arabia but without the blowing sand because the sand was stuck where it was. In odd places, there were cairns of fossilized sand that looked like they had been poured wherever they were. There were also volcanic rocks, basalt, that seemed to have come crashing in from outer space. Where was the volcano? It was a question we asked all week. The caldera of which Mt. Humphreys is a part seemed too far away to throw rocks into this part of southern Utah. One of the explanations is that the basalt was washed into this area from other places where volcanoes are.

Zion is a visitor-friendly park. There are interesting things to be seen just driving around, and there are a variety of walks to be taken, from easy flat ones on paved sidewalks to steep, strenuous ones up the sides of the Zion Canyon; I didn't do a strenuous hike in Zion, but if I go back, I would like to take one of the trails that go pretty much straight up the sides of the canyon. Bathroom facilities are adequate and clean. Roads are drivable, parking is ample, and the shuttle service is brilliant, with great views, lots of shuttles, and many stops along the way. Throughout the visit, dad and I were comparing the parks with one another, and for usability, Zion wins. Yes, we had to develop categories because there were lots of factors to consider.

Zion wasn’t suffering for lack of spectacular scenery, either, although, having seen the rest of the parks, we decided that Zion was not the most impressive. We liked the fossilized sand formations near the entrance to the park the best, but we also appreciated the layers of colored rocks elsewhere in the park.

We hopped off the shuttle to take a walk up the side of the canyon. I have a theory that gorges, canyons, forests, and bodies of water should be viewed from various depths, whenever possible. The default at Zion is the bottom of the canyon, so we wanted to walk up a ways and check things out. We walked up to a place where a natural spring overflowed an overhang. The sparkly bits are not problems in the film that I wasn’t using; they are droplets of water. We walked behind the overhang and looked out at this part of the canyon.



Utah’s Big Five, 2017: Marla Perkins, Ph.D.

Here’s the edge of the overhang, for perspective, as well as a broader view of the canyon.

Back down at the bottom of the valley, we continued into the main part of the canyon. I have a hard time with pictures I take in the western United States. When I first moved to Arizona, I took a bunch of pictures so that I could show people where I lived, and they all looked fake (the pictures, not the people). I told a native of the area that I couldn't send the pictures to friends and family because the pictures all looked fake. He adjusted his cowboy hat to provide more shade for his eyes and said, "Welcome to the west, darlin'." This one looks especially fake, even with a Do-Not-Enter sign. It's like one of those spectacular Hudson River School paintings in which the landscape is too grand, the colors too vibrant, and the people too small. Well, there it is, and it isn't fake, even though it looks fake.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Toward the end of our day in Zion (we spent about a day in each of the parks), we took the shuttle back to the parking lot and drove to a place where we could walk up onto the edge of the canyon. This is dad enjoying a walk along the flatter top of the sandstone formations.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

One of the decisions we had to make, once we decided to see all five of the parks, was how to get to the parks. I suggested that dad fly from Beijing straight to Salt Lake City, and I'd fly up and meet him there, and then we'd rent a car and drive the 2-3 hours south from SLC to the parks area. But then I thought maybe he'd like some time to readjust from jet lag, and I suggested that he fly into Phoenix and spend a few days in Arizona before going to Utah. And then it occurred to me that, if we drove the two hours back down to Phoenix after recovering from jet lag, waited the recommended two hours at the airport prior to the flight, flew 1.5-2 hours to SLC and the then drove south again for 2-3 hours, it would be faster to get in the car in Prescott and drive to the parks area in southern Utah directly—about six hours—during which we could take in other places of interest, such as the aptly named vermilion cliffs.

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I have a lovely (lovely because short) commute to work, about 2.5 miles, so Kablooey doesn't get much actual driving. This trip was an opportunity to get the car fully warmed up and to note that, if Kablooey could fly, it would be invisible against the sky. Kablooey handled the trip well, averaging about 45 miles per gallon, being large enough to accommodate dad's 6'2" height, and causing no problems.

The fuel efficiency came in handy, and not just for financial reasons. Capitol Reef National Park is the most remote park that we visited. There are a couple of small clusters of houses that are enough like towns to have gas stations, but when we left the park, those gas stations were closed. We did the entire day, from Panguitch to the park and though the park and back to Panguitch on just over three-quarters of an eight-gallon tank of gasoline.

This is a picture of Kablooey, and sandstone formations, shortly after we entered Capitol Reef National Park; this was an opportunity to reminisce about a distant relative of my grandmother, Verona Marble, who sounds like a fictional character and who traveled alone and always had a picture taken with her and her car; on road trips, the car becomes part of the trip.

