

Chapter 14 - Astronomy

Curtain Calls

I won't elaborate on the limiting details of ALS, but will start off by mentioning that this tragic diagnosis slowly put a halt to my astronomy practice... among numerous other big losses. 2015 featured a few good outings while I was still relatively able to operate telescopes — often with help.

Brian visits!

Immediately after my diagnosis, brother Brian flies over from Seattle with a new set of lungs! He was now able to travel, unlike before when he was stuck to oxygen tanks at home. I was visiting him three times per year, now it's me with the increasing limitations.

This was late May / early June, with a public star party scheduled on Mt Tamalpais. I had not been going for the season, it becoming unwise to haul the big telescope and drive the winding mountain roads alone. I spent years before trying to convince Brian to visit during one of these SFAA star parties. Now it was possible for him to travel again, and the timing and weather were right for astronomy, so off we load my car, and we went! Brian drove ; I was still capable at this stage, but this was insuring to be safer.

It was great that this astronomical evening worked out the way it did... Brian loved it! A good crew of SFAA members were there; Ken of San Rafael with the highly crafted telescope was there early like us. There was — as often usually is from up there — a spectacular sunset from the hillside, followed by a clear night. It was great to finally show deep sky favorites to

Brian through the big 'scope. He'd only looked at the Moon and a few planets through my box telescope, now we're seeing the cosmic dazzle of M13! Galaxies like the trio in Leo! M81 & M82 in Ursa Major! Nebulas: the Swan, Lagoon, Trifid! The Ring, M27, and clusters M22, M11, ... it was a celestial feast — and I was still capable of hopping from M to M with rapid ease! I am so glad that we fit this in. Brian absolutely was into this, and I'm convinced that given the chance, would've returned to do this annually — and to Yosemite, which he adored.

Alas, not to be. But that single Mt Tam event was perfect, and turned out to be my second to last ever astronomy night up there.

Yosemite

One last telescope trip that summer to Glacier Point. Oldest brother Gary, who lives in Alaska and who I rarely ever see, agreed to visit and arrange a weekend in Yosemite with my telescope! I'd mentioned before how phenomenal the astronomy is that way, and now realized as most likely a final chance to go with me — it worked out perfectly! When at Glacier Point, like a few times before when I went without a scheduled group, I ended up joining a different astronomy group event! This time we landed with the San Jose Astronomy club weekend, and again welcomed and blended right in.

A great night and like on Mt Tam a month previous, my abilities to manoeuvre the telescope from galaxy to cluster to nebula was still intact! Gary is already into astronomy and truly appreciated it. It was an excellent sendoff (though no day hikes this time) for my years of magnificent Yosemite trips — having the grand fortune to be there twice a year on average for the past few decades.

Almost all of the summer deep sky sights were revisited, looking sharp in that high Sierras way!

The final big astronomy trip

August 2015, dear friend Anthony visited me from Minneapolis, with plans for a couple of astronomy nights in Lassen park! One of the great places to bring a good telescope, as I've illustrated. And good SF friend Rango got interested in meeting us there for the second night. Good times ahead!

Like Yosemite and Mt Tam over the past couple of months, my physical functionality was still fairly good, yet I had to take extra care not to fall. The first afternoon in Lassen featured my last ever hiking experience. I walked slowly and carefully using a walking stick, as we took the Bumpass Hell trail to the extraordinary area where the sulphur springs are bubbling up from the volcanic earth. A year ago or less I was hard catch up with. Now I needed to measure each step with slow concentration, or risk a bloody tumble.

After a fascinating day at the volcanic springs area, we were back to the parking lot in good time to set up 'scope and enjoy a camping style supper with a good view from the cliffs at sundown.

By dark, I was in my happy zone of space traveling by telescope, celestialized by the clear sky cosmos. Knowing that my time of doing this is now apparently very limited; Is this my *final* nights with M13, and every star cluster, nebula, galaxy? Potentially so.

Anthony enjoyed a few good glimpses through the Third Eye, but not as much as me.

