



Leasowe Lighthouse By Dave Owen

I arrived with Geoff Regan, his 12” and my 16” Dobsonian reflectors at about 19:10. Graham and Pam Roberts were first to arrive at 18:00, followed, half an hour later, by Dave Thomson. Dave Thomson soon had the TROK 30 Dobsonian assembled and, although there were a fair amount of clouds, we were hopeful of getting some decent breaks to allow us to see the waxing crescent Moon and the planet Saturn.

While Geoff did 5 slide shows in the lighthouse for about 150 people, I was able to enlist the help of a few visitors to enable me, Jim Lawler and Lew Brown to assemble the 16 inch. The wind was quite blustery and the 16 was kicked about 10 to 20 degrees at times as its cloth tube cover acted as a sail. However, some very good views of Saturn, the Moon and the Orion Nebula, M42, were obtained with my 25mm eyepiece. I was too busy to look for some higher power eyepieces and didn’t even have time to look through the TROK 30 scope.

I was quite pleased with the performance of my 3” f4 reflector, using a 15x eyepiece, that gave good views of the Moon, Pleiades and Comet Macholz 2004 Q2, in Perseus. Chris Banks was just outside the 16” turning circle with his 8.5” reflector and Jim Stacey was kept busy with his 5” Maksutov scope. The only other telescope that I can recall being used was Dave Bentley’s 85mm refractor. *Continued on page 17*



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Ricardo Gonzalez

While traveling in Chile, John and I were fortunate to meet Ricardo Gonzalez. Ricardo was well known to the amateurs attending the conference in Coyhaique as one of the most knowledgeable ATM enthusiast in Chile.

It was cloudy and rainy for most of our trip, but we did try some sidewalk astronomy in Vicuna, with a 16” dob that “built by Ricardo Gonzalez”. Whenever any of the members of the local club mentioned the telescope, it was always followed by that phrase ...“built by Ricardo Gonzales”.

On our last night in Vicuna—and in Chile—the sky finally cooperated. Even though Ricardo wasn’t with us, that 16” dob he built at the Mamallucca Observatory was and we took advantage of his skills. They have other telescopes at the observatory, but John and I chose to spend our time with the dob. That is the only time I’ve observed in the Southern Hemisphere (it’s amazing) and I will always think of Ricardo when I remember the objects we saw.

We were greatly saddened to hear he passed away on January 4, 2005 and our hearts and thoughts are with his family. We meet many telescope makers, but few have the dedication to public service astronomy that Ricardo demonstrated.



Objects pictured above from right: 47 Tucane, Small Magellanic Cloud, Tarantula Nebula, NGC 253, M83, and M13 all photos from Astronomy Picture of the Day website

Conference in Chile

“As you probably noticed, we’ve aborted our take off and are returning to the gate. There seems to be a problem with one of the engines.” That’s how our trip to Chile started. We spent the next 4 hours worrying about missing our connecting flight and how that would affect the rest of the travel plans for us and others who were joining us at various stages on our way to Coyhaique, Chile for the “Annual Amateurs Astronomy Congress, Chile 2004”.

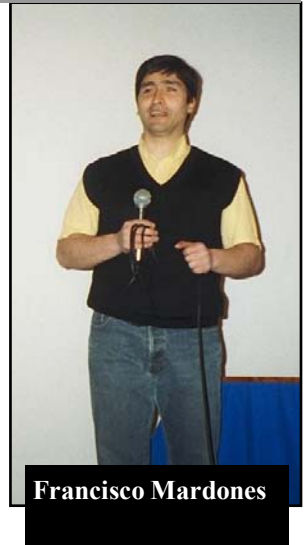
Luckily, they held the plane for us and we joined David Levy and Carolyn Shoemaker as planned for the flight to Chile. Arriving in Santiago, we were met by Francisco Mardones (*THE* organizer) and several other amateur astronomers and telescope makers from northern Chile who joined us for the next flight to Balmaceda and the bus ride to Coyhaique.