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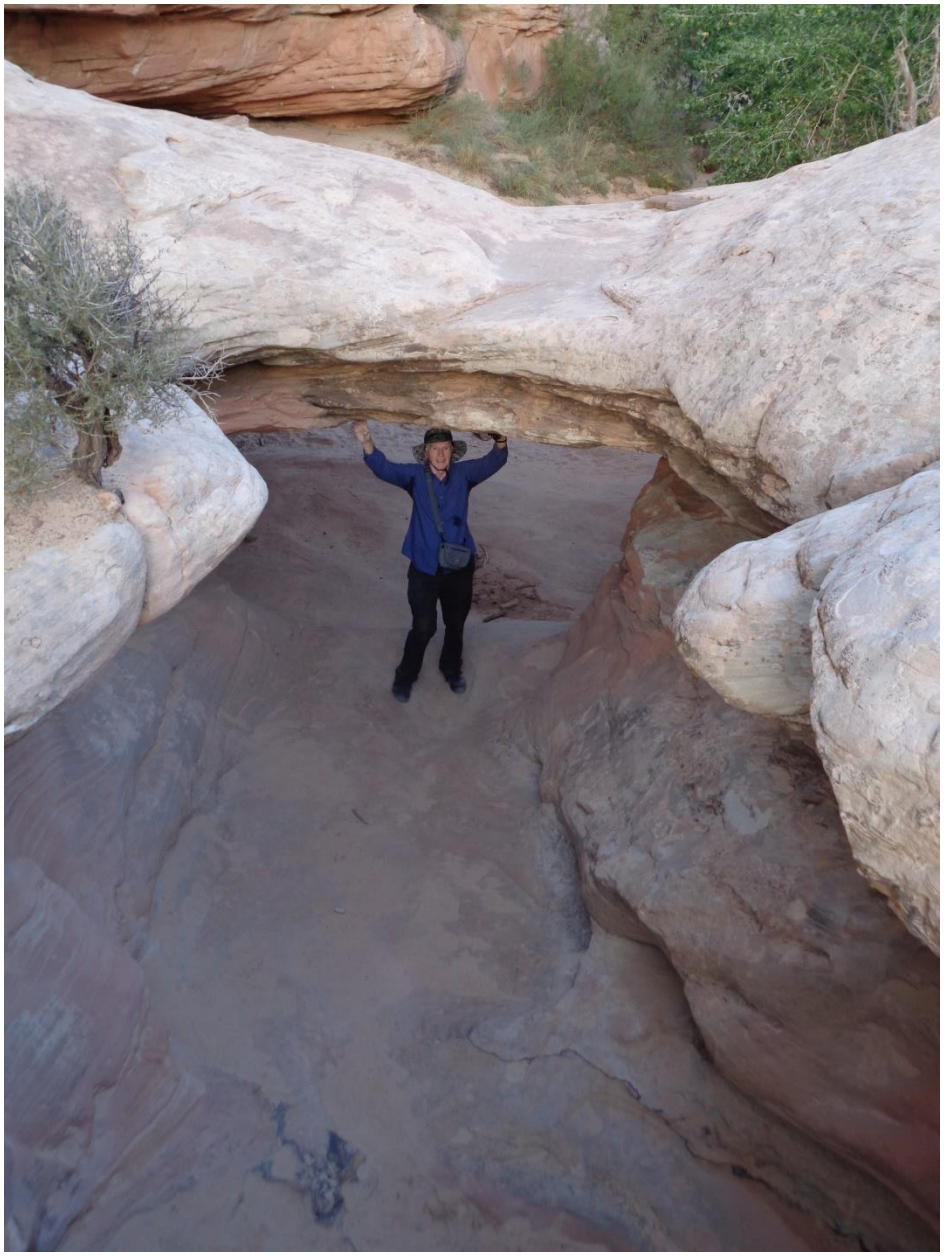
When we were back in the phase of trying to decide which park, singular, to go to, Capitol Reef probably wouldn't have been my top choice, but it was one of dad's top choices because of the monocline. The what? The monocline. The National Park Service has taken to calling it a 'waterpocket fold', but one of my favorite things about Capitol Reef was all of the new vocabulary I could take in. A monocline happens when one side of a fault (in this case, the Laramide Orogeny) is uplifted. That's why the rocks—Navajo sandstone in this picture—have a distinct slant. It's also why, for most of the day, I felt woozy; nothing was level, and my visual and vestibular systems were having a constant and unresolved altercation about how best to keep me upright. I do love a good hike, but this is one park in which it was probably a good idea that we did more driving.

We did take a walk at one point to visit an arch. We thought it might be redundant to visit an arch when Arches National Park was still on the itinerary, but we decided that it would be useful to have something to compare the arches of Arches to rather than showing up completely uninformed. This formation probably does not count as an arch, but it is some kind of hole in the sandstone rock.

Along the walk were some petroglyphs. I'm a huge fan of petroglyphs. I don't know who made them or why or, in many cases, what they represent, or if they represent anything, but I like them. Other things I don't know about are technical geology terms. I was just reading an article on a proposed kinematic explanation for Riedel shear structures in Capitol Reef National Park. I feel like I have done well to figure out what the article is about—thank goodness for titles. I believe this petroglyph represents an animal with antlers, but I don't know. Petroglyphs don't come with titles.

We made it to the arch. Good thing dad was there to hold it up.



Back in the car for driving, we had a good look at the slant of the monocline. Maybe if the road had been straight and flat, it would have provided enough visual orientation for me to decide how not to be woozy, but even as I’m looking at this picture now, I can’t figure out if I had the horizon line level. I look at this and think that the top edge of the cliff should be level, and that the layers of rocks in that cliff should be level, and they’re not, so even in pictures, this is an interesting place to look at. I’m not woozy from pictures.

We skipped the orchards that are historically significant—Mormon settlers planted them a while ago. We skipped the orchards because we have both seen better orchards and gorged ourselves on better apples to the point of feeling like we needed to vomit under better trees in those better orchards. The national park service does not have the personnel to manage orchards as well as grandpa did.

More slant, this time from another perspective.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We drove down a long dirt road that went into part of the monocline, and we found these holes in the sandstone cliffs. In case the theme hasn't already appeared, this trip was about sandstone, layers, and holes. These holes occur in the Wingate Formation and look like honeycomb, which is where their popular name comes from. More technically, they are called tafoni. I can't imagine why that word isn't more popular.

We visited another arch in Capitol Reef. I started not caring where the horizon was; the important part of this picture was fitting the arch into the picture while showing that it was an arch. I’m sure that visiting Utah’s national parks did a lot of good for my thinking on artistic concepts such as composition, but the result was some pictures that are strange. The rocks are strange. That’s a good excuse.

