

# From The Sidewalk To The Stars

(tentative title in progress)

***An astronomy enthusiasts personal journey***

## PREFACE

Here I am, scanning multitudes of distant cosmic lights — star clusters, nebulas, galaxies, and planets, of varying magnitudes that are spread out visibly in a sufficiently dark and clear sky. Recognisable light structures are found, amaze, and are memorized. My instrument for access to these celestial sights is a fairly large handmade telescope, approximately 7 feet tall, with a hand ground 12.5 inch parabolic mirror. The place of viewing is from high up in the California Sierra mountains, Glacier Point, Yosemite National Park. Joining the San Francisco Amateur Astronomers club, who along with the park service, organise these summer events. We volunteer to show the visiting, interested public views through our telescopes of deep sky objects, in exchange for free camping and park entry, with all night dark sky viewing from one of the most spectacular spots in the country. *This is the life!*

Before expounding on several associated details, scientific realisations, accounts of different peak Astronomy viewing sites and people ... How did I get to this fantastic stage? First mention must be made for the legendary **John Dobson**, who got thousands of people to build their own high quality reflector telescopes, and made it possible for thousands of the general publics eyes to see astronomical visions who otherwise would mostly never had the chance —

and always free of charge. JD was my teacher and mentor — to me and many others around the world, but mainly at home base in San Francisco.

Much is already documented and written about John Dobson that can easily be found elsewhere. Here will be my own accounts of him, Sidewalk Astronomy, the SFAA, the California Academy of Sciences, and more — in detail.

A cultivated sense of wonder is how the obsession develops, and I suspect that most of us telescope travelers share similar overlapping cultural details of how we arrived here viewing far out into the universe.

My following early memory impressions seemed to have been simmering in the back of my mind all along in some subconscious and conscious form, with some occasionally emerging at the forefront as clear as a sunrise. The sense is that when a strong interest develops, it's in layers, perhaps like a hologram. In this story, it's how I got into Astronomy.

What may look like digressions, are probably not. Whatever may be missing has been forgotten, yet might be remembered another day.

First, my autobiographical origins of interest and influences that led me to explore the universe.

# **Chapter ONE - Astronomy - my influences and origins.**

## **What is that out there ? My neotenus mind gets slowly aware of the cosmos**

Starting with the earliest discovery of the big world outside of the house. It was Minneapolis in the early/mid 1960's...

Going outside through the front door of the house. The sidewalk seem to stretch infinitely; the elm trees impossibly high. The impression was that the world outside is so huge and vast.

Incrementally, distances eventually became shorter from my perspective as surrounding neighborhoods and parks were discovered. I think this sensation is universal for everyone who ever stepped out of the door as a wee tot.

From stroller to foot to bicycle, busses, cars and airplane travel, my experience of the world had a sense of relative scale forming. Then the telescope views decades later, of millions of light years distant blew that all away.

## **There's a moon in the sky, and it's called The Moon**

Soon sometime later were the first childhood moments of becoming aware of the Moon — easily the first astronomical object seen (other than the Sun), because of being so unmissable. The phenomena of its noticeable changing phases makes it a dynamic thing to be aware of, eventually learning the common knowledge of how it's shines purely from reflected sunlight on an orbiting orb of rock with no air. Another strange world, yet connected to ours. Fantasies arise in the youngsters mind : what's it like there? Fueled by science fiction and pop culture depictions in comic books,

movies TV [Star Trek for sure] and songs... And fortunately, exposure to real science! Space photos showing details unseen with the naked eye, in books, on TV, and in magazines such as National Geographic — a favorite in the family home when growing up as a wee digit in the 60's.

**1969** — history takes that giant leap with the first human visit to The Moon! I remember family making sure that I saw this unfold on the television. I recall the distorted images of the ground while approaching, the compressed microphone transmission crackling so distinctive, and images of Earth from up there. An exciting time, with probably every other kid in the country wanting to be an astronaut and go there too.

Soon it was a media splash, with NASA as a positive household name. Kids in the school neighbourhood start to show up with NASA lunchboxes and NASA patches on their jackets. One kid who lived a block away [a neighboring friend whose name is forgotten; this was second grade and he moved away the following year, after his super nice mom tragically died of cancer] truly showed nerdy enthusiasm, wearing a winter jacket of silver, corrugated stitching resembling a spacesuit and covered with NASA patches! Kids were fascinated by space travel as imaginations soared. Probably exceptionally true for the USA, now with Kennedy's space age forecast made.