The bus ride took us through a forested area that has to be the perfect example of the best plans gone terribly wrong. About 100 years ago, a fire was started to clear some of the forest and it got out of control and burned for 30 years. Okay, I may have that wrong (there was a language problem) and its 3 years, but I don’t think so. For miles you could see the toppled trees, it reminded me of pictures of Tunguska. Still, years of recovery had turned everything green, and it was really beautiful with a lot of interesting geography.

At dinner our first evening, we were pleased to meet Ricardo Gonzalez and Jose Maria Palandri. Ricardo was a surprise, we didn’t know we’d be meeting someone who had built or worked on over 400 mirrors for telescopes. Jose, I was expecting. After receiving his article for our last newsletter, we were anxious to meet him. Also, I finally met Oscar Saa and his wife Minnelli (it was Oscar who originally contacted me about John attending the conference a year earlier). We had a great time getting to know Ricardo Leiva, Lucia Ibarra, and several others. *Continued on page 11*



John and Claudio



Francisco Mardones

Eclipse Star Party in Canada by Marilyn Roberts

Eric Moon and Marilyn Roberts hosted a star party/eclipse party behind in the alley behind Selkirk College in Kaslo, BC, Canada October 27, 2004.



The alley is mostly unlit and runs east-west, so we had a perfect view as the eclipsing moon rose. Since we both teach from 6:30 till 9:30 PM, the timing was perfect, and we had two 10" scopes set up so waiting time was short.

We also got a good look at the Ring, Dumbbell, Albireo, Andromeda, Pleiades, etc. We took lots of digital photos too, and with our assistance, so did several students with digital cameras and tripods. They were really excited and learned a lot about our Universe.



A Chance Encounter With John Dobson by Owen Wilson

It was a beautifully clear day in the San Francisco Bay Area today. My wife and I parted Livermore, CA then drove to San Leandro, CA where we checked into a motel at the Marina and had lunch overlooking the San Francisco Bay. We decided to go into San Francisco using BART, then transfer to the 'N' car to take us to Stanyan St. to begin our walk to the ocean beach via the entire Golden Gate Park.

This is where I grew up as a child and teenager. The memories were vivid. This is where I was first shown Jupiter among the light polluted skies of San Francisco, and this is where I attended my first planetarium programs at the Morrison Planetarium.

We hiked through the entire 3.1 miles of the park from Stanyan St. to ocean beach, with stops by Stow Lake, the Old Stadium, and the herd of American Bison. Then, at the beach we turned north and walked uphill to the renovated Cliff House where we had Crab Louie for dinner and watched the sun set in the west with views of the Farallon Is and large waves crashing on Seal Rocks.

After dinner, we decided to hike some more. We went south along the Great Highway which parallels the beach, past the south western corner of the Golden Gate Park, to Judah Street to catch the 'N' car at the end of it's line. This was where we intended to ride back to the downtown area of San Francisco to transfer again to BART and return to our hotel in San Leandro.

Of course, I remembered that John Dobson lived on Judah Street, but it did not cross my mind that he'd be in town, nor did it occur to me that I might just happen to run into him on the street.

We boarded the 'N' car at the end of the line at Judah and the beach and began our journey east. Then, as the 'N' car reached 9th and Irving, my wife, Ortrud, said, "Look, there are telescopes out on the sidewalk." I looked quickly and saw an 18 inch truss tube Obsession pointed towards the moon with a crowd gathered.

"We just have to get out and go look," I said. The street car proceeded two blocks before we could get off. I was so excited that I jogged back to the intersection of 10th and Irvine to find the telescope. But, as I got there, I found that there was not one, but two telescopes on opposite sides of the street corner. One was the 18" Obsession, and the other, nearest me, was "Tumbleweed", JD's 10" personal telescope. *Continued on page 17*