On the way back to the motel from Capitol Reef, we had a couple of hours to appreciate some of the darkest, clearest night skies that I’ve ever seen. The only place that might have come close was an orphanage we visited in rural South Africa. If I were to visit Capitol Reef again, I would camp in the park and have more time with the dark skies.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

Onward and weirdward. Our itinerary was nearly derailed by a side trip into the Red Canyon, which is just a no-place (in Utah) on the way to Bryce Canyon National Park. It’s spectacular, and there’s a bike trail that’s in excellent condition. We took a short walk, decided that if this place were anywhere else, it would be the place to go, and kept on going.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

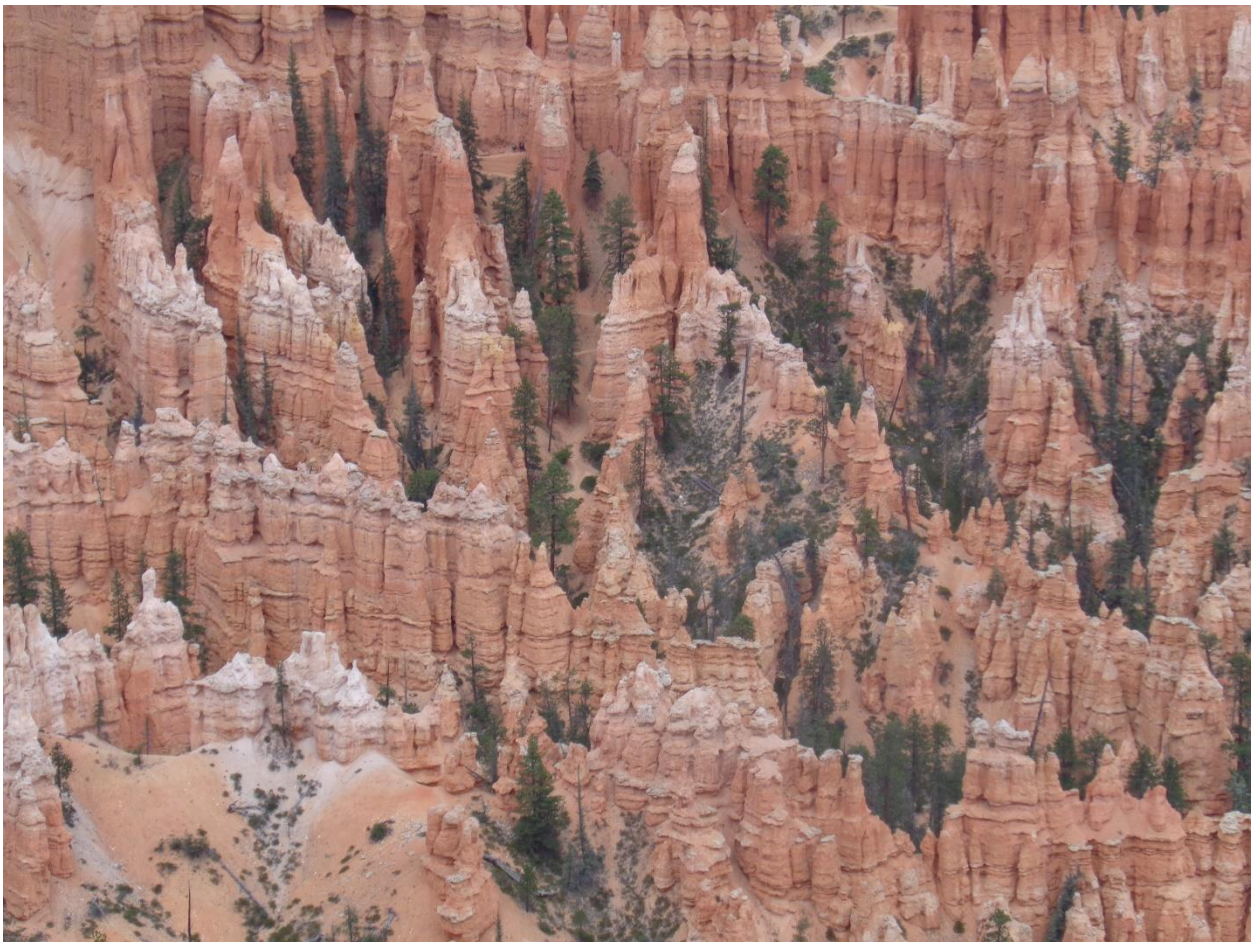
Bryce Canyon is not really a canyon. Canyons are formed by flowing water, and this was formed mostly by frost-wedging on the eastern edge of the Paunsaugunt Plateau.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Bryce Canyon is named after Ebenezer Bryce, a Mormon settler who is primarily notable as the person for whom the non-canyon was named. He didn't stay, and ended up dying in Arizona, in a town, Bryce, that's also named after him. Apparently, there was a severe shortage of people to name things after and a severe shortage of curiosity about what the people who already lived in these places called them. The canyon was apparently not known to the settlers until Ebenezer found the main amphitheater of the canyon while looking for his cattle. When asked, his innate Scottish laconicity came through: "It's one hell of a place to lose a cow." Quite so.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

The spires in Bryce Canyon are called hoodoos. They're not spires because they have irregular sides, unlike spires, which have smoother sides. This seems like something of a judgment call to me. The top layer of a hoodoo is usually a harder stone than the lower layers, so the top part protects the lower part, until the whole structure collapses. Hoodoos in various parts of the process are on display here.



We walked for a while along the edge of the canyon.