Science fiction takes on wider possibilities. I obsess over time and space travel stories, not yet understanding how commensurate that both time and space actually are — with fact later proving to be as fascinating, if not moreso, than fiction.

### **Pondering bigger pictures**

I recall a winter evening conversation with neighbour friends

Bill Crumley and Tom Kalb after school dark walking home. We were talking about space travel to other worlds like Mars or as far as Pluto! All in the distant future. This gave me an enhanced sense of the scope of space exploration possibilities ahead (though the space age following was less about sending people on other planets after the last Apollo mission) I started to imagine life in far reaches of outer space, from a 7 year olds perspective. This is around the same time as the first school field trip to the planetarium in the main downtown library. Indeed a peak favorite event of the time. Transfixed! Day transformed into celestial night, all of us agape with genuine awe. Unforgettably cosmic.

### **Playing those mind games**

One particularly introverted memory is when I was around 7 or 8. In the backyard, burying myself in autumn leaves at twilight. Laying there looking up at the sky, imagining that I was in the cemetery as the ages passed hundreds of years into the future. As if I was time traveling, naturally. I'd count the passing years slowly to myself in a trance-like state, imagining worlds collapsing while I lay there dormant. What an unusual activity with an earthy mood.

I have several notable early memories, but that is one imbued with a sense of solitary consciousness; and the more I think about it, that mindset seems to have been pivotal towards my development as a future artist and seeker of phenomena with a cosmic nature. It's also kind of part goth/part sci-fi fantasy. The latter makes sense since my favorite movie and book back then was The Time Machine by HG Wells. [and no wonder I later became such a Whovian]

This, in retrospect, seemed to be a connecting of earth to sky; and of time meeting space.

Not that I had an idea of those particular concepts at that age, but of the sensation.

### **Darker skies**

Most sci-fi movies, comic books and shows were about menacing aliens, with stars as only the background and fake looking compared to the real deal. I must have discovered that real deal when at the family lake cabin near the small town of Buffalo, Minnesota. Fond memories of being allowed to stay up late to enjoy the beauty of nightfall around the firepit in summertime. After a fine campfire cooked supper, mesmerised by the shifting flames and embers, the fireflies slowly come out — and looking up — *Thousands* more stars than back in the city! Invigorating and calming, simultaneously. A celestial feast, heightening minds — and a timelessly rich sense of wonder.

[I need to write a separate memoir all around those blessed cabin years]

### **Books, illuminating books**

Full color, hardcover Time-Life science books are published. I was in 2nd grade and I really really wanted them! Especially *Early Man*, about our evolutionary roots traced by fossil discoveries, with a fantastic ancient skull on the cover. Not remembering how I found out about these books, guessing it was from an attractive mail ad for Nat Geo subscribers? My parents generously got me nearly every volume, which I spent countless hours poring over the images and statistics, serving as a form of home schooling, since I missed grade school days as much as possible. This science series covered all of the natural science's, including Astronomy. My favorites then were about *Evolution*, which always fascinated me. Later I recognised how fortunate to have such encouraging

and open minded parents, who attended Lutheran church services — irregularly — yet were not so religulous to ban science knowledge that dethrones most religious beliefs. An advantage to this budding atheist skeptic. Science was for me, while religion seems creepy and implausible.

### **When I grow up...**

I remember my childhood dream career was to be a scientist ; vaguely notioned around having an elaborate chemistry lab. So to not defined exactly what type of scientist to be, some kind of chemist would be it. In a way, that is sort of what I became as a painter as an adult. Mixing paint colours as formulas to make art!

### **Stamp collecting bonanza**

I was also a dedicated young philatelist with a stamp book filling up with colourful world stamps, during years when you could order variety packs of hundreds for only a dime, (charging more for the tempting extras they'd include as the profit catch) as advertised in comic book pages. The large Soviet space stamps were faves, brightly coloured space craft in cosmic skies. Delicious!