At one point some people from Russia showed up briefly, who Anthony enjoyed socializing with. I invite them to look through my 'scope, but refuse saying it's not like the Hubble, with Anthony concurring by saying "yeah I know, it's blurry". So yep, getting deeply into observational astronomy is not for everybody. He did genuinely really enjoy the outing, and great that he helped me make my last big astronomical trip, and final mountain trail hike!

It was a good night up there at the Bumpass Hell lot, not too extravagantly late, saving that for night #2 with Rango joining us!

Devastated!

The following day, Rango showed up at the lodge just outside of the park. Taking our time, deciding on going to Devastated parking lot which is deeper into Lassen, with better night sky. A good choice! The sky was perfect and it was great to return after 4 years. Superb optics, friends, ambition for the cosmos, and time. Bundled up on a chilly mountain elevation, we scanned the stars in excellent sky conditions.

Another few telescope owners show up at this reputable spot, having a nice chat with them.

At a point when I used the restroom, walking back I tripped on a rock, hitting my knee on the gravelly ground — **owwww!**

When I clambered up, noticed that I fell mere inches from a boulder, and thought what if I hit my head!? <shudders>

That really shook me. The ALS showing itself more and more. The bruised knee didn't stop the proceedings, with millions of light years away to see! And got back to it — damn the torpedoes.

Rango focused on time lapse night photography between closer

glances through the 'scope ; encompassing space-time, and Tony really enjoyed it too, as I found most of the same gems as 4 years previous from the same place ; M30, Owl, whirlpool, Andromeda, Triangulum and much more. Another Astronomy night for the ages! The last when I could navigate the 'scope by myself.

Sidewalk Astronomy in Fairfax

Driving to Fairfax from Oakland was easy for me yet, and to load my SA telescope in the car alone. I did so for a couple of good evenings in front of my favorite setup spot in front of the Good Earth natural foods store. I had been the sidewalk astronomer there off and on for the past decade plus. This time I met up with good friends Joey & Jim Talley who live locally, and we had a great time showing the stunning partial Moon to the many local shoppers passing through! I have spent countless hours out front (both the old and new location), with regular locals who are familiar faces.

The Moon details never disappoint; mountain ranges such as the Appenines, taller than any on Earth, due to having less gravity to pull them down. No atmosphere, preserving everything on the surface, undisturbed for eons. Ejecta; shiny glass beads sprayed outwards from a craters original formation (Dobson would remark, "send the hippies there with string"). Tycho is the crater with the longest, most prominent ejecta particles, spanning over a quarter of the Moon's facing surface when full. When not full, with a good terminator is my preferred state to see, showing depth from strong shadows. There is much to appreciate about the lunar landscape, and the locals love it! We did this a couple of times that autumn, and that was it for SA there from me. Hopefully someone else is or will continue

doing so at that ripe location of steady appreciative foot traffic.

“the compass always points to Terrapin”

September 27th had a lunar eclipse, and Phil Lesh scheduled one of the first outdoor shows held at Terrapin Crossroads, going into the evening during its totality!! I am **so** bringing a telescope to this!

Parking early in the handicapped spaces right in front to have instant access to the 'scope when the eclipse is happening. The band is setup on a temporary stage facing west, on the other side of the building. Starting mid afternoon to a full, sold out crowd, the music and scene was superb — and a refreshing change from indoor gigs (except for the dust kicked up from the as yet un-landscaped sand lot.)

Red Moon rising

The eclipse was to already be full as the Moon rises, and you just know that Phil planned the gig around this. The stage facing east, and the band went back on around sunset. I was only one of few in the audience looking the opposite direction of the band to find the Moon. There was a thick haze low in the eastern sky, and it finally appeared above the cloudbank, emerging red and looking plump, as the band was in the middle of Saint Stephen! I realized that hauling the telescope to the dusty, crowded concert area will not work, so I raced out front to get the 'scope out, rapidly setting the base first then easily lowering the scope bearings (remember the film canisters!) into the sideboards of the base in seconds, focusing on the rising eclipsed Moon, and shared the view with others checking it out front with less obstruction.