We walked for about 2.2 miles (3.541km) to make a loop out of the Queen’s Garden Trail and the Navajo Trail. The Queen’s Garden Trail was an easy and gradual descent into the canyon. We didn’t quite reach the bottom of the canyon; if we make a return trip, a horseback ride in the bottom of the main amphitheater would be the activity to do. We got to look at more of the hoodoos, from up close. Some of them have holes in them. Are these arches?

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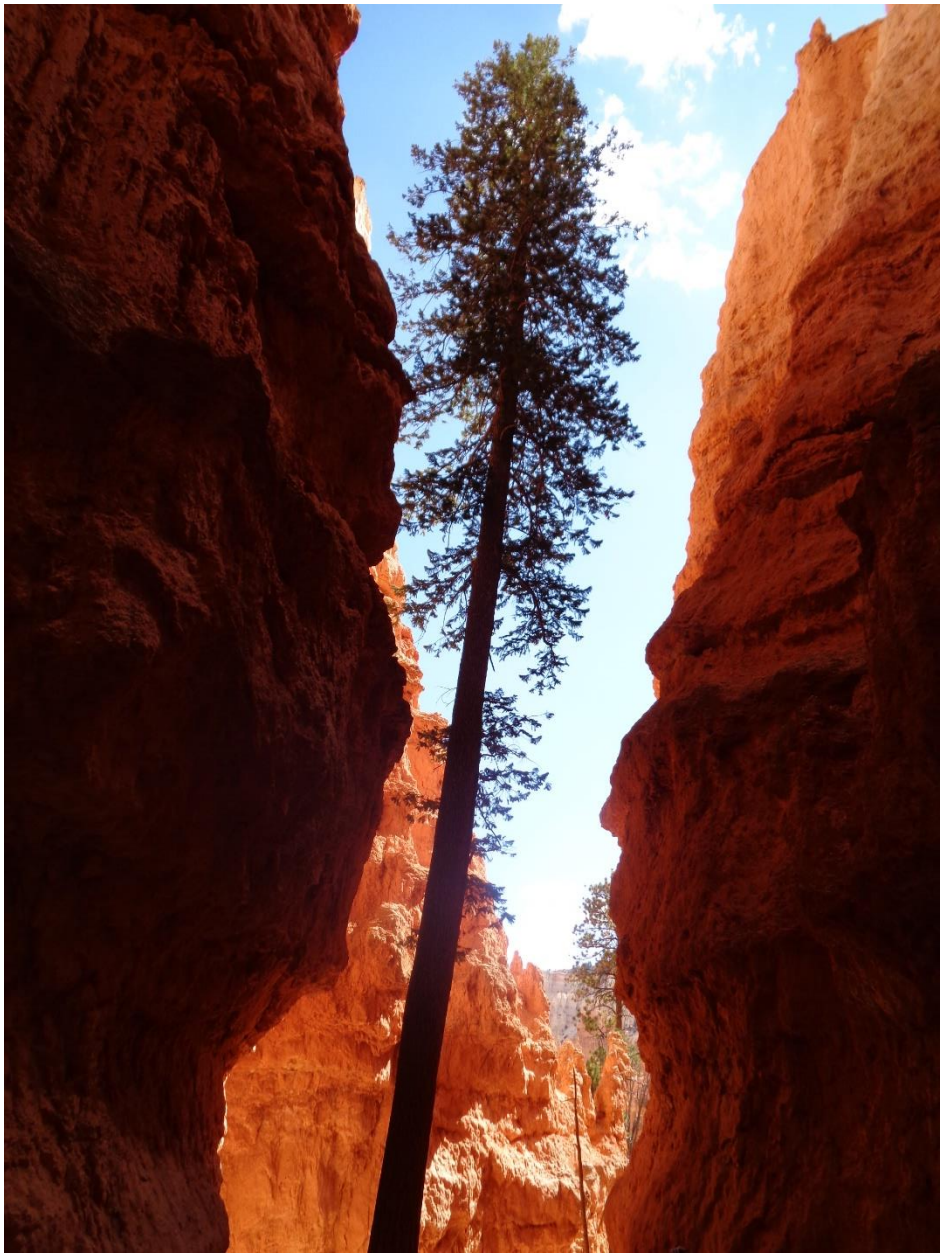
The Navajo Trail is famous for a few Douglas Firs (*Pseudotsuga menziesii*) that grow straight up out of the slot canyon parts of the canyon to reach some sunlight. We took a breathing break by this tree because the altitude and climb back up to the rim of the canyon were making dad woozy. Somebody's always woozy. I like to think that stopping to gasp for air provided some carbon dioxide that was useful to this tree.



Lest anyone think that dad wasn't in shape for this, he lives pretty close to sea level (Beijing's altitude is about 142 feet (43.5m)), and we didn't spend a lot of time in Prescott acclimating to that altitude—Prescott is known as the other mile-high city. The rim of Bryce Canyon is at 8000-9000 feet (2400-2700m), so that was a huge change. And the trail back out of the canyon was not trivial; this picture shows some, not all, of the bricked-in switchbacks in the slot canyon. I think we did really well.

In any case, we both survived being woozy for one reason or another, and we took the next day off. It’s hard to maintain the appropriate level of curiosity on a trip like this, where every day is new and spectacular and justifiably demanding of attention and curiosity. We drove over to Moab from Panguitch and had a laundry day, a loafing about the motel day, a long, long napping day.

What a great word ‘Panguitch’ is. It’s based on a Paiute word for ‘big fish’. I had some fish in a local restaurant, but not a big fish.

With our brains reengaged and our oxygen levels renewed, we took off for Canyonlands National Park.