### **My own library**

I took over a small cubbyhole of a room upstairs at home, turning it into a library of books left by the older siblings. Including science education books from the 50's and early 60's; *Ask Mr Science* kind of stuff, and *Fun With Astronomy* titles that have star maps. I find a big hand painted scene of the solar system, looking as it was a sixth grade class project [by maybe Brian.] It covers the slanted wall well and gives me a visual representation of the planets.

## **Skylab**

1973/74, Skylab is in the news and flies overhead, calculated to be visible above Minneapolis for a few minutes. Dad and I stepped out front to see. A bright moving dot spans its way against the clear dark still starscape. It took mere moments to glide out of view, maybe one minute? I was still amazed that we saw this! In my 10 year old exaggeration, I saw a glowing insectoid-like satellite up there, but I know it was visible only as a dot. Space fantasies fuel more interest.

## **Larger than life cinema**

Also 1974 for the most mind blowing space film ever. Craig brought me to see 2001: A Space Odyssey [from 1968] in Cinerama at the Cooper theater outside of Minneapolis.

### **WOW!**

The space flick of all space flicks, by brilliant filmmaker Stanley Kubrick. Enriching the open minded viewers sense of cosmic mystique, with a decent amount of scientific plausibility by Arthur C. Clarke's sci-fi writing, and as I found out later, the science team hired by Kubrick to aid with realism to the sets in the studio. Much has been documented about this major landmark movie, so I'll just add that it was a turning point for my 11 year old mind. Larger than life cinema that raised more questions than answers — an intelligence boosting quality, in my opinion.

## **Ground Control to Doctor Strange: Dynamic pop culture takes grip**

These were also years of being obsessed with the space rock of Bowie, and the Marvel universe — collecting the best of Kirby crackle and Ditko dimensions. I really dug the cosmic *Silver Surfer* and *Doctor Strange* — and when Thor was out in Asgardian realms, all very far flung and limitless. Space



Oddity, Pink Floyd and more are playing on cassette tapes.....Again, *outer space is the place!*

### **Aurora Borealis, the icy skies at night**

Winter of 1976 I was in Alaska with brother Gary, exposed to humongous nature comparison to fairly flat-scape Minnesota. Northern lights astonishing above tremendous mountain ranges. No light pollution allows for starrier skies. Gary has a few Astronomy magazines and is interested in articles on building reflector telescopes. Imagine that!

### **The Red Planet**

The *Viking* landing on Mars was the exciting news of '76! I followed a newspaper article lead that if I write to NASA requesting images of the Martian landscape, they would send them — and sure enough, they did! Printed on glossy card stock. One in color, I had on my bedroom wall for years — it's a rusty reddish orange land of arid rock. Another local world explored, this time purely by precision controlled technology.

*We're going further!*

### **That's no Moon**

*Star Wars* in 1977 was a different kind of game changer. More accessible for mainstream popularity, action in an understandable storyline, and the most refreshing viewing of the time. Other worlds across galaxies were reached by hyperspace space flight technology, opening the imagination to what the heck is out there?

My sister Jill brought me to see it on memorial day weekend on only it's third evening after release. She went with friends the previous night, and her excitement was palpable as she

raved that I must see this! Naturally I and most of my generation were totally swept away! and went back around a dozen times, overlapping with 1978's *Close Encounters of the Third Kind*! Again brought by enthusiastic Jill, this unique UFO movie really got me looking up during my Sunday morning paper route in the wee hours, and dark. My young imagination visualising the mother ship rising above the store down the hill.

Starting to really notice the phenomena of earthshine on a first quarter waxing Moon made it resemble the infamous *Death Star* from *Star Wars* that winter. I would increasingly look at the stars above the quiet neighborhood streets, and not from any movie influences, but because it's so...

*Fascinating.*

### **Golden LP's in space**

Around this time, the fascinating space news was the launch of the deep space probe *Voyager*. Like a time capsule for potential extraterrestrial intelligence to find and become exposed to Earth's culture, represented in different media forms. I am particularly bemused by the inclusion of sound recorded on gold lp records that are setup to play upon opening the probe itself! A treat to contemplate for this budding record collector!