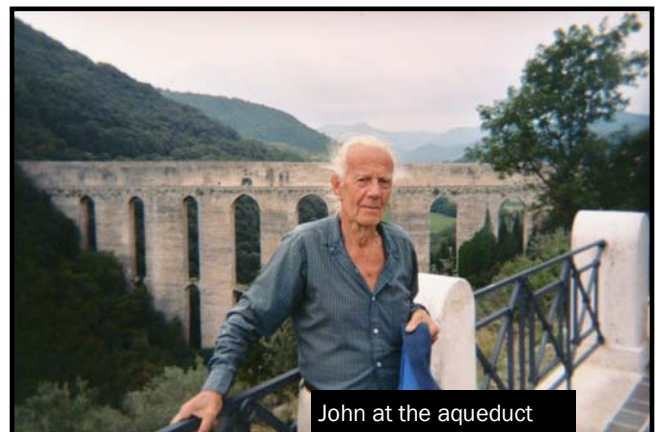
Travels in Umbria

During the planning for the film screening of his film "UNIVERSE – The Cosmology Quest", Randall Meyers was also helping to organize the Gubbio Astronomy Week and the [Astronomia Digitale Cosmology Conference](#). He'd asked if John and I would be able to attend, and I knew JD could make it, but I didn't think I'd have time because of a trip to Chile we were going to make within a few weeks of these conferences.

When Randall arrived from Italy for the screening, he brought me a book filled with photos of Umbria. During lunch, when we were supposed to be going over all the last minute details, I kept asking questions like, "That huge aqueduct on page 18, is that near your house?" Can we go there?" and a few minutes later, "What about those villages on pages 23 and 24, how far is that?" After being assured the aqueduct was within walking distance (it's not) and that I would have plenty of time to wander around (I did), I knew I was going.

We started our visit with a couple of days at Randall's house in the country near Spoleto. We were both happy – John because the neighbor had chickens, so he got fresh eggs and me because we went into Spoleto to see the aqueduct (13th century, 800 feet high or something, completely amazing), but I don't think John was as excited as I was, as you can tell from the photo. Between picking apples in Randall's orchard and walking through the narrow streets of Spoleto, it was a relaxing weekend.

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Updates from Russia by Sergey Karpov

Bruce Woodfield from the Palmerston Astronomical Society in New Zealand visited our club recently, it was his third visit to Krasnoyarsk. The meeting was very useful, informative and allowed our students to feel a part of the world. After this several students suggested to prepare astronomical communications based on big articles from "Astronomy" without my pressing.

Our annual New Year's Party for the club will be the last special event for 3 of our students, Polina, Teresa, and Alexander. All have been with the club for 4-5 years. They will only be with the club for a few more months before they graduate. Life will show what they've learned and how intensively they can work. They are among our best students.

Polina recently won the competition of scientific papers for high secondary school students and will go to Moscow with her presentation. Moreover she along with other 20 students, was selected by their achievements in studies (only excellent grades) to be received by the governor of the Krasnoyarsk territory and she received a letter of gratitude from him personally. We are all very proud. How fast time is flying—we seem to be always working on new projects. I am thinking of new things to do in 2005—projects we have never undertaken before. 2004 was especially successful for those alumni of the Club who related their lives with work in science: 3 of them defended a PhD thesis in physics and our alumnus of 1991, Dr. Kirill Shaihudtinov was elected a scientific secretary of the Institute of Physics (Russian Academy of Science).



Otterspool Sidewalk Event by Dave Owen, Liverpool Sidewalk Astronomers



After watching mostly blue skies all day we were quite hopeful that this event might produce some clear skies that would enable us to try out Geoff Regan's newly built 12 inch f5.5 Dobsonian. Me and Geoff arrived at about 19:00 to find that Graham Roberts and his sister Pam had already arrived. Jim Stacey arrived at about this time and he decided to set up his 8 inch GoTo reflector next to Geoff's 12 inch Dobsonian.

The two Liverpool Parks Rangers had already opened the Visitors Centre and were able to supply hot tea and cold biscuits, to supplement our own grub/hot drinks. Lew Brown and John Simcock arrived at about 20:00 and set up a 4.5 inch reflector and a 90mm ETX telescope respectively. Geoff had also brought along his 4.5 inch f4 "Bowling Ball" telescope, which also saw action in last week's Sidewalk Event at Ainsdale.

From about 20:00 to 20:25 and again from about 21:05 until 21:25 I did two talks inside the Visitors Centre. The audience for the second talk was slightly smaller than for the first. Was this because people wanted to enjoy more time with the telescopes? or had I been a less than engrossing speaker first time around?