Canyonlands might have been my favorite for scenery: canyons within canyons within canyons, with mountains in the background. Kablooey does not have four-wheel drive or high clearance (highest in its class, but it’s still subcompact), so we did not take the drive down into the canyon. If we make another excursion to Canyonlands, the drive is definitely on the list of things to do. I’d also like to make the hike out to the bigger, more spectacular petroglyphs, and take a boat down to the confluence of the Green and Colorado Rivers. This place has a list.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

I don't recall feeding this raven, but it's hard to believe I might have missed one. Canyonlands is famous partly for its syncline. Its what? Its syncline. A syncline is a place where rock layers have folded so that they bow downward. It's hard to take a good picture of a syncline (something else to add to the list), so that's why the picture of the raven is here.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We took a walk out to see an uplift dome, or a deeply eroded impact crater—there's some disagreement on what this thing is. An uplift dome happens when a plateau is uplifted, but part of the dome collapses. An impact crater happens when a meteorite makes a hole.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Arizona has an impact crater, which we already visited, on a cold and windy day.

Photo credit: some guy dad handed his camera to

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

It’s hard to take pictures of large features, so this picture is small, but panoramic. The grayish stone in the midst of all of the red rock is down inside the crater/dome. Compared to the impact crater in Arizona, this definitely looks like a different feature.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Along many of the trails in all of the parks was this biological soil crust. It doesn't look like much, and this was about the most impressive crust I could find, but at the microscopic level, this is fascinating. The crust is pushed up and colored by cyanobacteria, algae, fungi, lichens, and mosses. Over hundreds of years, it turns sand from an unusable product of erosion into soil where larger plants can grow. There are many signs warning people not to trample the crust—it doesn't recover well from being trampled.

By this time, dad had picked up at least two books on geology and was acting as scientific tour guide. Worked for me.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

Canyonlands has at least one arch, which we visited.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

One wouldn't expect to have to have the use of a toilet explained, with graphics, but this is part of the consequence of the rise in Chinese tourism. I'm happy they're getting out and seeing the world, because there's nothing like going and seeing for oneself for realizing what nonsense one is being told, which is why everyone should travel, but it really does help to use toilets in the manner for which they were designed. Although now from China, dad did not seem to be confused by the available facilities. One feels sorry for the cleaning staff when signs like this are necessary; I hope the signs help.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

The most interesting weather of the trip blew through while we were in Canyonlands. This picture was taken when we could start to see that the weather was going to turn into something.

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This picture was taken when the weather had arrived. We waited out the windiest and wettest of the weather in the car, except for a few minutes when I wanted to get out and take a picture of the weather. I spent a while squatting on the sidewalk so as not to be blown away, but eventually, I made it back to the car to wait for the wind to blow through.

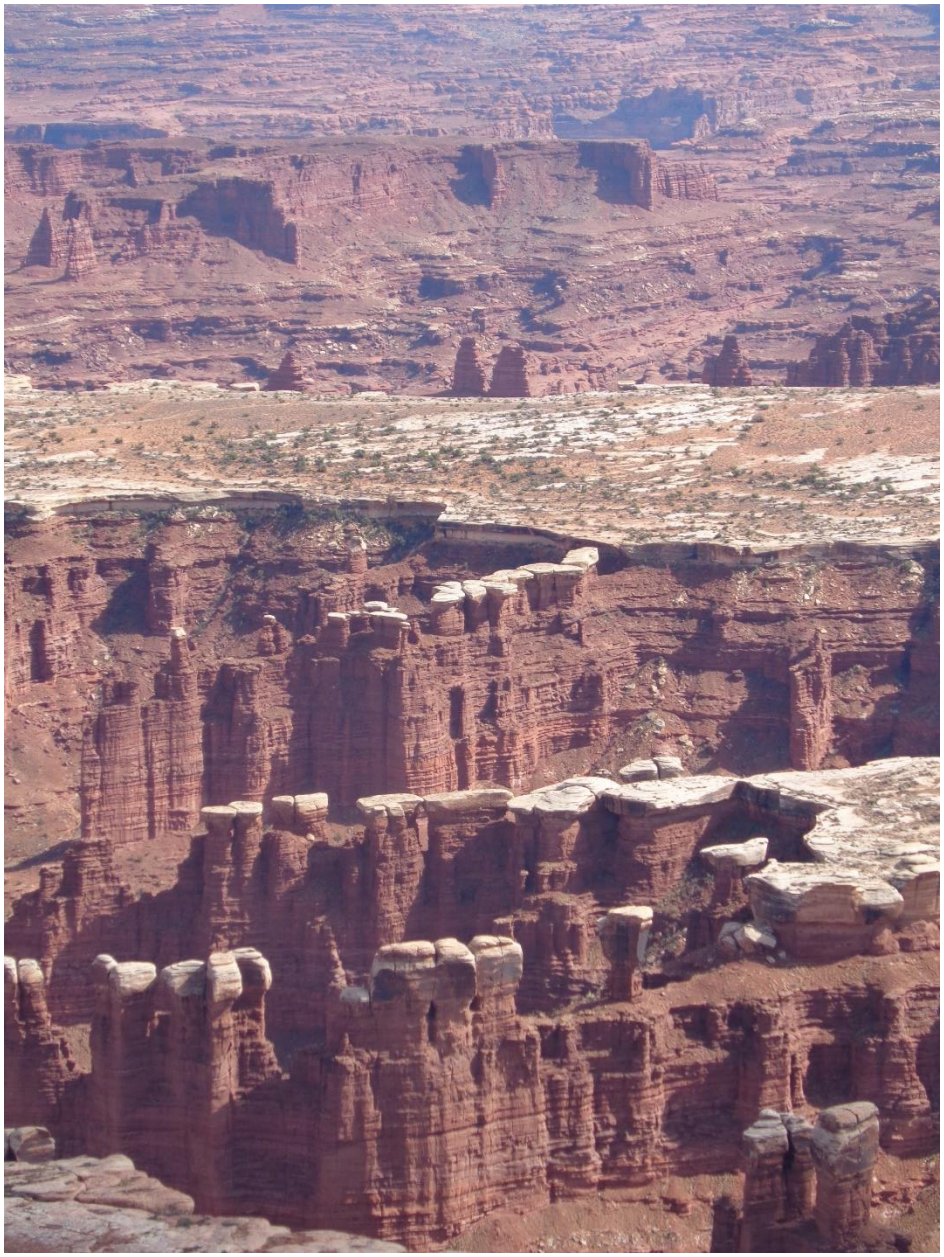
And this picture was taken while the weather was blowing on out of the area.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