Mountains of the Moon > Dark Star

The live music filled the air out front, as we view the eclipse through my reliable TARDIS box telescope — PERFECT!

Hearing Phil & Friends then perform Mountains of the Moon — while showing actual mountains of the Moon made this an ideal Sidewalk Astronomy experience! *In the zone!* I was really in my element... furthermore as they went into Dark Star!

The context was apparent and well timed by our master of ceremonies ; Phil has an eye for cosmic synchronicities!

I stayed out with the 'scope until the eclipse and the live music ended. The ones who stopped to look through loved seeing the dark red Moon in great detail.

Thus ended a peak couple hours of sidewalk astronomy, and the last time doing it by myself.

Physical limitations of my slowly progressing ALS prevented many activities in the following years, but with help, astronomy could continue — however not as often as wished.

Mr. Science

I completely missed the freedom to use my telescopes. I'd done so for years at the drop of a hat, spontaneous and in control solo. Now I ask around for assistance from friends, but hard to schedule, and not everyone is interested as much as I.

Except for astronomy loving friend Jon Alexandr! Known in our old Cacophony Society circles as Mister Science for his science literacy and strong lifelong interest. [Who was on our great solar eclipse trip of 1991! (see chapter 3)]

He offered to help get us on an astronomy night at my favorite accessible telescope setup spot above Lake Sonoma! I hadn't been there in nearly two years, and I thought I'd never ever return. This trip was to be the last, and it went marvellously — thanks to Jon, aka Mr. Science!

To the galaxies we go!

At my experienced lead, we got up to the lot before dark to collimate the big 'scope, and enjoyed catching up (we hadn't hung out much for ages), and the timing was excellent for seeing some of my favorite late spring sights — the chain of distant galaxies of Canes Venetici, Coma Berenices, Virgo and Leo, — including NGC 4565! Known as the Spindle Galaxy ; just a slight nudge of the 'scope from the open cluster Melotte 111 which is visible to the naked eye in a dark sky as a fuzzy patch in Coma Berenices above Virgo. A thrill to see again! for the last time, and the fabulous, faint Markarian chain of galaxies! Wow! [years later the first image of a black hole was taken there! In M87]

The Sombrero galaxy was too low in the sky to have much resolution. Otherwise the trio in Leo and up to the Whirlpool (and companion galaxy) looking good in Ursa Major! A great, late night and it turned out to be a farewell to the favored Lake Sonoma viewing area, where I'd spent the most hours discovering deep deep space (other than my old backyard). So special thanks to Jon for being interested and making this possible! (i was using a walker by then in 2016, unable to move the heavy telescope).

Mt Tam star party — members night

A year went by with dormant telescopes sitting in my apartment, with little interest or workable timing availability from friends. Then Jon saved the day for a SFAA members only event on Mt Tam! I last attended in 2015 with Brian, and this was 2017. Observational astronomy is something I hugely missed. This would be my last time doing astronomy up there, and my last night looking through the big telescope.

The weather checked out as worthwhile, and Jon arrived to load my big telescope (i couldn't carry much anymore), he got cookies and coffee for after dark, (my usual energy boosts when getting late) and up we went. It felt great to be back up the winding road, with Jon driving — who used to live on the west edge of the mountain so definitely knows the way!

The SFAA

There were a few familiar faces that night on Tam ; Michael, Anthony, Doug, and members who were new to me. Setting up, the new SFAA president(?) had us all introduce each other in the group of around 15 of us. Jon spoke for me, telling of my ALS, in addition to my handmade Dobsonian telescope. Bittersweet announcement to hear ; diseased but present for the cosmos. We had a good night, as I relied on help navigating the 'scope on the targets, unlike my extra ability to galaxy hop with relative ease in yesteryears outings. Being here at this favorite local spot, event, with likeminded star explorers, gives me good mileage.

We check out some of the familiar highlights, though less than I would before, now moving slower by far.

The ISS flew over and Jon wanted to track it with my 'scope, but I discouraged it, knowing how it's too hard to track and find moving objects with a Dob like mine. Plus a few of us were trying to find M81 & M82. (apologies, Mr Science!)