Despite quite a large amount of light pollution, we were only about 20 feet from the front window of the Otterpool Pub, we had good views, with the 12 inch, of M57, M27, M13, M31, M32 and probably several other objects that I missed seeing as I entertained the public indoors. The Rangers estimated that the total number of visitors, including LAS members, was about 50.

We finally left at about 22:00, but it was such a good night that several of us lingered at the Pex Hill Observatory until about 03:30, mostly using Geoff's 12 inch Dobsonian. In these darker skies it performed much better than at Otterspool; where, amongst other difficulties, we found it almost impossible to retain good dark adaption for our eyes.

Photos taken by Jim Stacey - more at <http://www.angelfire.com/pokemon2/pirsig/ot041008.html>



News from Brazil by Anthony Carlos da Silva

I've just taken a look at your pictures in Krasnoyarsk and I thought they were great! I hope one day I'll meet you all personally. Besides, Helga speaks so well of JD! He has no idea how I admire him. Tell Jane that I read her article in *Sky & Telescope* and found it fantastic!

Our club has been so active in the last few months that sometimes I think it's too much. When we started, we agreed that we should have activities twice a month, but in the second semester we've been having almost always three. Anyway, this has turned out to be less of a problem than we thought it would be because thank God the club is growing. Some very active members have joined us in the past few months, so we've been able to have a reasonable number of participants in almost every event.

As I probably told you, our planetarium was closed down a couple of years ago because the building desperately needs renovation. However, there's still the Municipal School of Astrophysics, which is connected to it and offers courses. Actually, I've been taking them for 3 years now.



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Making a Mirror- Part 2 by Jeffrey Newsome

Rain. Damn Rain! I should be happy since I need the stuff to survive and it's been in short supply lately, but I've just traveled about 1000 miles to sunny Southern California to learn something about mirror making, and well, quite frankly, I have. I've learned that foul weather inhibits the process of mirror making by blocking out the sun's rays, which are used to help determine the focal length of the mirror during the grinding process. By wetting the rough glass and then obtaining the smallest, sharpest reflection one can of the sun on a wall or a piece of paper held by a friend, we can measure that distance to find our focal length, the distance from the primary mirror to the eyepiece in our focuser. Once we've worked all the way down to final polish on the glass, we can then get a more precise measurement, perhaps using the reflection off of a flashlight, to tell us just how long we should make our sonotube, which will house the optics.

My particular piece of port-hole glass (round window glass salvaged from a boat) measured 14.5 inches in diameter by one inch thick. Originally, for reasons not clearly understood by myself at the time, I was shooting for an F/6 focal ratio. I was looking for a ratio between, what I perceived at the time, to be a sound choice between a "Deep Sky" observing telescope and a "Planetary" scope, the key difference ostensibly being that a "Deep Sky" telescope has a slightly wider field of view than that of a "Planetary" scope, and the planetary scope being capable of higher magnifications, but narrower field of view due to the fact that the curve of its mirror departs less from a sphere than a "faster" more parabolic mirror (usually beginning at f/5 and going down in number), making it easier to focus light with less chance of spherical aberration. I overshot the mark during the rough grinding process and carved out the glass a little too deeply, with my reflected sunlight disc ending up at a distance of roughly 78 inches. Divide 78 inches (the focal length) by 14.5 (the mirror diameter) and you end up with a focal ratio of approximately f/5.4. Focal length, or tube size, perhaps become more of an issue in portability. A long tube is obviously harder to transport, so commercial Newtonian scopes tend to be smaller or shorter focal lengths.

Setting up shop in my brother's garage on Beverly Blvd (and I mean *right* on Beverly Blvd., at times I felt as if I were sitting in the middle of gridlock traffic!) I prop the garage door open, and set my mirror glass down on a partial sheet of plywood set atop two paint buckets. Using the furring nails suggested by Dobson in his great telescope making video, I secure the mirror to the plywood, to keep it from sliding around during the grinding process, but not so tight that I can't rotate the disc freely. When grinding and polishing, the mirror glass, (which in this instance was on the bottom), and the tool glass (on top), rotate in opposite directions from each other. This helps to maintain a nice, spherical figure on the glass, avoids zoning during the polishing phase which can be induced by the pitch lap, and helps avoid astigmatism, or grinding the glass more along one axis than another. *continued on page 16*