The weather allowed for some of my favorite lighting conditions. I like this kind of blue that comes up during and after some thunderstorms, and the combination of that darker blue with the way the plants green right up after any amount of moisture makes the picture.

The moisture from the storm made the lighter-colored rims of the canyon stand out more. The whiter edges are thought to be salt in the soil generally, and it’s more visible at the edges because… I don’t know.

The salt looks white enough to go over and lick. Another reason to return to Canyonlands and take the drive. I’d like to taste the salt there.

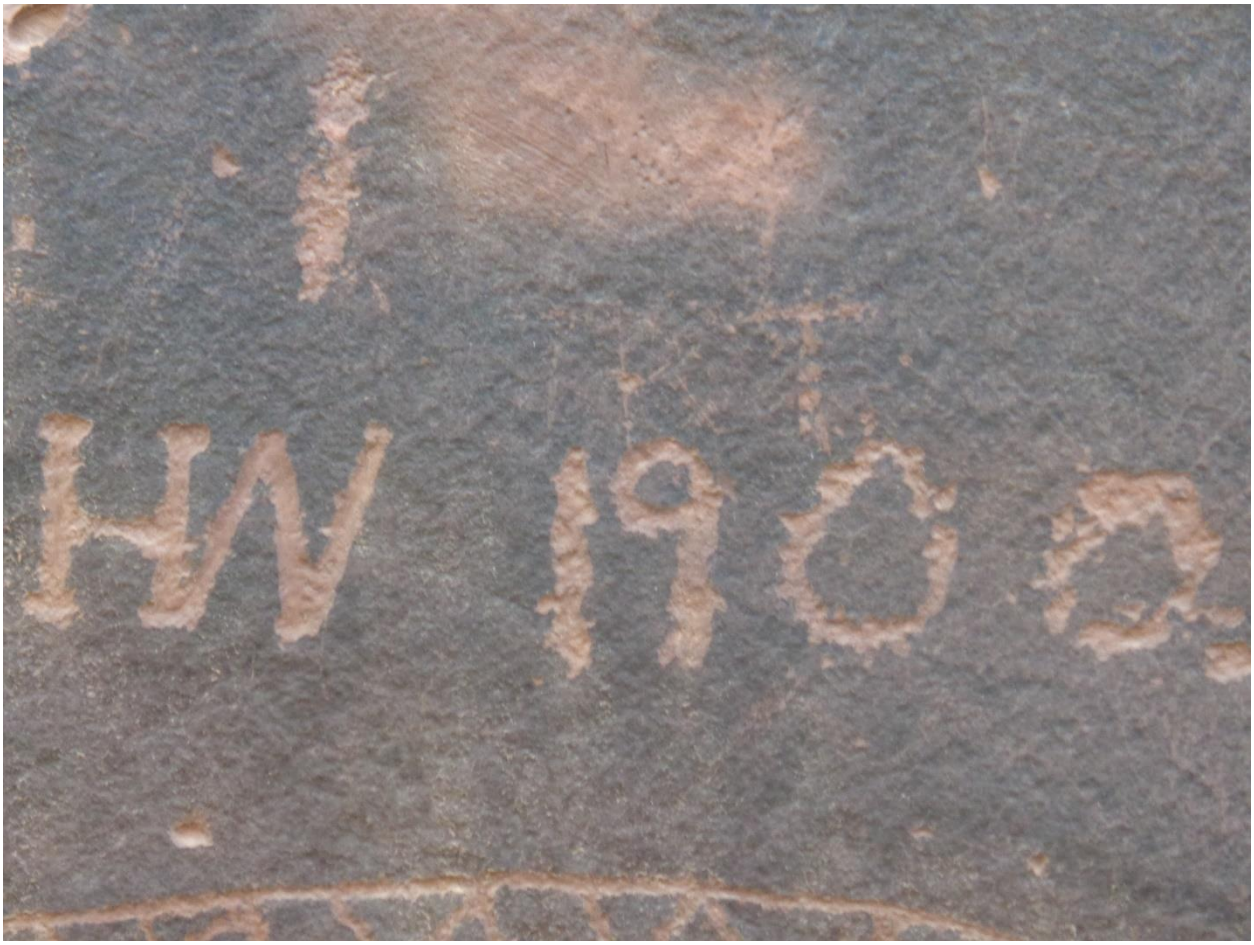


Utah's Big Five, 2017: Marla Perkins, Ph.D.

There was a line to get into Arches National Park the morning we wanted to go there, and most mornings, it seems, so we (I) decided to wait out the line and visit some petroglyphs in the Moab area, and dad came along. All of the indigenous people in the southwestern United States claim that the people who made the petroglyphs were their ancestors, but nobody knows what the pictographs were for or what they meant. Historical records via oral narratives tend to be quite accurate, with many cultures having severe penalties, up to and including death, for bards who changed the histories, but there are no oral histories for the petroglyphs, which suggests a discontinuity between the people who are in the southwest now and the people who made the petroglyphs. History is written or told by the winners; the losers make the art. Modern losers shoot at the art.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Petroglyphs are not exclusively old. HW was hacking into rocks in 1900, which suggests one of my theories of petroglyphs—that they are graffiti by people who lived before the invention of spray paint.



