

THE PATRIARCH OF AMATEUR ASTRONOMY

**A short biography of John Dobson
Compiled by Peggy Walker**

John Lowry Dobson has been called the "Pied Piper of Astronomy," the "Star Monk," and the "Mac Guyver of Astronomy." He is arguably one of the most influential personalities in amateur astronomy in the last 50 years. He has almost single-handedly revolutionized backyard astronomy by bringing it out to the street, making it accessible for anyone who has ever looked up in wonder, and asked "Why?" He challenged telescope manufacturers as more and more amateur astronomers were making and enjoying their own larger homemade aperture telescopes. John developed the process of mirror grinding to the point it was an art form that everyone could do. He challenged amateur astronomers to rethink their hobby by actually including the public in the observing experience by going to public places with their telescopes.



**John Lowry Dobson
Sep 14, 1915 - Jan 15, 2014**

"Someone once asked me, 'Are you an astronomer, or are you a comic?', and I answered, 'This is a funny Universe and I'm not responsible.'"

"But when that man (Swami Ashokanandra) opened his mouth, I knew I had made a mistake. I had prematurely presumed that the notion of God was a mythological thing. But in listening to Swami, I knew instantly that I had made a mistake. By 1940, I knew I wanted to join the monastery. I went to Swami for instruction, and he sent me back to the university. By the time I entered the Vedanta monastery in 1944, I knew that the universe was primarily made of hydrogen and that the principal energy in the universe was gravitational collapse. Gravity was the force that caused the hydrogen to fall together and that's what made the stars and galaxies, but I wanted to make a telescope to watch it happen."

Having graduated from the university as a chemist, he wanted to see for himself what the Universe looked like, so John built his first telescope in 1956 from recycled optics. It was a two inch refractor that had a coated achromatic lens with a 14 inch focal length with 37 power. John's first home made telescope was simply made from a lens he got in a junk store

and an eyepiece from an old pair of Zeiss binoculars. Once completed, when John set it up for "first light" he saw the rings of Saturn.

BIRTH OF AMATEUR TELESCOPE MAKING

"While I was in the monastery in San Francisco, I became intense about actually seeing what was out there. I wanted to see it happening. My friend said that I could grind my own glass, and I said, 'You're nuts.' I can't remember the exact dates when we did this, but it was quite a few years after entering the monastery in 1944. We began making our first telescope using twelve inch porthole glass. We ground it against another 12 inch porthole glass that we found in a salvage shop at the foot of Filbert Street in San Francisco. The grinding of the glass required the use of carborundum which could be purchased readily in San Francisco."

"When I first saw the third quarter moon through this twelve inch telescope, I thought, 'My God, it looks like I'm coming in for a landing.' And I thought, 'Lordy, Lordy, everyone has got to see this!' And that is when the idea of public service sidewalk astronomy got into my head. This was about 1956 or 1957."

John was transferred to the Vedanta Monastery in Sacramento in 1958 and started getting seriously involved in telescope making. The first telescope he made at Sacramento was a 5-inch reflector with a ground glass from the bottom a gallon glass jar. It was John's greatest delight to share the beautiful things he saw through the telescopes with others. One of his friends was so amazed by what he saw through the 5-inch telescope, that he told John, "You've got to make something bigger!," and donated some salvaged portholes.

So the portholes were smuggled into the monastery in fertilizer boxes and stored in the gardening shed since John was a gardener and in the shed daily. John screened his own sand for grinding and made his own rouge or grit, out of garden supplies like ferrous sulfate and oxalic acid. Since grinding mirrors is noisy, John ground the glass with the grit in large buckets of water to deaden the sound. Since monks traditionally possess no money to speak of, he had to find a way to mount the mirrors using scrap materials that could be gathered up at no cost. So his telescopes were made from porthole glass, discarded hose reels, lumber core cut-outs from school

house doors, and scrap wood. All of this contraband and telescope making had to be done without attracting the attention of the monastery brothers. Many felt that his telescope making and sneaking into the neighborhoods were not an appropriate pursuit for a monk or the best use of his time.

John was asked once where he learned or was taught mirror grinding. He said,

"It came from a small gray booklet from a manufacturer that sold glass and grit. The book was actually from the late 30's I believe. When grinding mirrors, when you start the coarse grinding, it is like a caveman. The smooth grit has you in the suburbs and the fine polishing is like the city."

The "Dobsonian" telescope in reality is simply a Newtonian telescope with a mount John designed for better maneuvering and viewing. They are now called alt-az mounts, which means it moves up and down, (vertical or altitude) and left and right (horizontally or azimuth).