Making Telescopes—A Simple, Practical Method by Graham Loftus, New Zealand

Note that a small telescope seems easier to make, and it can be very handy. A larger one has only the same number of bits, and because the resolving power increases rapidly with aperture, a fairly rough monster will beat a small professional vividly, if it is soul-stirring views that you want. A telescope that is not driven shows the stars moving: yay! It brings you the stars—live! What I do is hardly conventional, and even less so than famous John's legendary telescopes. If you do want to make a small one, try a 6 inch F4, which will become a dandy finder for the later one.

The square tube is essential to my method. The top panel is held on a short screws. This gives access to the interior for cleaning, painting, attending to the mirrors, and removing and replacing the primary easily and quickly. Sight along the tube corner for initial aim, and to show where to see, in the sky, the object in the eyepiece. Folk appreciate that, because it connects the stars to where they stand.

Glass. Most of my mirror have been made from plate, and usually scrap. Inch thick plate is not easily available, but window plate, nominally 19mm thick, is mostly 18.2mm, Pilkington's float glass is splendid stuff. With certain difficulties, I use it to make mirrors up to 24 inch, short focus too, while for 20 inchers it is ideal. Sixes and eights can be made from half inch glass, but 15mm is easier. These plate mirrors settle thermally in times ranging from 20 minutes for inch plate to 6 minutes for 18mm, and thinner glass will settle before you do. An advantage is being able to examine the surface from the back, during grinding and polishing. A reflection from the back surface is a quick help in setting up for testing. Yes, never fear, Loftus will show you how to do the Foucault knife-edge trick. If you can have a telescope or a friend who will help, remove the eyepiece, and across the holder, put a strip of adhesive tape, so that one edge is across close to the middle, and vertical, in the sense of being parallel with your nose when you look in. Aim the telescope at a distant light, perhaps a street lamp. From a little distance behind, you can see when the image is against the edge, with a bit showing, then bring your eye close to that bit. You will see the whole mirror, flooded with light. Move the telescope and change the focuser, until you see how the dark moves, how it comes in from the same side, or the opposite side, and at a central point, the light dims evenly. On a distant light, it will darken evenly over the whole disk, and on a closer lights, a few yards or feet away, you will see the doughnut that is a problem for people who do not try this experiment. You will be able to null test your telescope as soon as the mirror shows some polish.

It is easy to get a field lens from damaged binoculars. Cut a few inches of light plastic drain or other tube, split it, and spring it onto another short length. Use the sun or distant light to find where the focus is, behind the lens, and have the eye end of the tube close to that distance, yet able to be slid out two inches or so, further. Fix a strip of adhesive tape across the tube, with one edge close to the middle. A thin strip of metal is good, for a knife-edge. Mount this on a block of wood with two bits with V notches, with one of them hinged on a screw or nail. You can put it on a telescope to aim it, supposing the tube to be square. When you have played with this, it will be good to have at star parties or meetings. While you are polishing and figuring your mirror, you can use a Foucault tester as well, at the center of curvature.

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Rome Sidewalk Astronomers

Among those attending the conferences in Gubbio last October were Carlo Muccini and Giorgio Bernaschi, who introduced themselves to John as the Rome Sidewalk Astronomers. What a great surprise!

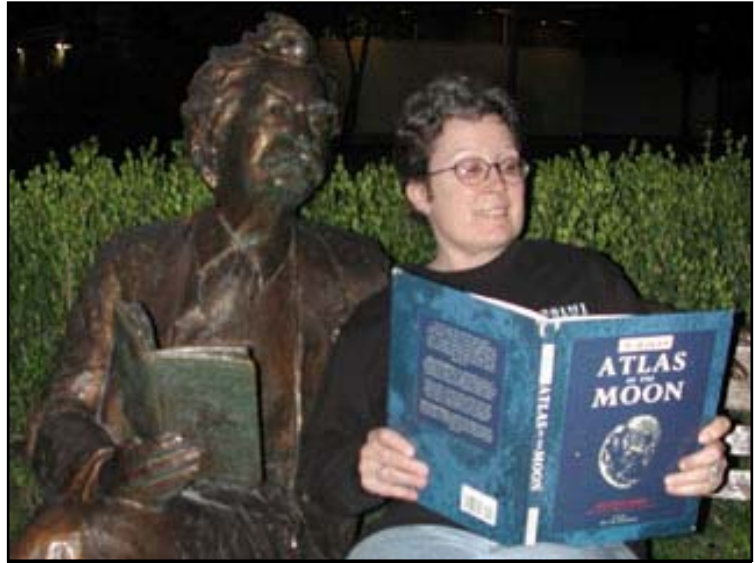
While their club is officially named "Galassie", it was started in 2004 with the same goals as the Sidewalk Astronomers, to make astronomy and astronomical information available to everyone.