On the other hand, some of the petroglyphs seem more communicative than might be expected of people having fun with a chisel or a can of paint. Maybe someone is identified at the bottom by the pair of footprints, and, following the footprints, that someone travels to another person, who is also identified by a pair of footprints. One of the best articles I ever read was in the Saudi Aramco World magazine, and it was about the trackers in the Sahara—people who walk barefoot through sandy and rocky environments and track other people and animals who travel in that environment, which is in some ways similar to the sand and rocks of the Moab area. The photographer for the piece showed a picture of a footprint to one group, and they all said something like, "Hey, there's Bob!" A picture of a footprint was as good as a picture of the person, for identification.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We drove along scenic route 279 (scenic routes should have scenic names, but this one did not) to see more petroglyphs. Rt. 279 follows the north bank of the Colorado River and was built for potash mining in the area. Now it's used more recreationally. Eventually, the road becomes a rough dirt road, so people who like off-roading on rough roads use that section, and there are several campgrounds, trails, and petroglyph sites at various points along the road.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We stopped to see petroglyphs that had been carved into some of the best rock patina we saw. I especially appreciated that someone carved multiple millipedes into this outstanding patina. Here is the best art supply available in the area—what subject matter is worthy of the medium? Millipedes. I really, really like this artist.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Even without pressurized cans, there wasn't any reason not to use paint; pictographs are painted rock art. Paint on rock surfaces doesn't always wear as well as carvings into the rock surfaces, but these are under an overhang that is angled so that any rain that comes down will fall in front of these pictographs, rather than running over them. So they are still there, in Courthouse Wash. These people-esque shapes are quite different from the ones in the previous picture. Different artist? Different group of people? Different era?

Utah's Big Five, 2017: Marla Perkins, Ph.D.

This petroglyph is part of a huge and impressive panel of petroglyphs that wraps around a large rock, and it's thought to be the earliest depiction of a human delivery anywhere in the world. Probably not all of the early human art has been identified, but given the rarity of the subject matter, this might be the earliest: lots of depictions of ungulates, very few of medical emergencies. If the footprints are identifying individuals, there were quite a few people around during the delivery. I read recently that women would have to give birth to 40+-pound babies in order to compete with what kiwis do in laying an egg that weighs about a third of the adult female kiwi's body weight; I believe this woman would have given kiwis a run for their money, if kiwis cared about money. It's no wonder kiwis are endangered, and probably this was the end of this woman.

We came back later and drove right into the Arches National Park. We had missed the morning rush, which worked out well throughout the park. Arches is one of the most popular national parks, and the amount of traffic in Arches was a consistent point being made in the discussion of raising admission fees to national parks to help limit visitors. Instead of adjusting services at the parks, as Zion did, by providing shuttles, Arches is wide open to anyone with a car, and the roads are congested, and the small pull-offs for views are often blocked with people double- and triple-parking in order to take pictures or walk on the short trails out to overlooks. We did what people typically do in overcrowded situations, and just pulled over where we wanted a picture. We stayed on the pavement—have no fear for the soil crust.

In places, these white flowers, maybe pretty buckwheat (*Erigononum bicolor*) were so plentiful that from a distance, we could imagine that snow was all over the ground. But it was a hot, sunny day, and there was no snow.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We started counting arches shortly after arriving in the park, and eventually, we got to fifty. All day long, we discussed what counted as an arch. This formation definitely counted as an arch, but how many? We finally decided on two, even though the arches shared what looked like what used to be one roof. We counted current loops rather than originating structures.

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Thanks to the rain the day before, Arches was soggy. The frogs came out. More specifically, this frog came out. This was the only frog we saw, but it was a good one—large, bright green, sitting in mud that didn't camouflage the animal well. Roads were also closed because of flooding. We missed the famous Delicate Arch because the road was closed. We could have hiked a several-mile round trip out to see it, but we decided to take other walks, including this one, where we saw the frog. During a future trip to Arches, going to see the Delicate Arch, if it's still an arch and not the pile of rubble it looks like it's about to become, would be something to do—this time, the frog; next time, another arch.

We also walked past this panel of petroglyphs. These petroglyphs do have an oral history, and they’re from the era when the indigenous people acquired horses and started using them to hunt. Horses weren’t available until well after the Spanish arrived—the Spanish left some horses behind, and the horses started to multiply and spread, but it took a while for the people in the area to have enough horses and to learn to work with the horses well enough to hunt with them. These petroglyphs are not as young as the HW 1900 petroglyph, nor as old as the human delivery petroglyph. Carving rocks is a good pastime in any era.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

Even though the ground was soggy, the weather was hot and sunny, and the lizards were out in force. There were many lizards; it was difficult to choose just one.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

The most interesting weather was in Canyonlands, but during the annual monsoon season, the weather frequently changes, and afternoon rains are common. In Arches, there was an afternoon rain, brought in by hefty winds that curled the available clouds.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