"One time at Crater Lake, we had our telescopes set up at the Rim Village area. A man came up to me and said, 'These look like Dobsonians.' I said, 'Yes, and I'm Dobson.' The man replied as he shook my hand, 'It's not often you get to shake hands with a Newton!'"

John had commented about telescope making by saying, *'It takes a long time to build a Mercedes and it will only get you to the Grand Canyon. You can build a telescope in about a week and it will get you to the Moon. You can build a telescope in about a week.'*

The desire that drove John to make more and larger telescopes put him in constant peril of expulsion by monastic authorities. But it was easily outweighed in John's mind by the opportunity to show people the Universe first-hand. Once his decision was made, John put discarded wagon wheels on his telescopes to make them easy to transport into the residential neighborhoods surrounding the monastery. As more kids and adults were delighted with the views of the night sky requests were made for John to help them make their own telescopes. He realized that this would make his life more difficult because his AWOL hours from the monastery would increase. Nevertheless, John continued to expand his activities which eventually led to John being asked to leave the monastery in the Spring of 1967, after 23 years as a monk. Ironically, the "last straw" event was a mistake, they thought John was ab-

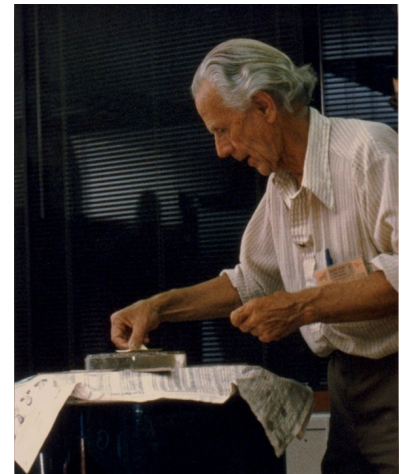
sent with his telescope but in fact he was weeding the lawn out side the wall, out of sight. He was not expelled because the monks were against his telescope making, but because it was perceived these activities took time away from his monastic duties.

" I went to the Vedanta monastery in Sacramento in 1958. The idea that others should have the opportunity to see what I could through my telescope is the reason that as soon as I was expelled from the monastery in 1967, we immediately began work to organize the Sidewalk Astronomers in 1968."

So began John's long commitment to public-service in astronomy.

SIDEWALK ASTRONOMERS

With no "profession" and an overwhelming desire to show the night sky, John decided to dedicate the rest of his life to public service astronomy so he hitchhiked back home to San Francisco. Because John had many friends, they helped to keep him fed, clothed, and sheltered as he pursued his new endeavor. He retrieved some of his telescopes from Sacramento and started to regularly set them up at the corner of Broderick and Jackson streets in San Francisco on every clear night. Thousands of people looked through the telescopes while John talked to them in detail about what they were seeing.



"We are a public service organization. What we do is get telescopes out for other people. We almost never set up a telescope to look through it ourselves, but when we run the telescopes for the public, we get to see what's up there. We usually locate objects in the night sky without aid of a guide scope (finder scope), just sighting the object off of the rocker box and pull the tube around." But for the 24-incher, we have a guide scope. Even then, I would simply climb the ladder and pull the telescope around. I didn't need a guide scope to find things since I knew where they were."

One of the visitors that came to look through the scope in San Francisco suggested that John consider teaching telescope making at the Jewish Community Center. So he checked into the center and his classes were added to the schedule. John was

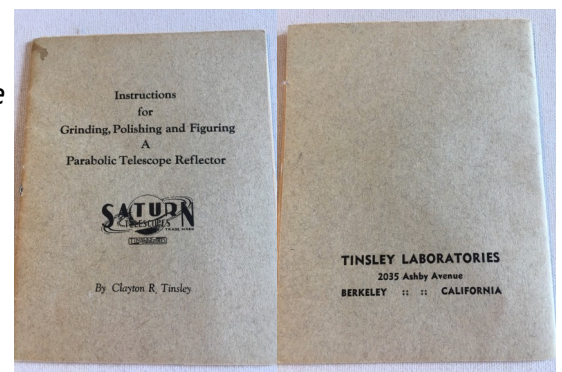
able to support himself by teaching telescope making and astronomy classes for adults between the Jewish Community Center and at the California Academy of Sciences. John was once asked if he had a degree or formal training in astronomy, he replied,

"No, I have not had any formal course in astronomy. My knowledge of astronomy comes through personal study, along with basic training in chemistry and physics. An innate sense of curiosity also helps. However, when it comes to making telescopes from junk, I think I can hold my own."