### **Watch the skies**

I didn't know the constellations nor identify any specific stars or track our neighbouring planets, but began to notice formations. An early configuration was a section of what looked like a square with a diagonal line from a lower corner. A dipper of sorts? I didn't know yet, but this was the central region of the big constellation of Orion. Until I learned this years later, my junior high brain made up different

constellations ; that went from the medium stewpot, to the great refrigerator, to a trolley bus! Regardless of constellations — accurate to common knowledge or not — that section of the winter sky became a familiar and comforting sight every year.

For awhile I thought that the Plaeides star cluster was the little dipper! It would be a few years before becoming curious enough to do my homework. Back then I was a relatively lazy teenager. The important factor being with a slowly developing personal connection to the stars.

### **Everything under the Sun is in tune, when the Sun is eclipsed by the Moon**

In 1979, a few events in space occur. February 26, Minneapolis was in the path of a partial solar eclipse! It was a school day at Washburn High, and with my friend Tom Berg — a fellow Pink Floyd freak — set out during lunch hour to view by using light shone on the walls and sidewalk through pinholes in paper. I think one of our teachers instructed class of this safe technique of never looking at the blinding sun during only a partial eclipse.

Out on the front grounds there were small groups of viewing students and teachers, not many for the school population, but we didn't care. Shadows had already started twisting. A puncture with a pencil in a page casts a crescent on a patch of wall! Starting to feel the sunlight dim strangely, as if wearing sunglasses. We muse about Pink Floyd's *The Dark Side of the Moon*, further mythologising the event for us Floyd freaks.

Someone out front of the main door shared a direct view through a welders glass. It shows as a dark orange crescent, during peak eclipse. [that was probably my actual first encounter with Sidewalk Astronomy, out there viewing the

eclipse, aided by possibly a senior, who I didn't know.]

That was a trip, now I can't wait to see a total eclipse! When is the next one in these parts?

Sometime in the next century.

*Yikes!* Guess there needs to be travel plans.

Heading back to class while the Moon shadow waned, I vividly recall the grids that are over the big stairwell windows, casting hundreds of skewed little rectangular shapes on the floor. Fascinating, and so rare.

I caught more partial solar eclipses years afterwards, including the great total of 1991! [more about this later.]

That afternoon in early '79 was pivotal, and I heard later of friends and acquaintances who made the trip north into Canada to experience totality! By all accounts a hugely superior experience over a mere partial. I was envious.

### **Skylab again**

More space news of '79 : *Skylab is going to fall to Earth!*

Some of the predictions could be a bit alarmist — most likely from unscientific journalists. This influences our imaginative discussions amongst classmates, speculating it crashing through our roofs and exploding neighbourhoods! Our real wish was for just a bolt to land in our backyards.

Remember, I saw Skylab fly over our house just a few years back, feeling like ages to young time perceptions.

That July, Skylab fell safely in the Indian ocean without a hitch, and became largely forgotten. NASA's first manned space station, active in 1973-74.

### **The Stone Age**

As 1979 advanced, so did my pot use. Getting stoned with

friends in the forest became a habitual ritual.

So what's my point about this hedonistic party teen involvement?

We liked to space out — accentuating how *cosmic* anything cool is, listening to space rock, and when out in a field under a clear night sky would look up in high wonder. There it is, that tiny dipper star cluster! I still didn't know what it is (the Plaeides) yet contemplation of distance that far away was... Cosmic, man.

Not very intellectual, but wonder was present.

### **Thank you Carl Sagan ...and Douglas Adams**

Into the early 1980's, out of "high" school, leaving the stoned age, on the eve of college, something marvellous appears on PBS. The science series *Cosmos*, hosted by the outspoken scientist narrator Carl Sagan. I was intoxicated by the knowledge presented, boosting my interest in physics and Astronomy by "quantum leaps." Soon I am reading science books on challenging subjects as quantum physics, the history of physics, space-time, geometry, and Astronomy — merely as a base layman, at best understanding only portions. *The Cosmic Code* by Heinz Pagels stood out for getting me to think about quantum particles...and for fiction *The Hitchhikers Guide to the Galaxy* for being so,...well, Douglas Adams! [this includes watching *Doctor Who*; I became a lifelong obsessive.]

I grew to love the Minneapolis public library downtown, even returning to be transfixed by its fabulous planetarium!

This leads to my next chapter, as I entered my 20's and start to gain familiarity and bits of knowledge of the night sky.

Dean Gustafson, March 2021