We took a short walk to see the longest arch in Arches National Park, the Landscape Arch. It is the fifth longest arch in the world, now that it's been measured as of 2004 at 290.1 feet (88.4 meters). It was shorter before 2004, which then led to a discussion of how these things are measured. Widest span before the slabs that fell underneath? Widest span without the slabs? Widest span between the slabs? Apparently, the method isn't clear, which is how these arches receive different measurements by different people at different times. Or maybe the arch is actually longer now, after slabs fell off in the 1990s. Those slabs are why the trail under the arch is now closed. Nothing fell off while we were there; watching slabs fall off arches might be as interesting as watching glaciers calve, but we missed the latest slab fall by twenty-two years.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Back at the motel in Moab, we had a chat about the parks. We decided that the best best park overall was Bryce Canyon—easy to navigate, relatively easy to reach, interesting drive on the way into the park, clean and adequate facilities of all kinds, a variety of options for activities in the park. We decided that the least best park was Arches—overcrowded, filthy bathrooms (so disgusting that we decided to do number one behind the number two arch), limited activities (drive, park, picture). But each of the parks had something interesting. Fossilized dunes in Arches and Zion, arches everywhere in Arches, geological fun in Canyonlands and Capitol Reef, movie-quality faux-fake scenery in Zion, dark skies in Capitol Reef, etc. And the motel in Moab came with a moth.

Utah's Big Five, 2017: Marla Perkins, Ph.D.

Canyonlands is split into three major sections. We visited the Island in the Sky to see the many canyons and the interesting weather. Another section is along the road on the way out of Moab toward Prescott. We made a forty-mile detour to check out, of course, more petroglyphs. When panels have hundreds of petroglyphs, as this one does, they tend to be called newspaper rocks. The Petrified Forest National Park has a newspaper rock, too.

Utah’s Big Five, 2017: Marla Perkins, Ph.D.

A close-up of some of the carvings on Canyonlands’ newspaper rock: people, snakes, birds, ungulates, possible map elements, dots, lines, circles, pawprints, hoofprints, footprints, and more. Much, much more.

Lest anyone think that the detour was all about me wanting to see petroglyphs, it should be noted that we also saw lots of geological features, including these formations and buttes on the way to the visitor center in the Needles section of the park.

By the time we got to the visitor center, we were ready for a walk. We asked the park guy what he recommended, and he chose a four-ish-mile hike to see some of the needles for which The Needles section is named as well as to have a good sample of this section of the park. We asked what the difference between a needle and a hoodoo is. He didn’t know. Nor did any of the other sources we consulted on the matter. Even without knowing an answer, he chose well for the hike. This is a picture of almost-needles on top of fossilized sand dunes.

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Rock needles in the distance, with fossilized dunes in the foreground.

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I tried to take pictures of a few of the insects who were swimming in this puddle, but none of the pictures were clear. The reflection of the grass on the surface of the water was the best picture of the puddle. I know I’ve spent too much time in a desert world when puddles begin to be interesting enough to take pictures of. I used to find lakes and oceans photogenic. Four years into desert life, puddles have become photogenic.

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Dad with some eroded dunes

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A spiky little plant—on the day I’m writing this, I can see on my hand the dried blood of a puncture wound from a similar plant, acquired while taking what I intended to be a gentle walk. Trails are self-enforcing in these evironments. As I told dad, there isn’t anything out there that won’t defend itself to the death.

Monument Valley was also on the way back to Prescott. We were tired, we were overwhelmed with everything we had seen and heard and smelled and fed and done and discussed and thought about, but the approach to Monument Valley from the north is unbelievable, even after a week of unbelievability. We decided to visit.

I had also taken mom to visit Monument Valley, but my pictures from that trip didn’t turn out the way I would have preferred, largely because it was too sunny for good pictures. The rocks were like mirrors on the day that mom was there. A few clouds knocked the brightness back enough that the rocks retained their depth in pictures. And because we were there later in the day, the rocks themselves helped knock back some of the brightness.

Monument Valley raised more questions, mainly: why here? The formations are out in the midst of a mostly flat lower area in a plateau, and they are hundreds of feet high. They stick out like monuments.

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Monument Valley didn’t have the rains that Moab had had, so the road through the park was especially dusty.

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We stayed by the San Juan River, which is a major tributary to the Colorado River.

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This is the formation called the Mexican Hat, for which Mexican Hat, Utah, is named. Everything raised more questions: how is that still sitting there?

We stopped by the descriptively named Goosenecks State Park. Some of the monuments of Monument Valley are visible over the horizon in the far background. We skipped the Natural Bridges—we decided that we had seen enough holes in rocks. And what’s the difference between a bridge and an arch? This question does have an answer, but the distinction isn’t maintained consistently: bridges span an erosion valley, such as being over a creek, and arches do not. It’s hard to maintain a distinction that even the formations don’t maintain—enough rain will make any of these holes extend over an erosion valley.

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At my insistence, we stopped to see the dinosaur tracks near Tuba City, Arizona. Dad wasn't thrilled. In all fairness, I had taken him on a difficult and weird walk to try to see a dinosaur track in Utah, and there was only one, and it wasn't a particularly large or clear one—not worth the effort. So when I suggested visiting dinosaur tracks, dad was rightly skeptical of the excursion. However, these are right off the main road, there are thousands of them, and the Navajo who manage the site helpfully throw some water down into some of the tracks to make them stand out from the overall background of tracks, tracks, tracks.

Dad’s innate and systematic curiosity came roaring back, as soon as we were out of the car. The tracks are worth seeing. We took the guided tour and saw this skull, also worth seeing.

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We saw these eggs. What’s inside a fossilized egg? Scrambled egg.

And one last fossil and geology term for the end, from the end: fossilized dinosaur scat, coprolite. That word looks like the name for a semi-precious gemstone, so I checked, and jewelry made of coprolite does exist. I might need a piece to go with my elephant-dung stationery.

New places, old art, new words, old rocks, sandstorm formations, fossilized feces: I’m glad we decided not to make decisions. What a trip.