In 1968, some of the kids who had made telescopes under John's guidance, joined him in setting up scopes at the corners of Jackson and Broderick. This is truly what birthed the public-service organization named the San Francisco Sidewalk Astronomers. Showing deep sky objects to large numbers of people through very large telescopes, led the growing band of Sidewalk Astronomers to National Parks and Monuments, Native American reservations, and out of the country to places where John said, *"dark skies and the public collide."* As the organization continued to grow, larger telescopes were made and taken out to the streets. By 1970, the Sidewalk Astronomers had a 24-inch telescope which was taken to public sites.

"We had a small German refractor that we used as a guide scope at first, but it got stolen. I once managed to talk a military surplus store into donating a small 90 degree elbow telescope (amici prism) so that I could use this image device as a guide scope on the 24-incher. I remember asking the store clerk, who seemed very perplexed that I would request something that was to be sold. I looked past him, though, and addressed his boss. The boss told his clerk to "take John Dobson into the back room and let him have his choice!" The clerk could not make such a decision by himself, but had to get approval from his boss. That's just the way things work, you know. By the way, in World War II, the amici prisms used for elbow telescopes were made by amateurs. The professionals couldn't do the job."

So now these large scopes needed a way to get to the public so the San Francisco Sidewalk Astronomers purchased a 40 passenger school bus that they called Starship Centaurus A. This was how the scopes and crew



The booklet John used to learn how to grind mirrors

travelled it to the national parks, logging 30,000 miles. Afterwards the organization received a grant from the Mary Skaggs Foundation for a motor home in 1980s. Although it did not have as much storage as the bus, it was well able to get the crew to the parks without breaking down.

"When I showed the first quarter moon through the telescope to a lady in San Francisco in the daytime she said, 'I can see the blue sky right through it.'" And a lady in Texas said, "We always have a full moon in Texas." Once when I showed the first quarter moon to a man in San Francisco, he looked for quite a while and then said, "it's in a bad need of repairs."



© STEFAN SEIP



© STEFAN SEIP



JOHN TURNS 95 YEARS OLD

In 2010, John celebrated his 95th birthday with the Sidewalk Astronomers and the Los Angeles Astronomical Society, who put together a bash and star party in his honor at the Griffith Observatory grounds. John gave a talk at the Leonard Nimoy theatre, which was moderated by Griffith's staff. He talked about how the telescope manufacturers rejected his new mount for a Newtonian telescope. Even referred to a letter from Sky and Telescope Magazine. John talked about his design and that the real Dsonian telescope was John's sun scope design made from a piece of a two way mirror, welder's glass and a ground glass at the bottom. He talked about how a non-aluminized mirror was perfect because the sun is so bright it does not need a mirror surface and that a ground glass at the bottom allowed for 85% of the light to pass out the end of the tube.



John enjoyed visiting with his long time friend and grinding companion Bob Alborzian of the Sidewalk Astronomers. There were solar scopes set up on the lawn and John shared how they worked and how he came to engineer this scope for solar viewing.