It was another fine night on Mt Tam perusing the cosmos, never boring — and another "final" trip.

August 21st, 2017

I'd long ago knew that if I was still alive, would not miss this

dates only total solar eclipse in North America since 1979. A severely limiting disease was not part of my prediction, and so I very sadly missed it. I would have probably gone to eastern Oregon to view. Instead I was under cloudy skies in Oakland, so there wasn't even a chance to see it as a partial.

Good friend Molly Flanagan stopped by with two sets of solar viewing specs, and we tried to see the sun to complete cloud covered failure during the peak eclipse. Well worth the effort because we had well needed laughter over the absurdity of trying! This cheered me up amid a disappointing time.

I am glad that other friends managed to see it! Louis, Jon & Jane, Seb, to name a few who travelled to its path of totality. It is quite the awesome spectacle — one that instantly culls the question, "when is the next one?" (like after the only total that I ever caught on July 11th, 1991).

Deflating of the chronology

This chapter looks like a real downer, full of finalities and not with many exciting beginnings anymore. Yep, that's the way I see it. But these "last times" carry a lot of good weight ; I was present and appreciative. With a storehouse of memories to write about of all those countless hours "space traveling by telescope".

I have been So fortunate to have been attracted to and gained such good access to observational astronomy at all.

But there's more...

Sidewalk Astronomy with the 6" mirrored box telescope continued a few more times with the help of friends who did all the work. In San Rafael, Jon visited me and we did some brief SA downstairs at my apartment complex ; a good way to meet a few neighbors, the Moon looking good! And friend Jack visiting

from Minnesota helped take it to Terrapin Crossroads for one of my annual birthday parties — but while still fun, only seeing an unimpressive looking view of Mars that evening. Also doing this for my following Terrapin birthdays was the help of local friend Melanie! She also borrowed that telescope for a few local parties, one at the nearby Elks Club (i wasn't present, but heard it was a hit)

Visiting friend Matt Welbes with Melanie helped setup my big telescope out on my balcony one evening, but the test failed ; too much glaring light pollution in the immediate vicinity. This telescope needs darker skies — it's a more sensitive "light gathering bucket" than the more light baffle enclosed box 'scope. So I disappointingly never used the big telescope ever again. It was a fantastic workhorse of cosmic viewing for years, and I am fortunate to have had those extraordinary experiences!

9/6/19

The very last sidewalk astronomy involvement I had was my last birthday party at Terrapin. Melanie brought and operated the 'scope while I could only instruct and inform from my electric wheelchair. (i didn't even look through, since it's too tricky to align my eye to the level of the lens from the wheelchair) I was still glad — I've already spent years of satisfying astronomical observing, so that perspective made it more acceptable. It was a fun hour out front with the Moon and a decent little crowd that dug it.

"wow! I've never seen craters like this!"

"you actually made this telescope?!"

"No way! those are mountains of the Moon i'm seeing?!"

"that's fantastic! Thank you for making my night!"

Aside from those few nights of SA, that box 'scope was next to my doorway, easy to pull out on the balcony for almost anyone but me. It rarely happened, but friends Melanie and her cousin Jay had it out on Jupiter one inspired, clear night. Molly brought it out a couple of times for the Moon, being a lot of good fun! And neighbor Emilie really took to viewing the Moon ; adapting to operating a telescope so naturally that it isn't hard to imagine her getting her own someday. And possibly a few others have gained more interest after looking through the TARDIS or the Third Eye. I hope so, making it all the more worthwhile.

Those telescopes are now unused in storage, but new, interested owners will inherit them soon.

Sure, I really wish I could continue being active with observational astronomy. At least I'm writing about it now — and can!* It was a top notch passion for me, and I did it with sustained vigor for a damn good stretch as merely an amateur — for the love of it.

Next chapter I'll elaborate on the paragraph above in the afterword, *Why a book?*

* These chapters have been typed by my eyes by Tobii Dynavox eye tracking technology.

Dean Gustafson, May 2021