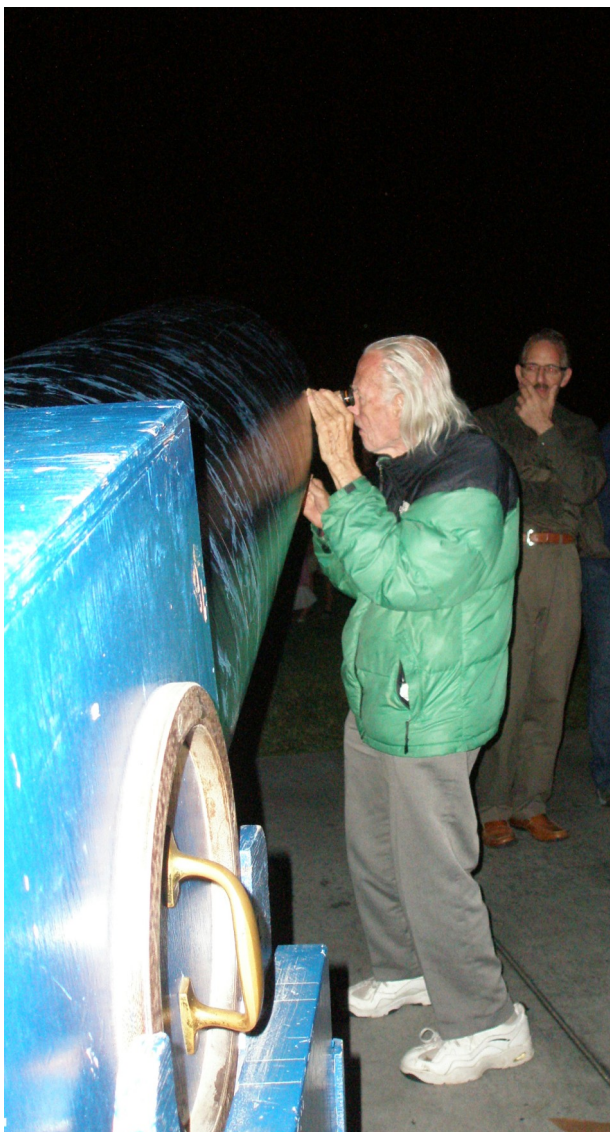


The party went into the night and more amateurs set up scopes on the lawn for the guests. The Sidewalk Astronomers had John's big blue scope he made so many years ago in San Francisco. John did enjoy looking through his scope several times that evening as different objects came up. As the night progressed John welcomed the public to do the same. And would talk about him making the scope



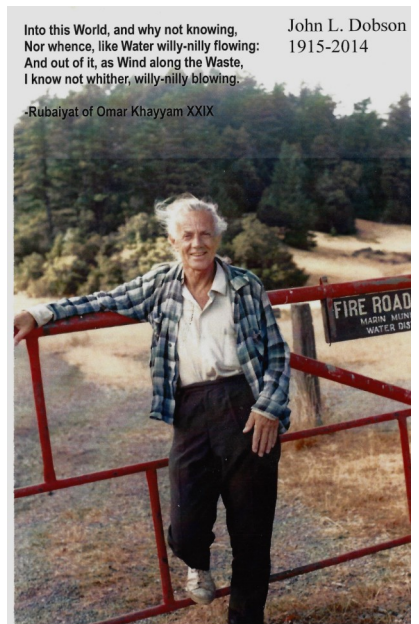
to those waiting to take a peek.

It was a memorable night.



YOU GET TO DECIDE THE LEGACY YOU LEAVE

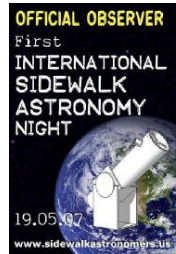
On January 15, 2014, John passed away at Saint Joseph's Hospital in Burbank, California at the age of 98 from a brief illness. At the time of his passing John was surrounded by his brothers from the Vedanta Center who prayed over him. Also in attendance were several of his friends from various astronomy communities.



Into this World, and why not knowing,
Nor whence, like Water willy-nilly flowing:
And out of it, as Wind along the Waste,
I know not whither, willy-nilly blowing.

John L. Dobson
1915-2014

-Rubaiyat of Omar Khayyam XXIX

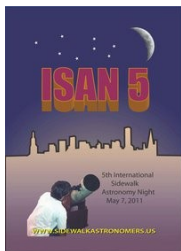
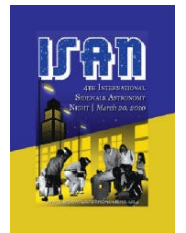


In 2005, the San Francisco Sidewalk Astronomers declared September 14th as John Dobson Day. John's legacy continued in 2007, when a Sidewalk Astronomer

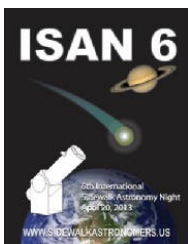
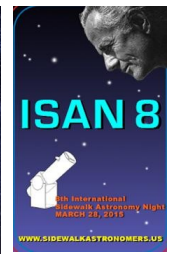
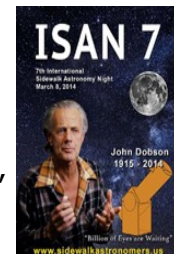
from Chile mentioned to Donna Smith that we should hold an event celebrating John world-wide. So they chose to celebrate John and his vision with a night called International Sidewalk Astronomy Night or ISAN. Usually held in Spring or Fall, all the amateur astronomers who love outreach would be encouraged to take their scopes out to be "where the people are." In particular, amateur astronomers who made their own telescopes were encouraged to show them off in their communities.



The reception was overwhelming and many communities around the world celebrated it in their unique and cultural styles. Some had garlanded elephants in a procession, others had camels carrying scopes out to their star party locations, while many in the cities had large banners and displays and party – like celebrations. The enormity could truly not be quantified as to actual numbers of countries and cities that participated world wide.



When all is said and done, amateur astronomers from all four corners of the globe; Africa, Asia, Argentina, Australia, Austria, Bangladesh, Bolivia, Brazil, Canada, Chile, China, (Beijing, Caschen, Hanjun, Huyunti, Liuruizhe, Suhli, Xekai, Xueming), Colombia, Costa Rica, Cot d'Ivoire, Ecuador,



Egypt, Germany, Greece, Guatemala, Hungary, India, Indonesia, Iran, Iraq, Ireland, Italy, Japan, Malaysia, Mexico, Nepal, New Zealand, Nicaragua, Nigeria, Pakistan, Paraguay, Peru, Philippines, Romania, Russia, Saudi Arabia, Sri Lanka, Sweden, Syria, Tunisia, Turkey, Uganda, United Arab Emirates, United States, Uruguay, Venezuela, Singapore, Ukraine and United Kingdom celebrate John and his life of public service to astronomy and the art of amateur telescope making.

"Do not go where the path may lead, go instead where there is no path and leave a trail."

Ralph Waldo Emerson

John as the Mac Guyver of Astronomy was a great study in: determination - he blasted through roadblocks, was resourceful - had a plan B and C, he thought unconventionally - he repurpose materials, innovator - of an easy to make and use solar telescope and he solved the problem of a non-functional telescope mount.



John as the Pied Piper of Astronomy was a great study because: he inspired the masses, equipped others for ATM success, led with a pay it forward mentality, generously shared experiences, resources and information, created star parties, related to the common man, made telescope making easy to understand - "for dummies" , included everybody and challenged amateur astronomers conduct outreach and spearheaded a movement.

John as a Star Monk showed us how: to love of the cosmos as a spiritual experience, to understand our place in the Universe, to live simply without the pressures and stress of society at large, to respect the night sky as the resource that it is, to be a good steward the Earth and

night sky, to trust the cosmos to take care of us, to respect people of all kinds, to never take life for granted, or too seriously that you forget the important things.



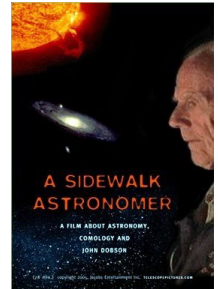
Ultimately John demonstrated by his life that - **life is always looking up.**

For information on John Dobson, telescope making, interviews, articles on John or written by John, and Sidewalk Astronomers calendar of events - please go to the Sidewalk Astronomers website at: sidewalkastronomers.us.

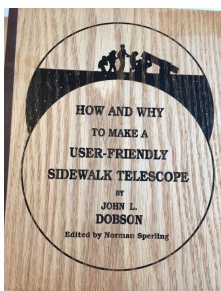
JOHN DOBSON IN THE MEDIA

In addition to many articles in print from various papers and magazines through the years, John was featured in two documentaries. In the first, "Universe - The Cosmology Quest", John appears along with Sir Fred Hoyle, Dr. Halton C. Arp, Dr. Margaret Burbidge, Dr. Geoffrey Burbidge, Dr. Jayant Narlikar and a host of other astronomers, cosmologist, and philosophers questioning the Big Bang Cosmology.

The second film, released in the summer of 2005, "A Sidewalk Astronomer" is an unscripted profile on John in tribute to his contribution to amateur astronomy. It provides a unique insight into the unique individual known as John Dobson. In addition, John was the only amateur astronomer highlighted in the PBS series, *The Astronomers*, and appeared twice on *The Tonight Show* *Starring Johnny Carson*. The Tonight Show appearances can be found at sidewalkastronomers.us website.

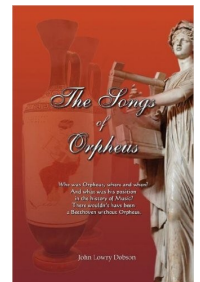


John wrote two booklets, *Advaita Vedanta and Modern Science* which he self published in 1979 and reprinted in 1983. It was slightly revamped and retitled, "Beyond Space & Time - Is there an uncaused cause behind the Deep Field?" in 2004. John took this information a bit further and gave it a more fiction-like theme and published it in 2008 as, "The Moon is New," a novel. John also penned, "Astronomy for Children Under 80," which explains his thoughts and philosophical take on astronomy.



In addition, John collaborated with Norman Sperling and together wrote a book with a wooden cover called, "How and Why to Make a User-Friendly Sidewalk Telescope" in 1991. Inside there is a brief biography with photos from the national park events and his travels and last half of the book is the step by step instructions on how to make a home made telescope.

In 2008 John published "The Songs of Orpheus," which talks about the ancient histories of Greece, Egypt, India, Rome, and Asia Minor and their interconnections.



John was even referenced in a book by, Timothy Ferris, called, *Seeing in the Dark*, where Timothy states, "The amateur astronomy revolution was incited by three technological innovations - the Dobsonian telescope, CCD light-sensing devices, and the Internet.