The Stars Came Out for Founders Day By Jane Houston Jones and Morris Jones

"The stars come out for Founders Day" was the theme for a local middle school's annual PTA Founders Day celebration in mid-February. The PTA president bumped into us while we were doing our regular Saturday sidewalk astronomy event in Monrovia, CA, several months ago and that "bump" inspired her to develop an astro theme for Founders Day, which celebrates the founding of the PTA almost 100 years ago, and honors both past and present PTA leaders.

Despite a 60% chance of rain just hours beforehand, the Old Town Astronomers, aka Jane and Mojo, brought three easy-to-pack-up-quickly-in-the-rain telescopes (all Dobsonian reflectors, of course) to the nearby school. Indeed the stars came out, including the stars of the Pleiades, nestled next to the first quarter moon on this night. *Continued on page 15*



A bronze Mark Twain from Monrovia's Library Park studies the Moon Atlas with Jane

News from Ukraine by Denis Svehkarev

For the second year I am teaching Chemistry and Astronomy at one of the best secondary schools of Kharkov. A month ago I returned from Kamenets-Podolsky (Western Ukraine) where I have been with my kids for a week to participate in the XII All-Ukrainian Tournament of Young Chemists, my boys won the second place - they were the youngest team of the competition! And this year I was first appointed the Deputy Chair of the Expert Committee of this Tournament.

A year ago I started to write a book - some kind of a popular encyclopaedia for children in astronomy. In June I finished the manuscript and after several months of editorial and designers work it will be finally out of print by the end of December. I was also proposed to write such kind of encyclopaedia in chemistry.

Do you remember how our Forum started in 2002? OK, we have grown up! This year, we held it out of town for all 4 days for the first time. We had more than 100 people from 38 cities from Ukraine, Russia and Belarus. For the next year I expect to do some improvements in the program, and for the year 2006 I'm planning to organize an expedition in the zone of totality in March.



2nd place winners—All Ukrainian Tournament of Young Chemists



Participants Astro Forum 2004

Annual Amateurs Congress, Chile 2004 by Oscar Saa

I know that John, Donna, Carolyn, and David didn't get a clear understanding of the different astronomy clubs and the organization of the conference, so perhaps this will explain a little more.

The conference we had in Coyhaique is called "Annual Amateurs Astronomy Congress, Chile 2004" and was organized and hosted by the Coyhaique Astron-



Oscar and Ricardo at the San Rafael Glacier

omy Club, headed by Francisco Mardones. Francisco, to my taste, was the soul, the heart, the engine of this event, he worked one full year organizing it. I helped a bit in making some contacts in order to make it possible to bring John, Carolyn, David and you with your film. We are very, very happy we were able to achieve that. It was the very first time we have been able to have prominent speakers from outside Chile visit an event like this.



Oscar, Minelli, and John in Coyhaique

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Making Telescopes—A Simple, Practical Method continued from page 6

When you have coarse-ground the mirror, you will know what its focal length will be. Next, you can work out your tube and mounting. Make all the bits while grinding continues. Secondary flats for small telescope can be got from wrecked photocopiers, thin, hard-coated, flat, but alas, I fear that more modern copiers don't seem to use them. Manufacturers now kindly supply good flats, not too expensive.

Good disks can be bought, certainly in pyrex, and sheet pyrex and similar glasses are available. You might prefer to use bought or scrap plate, and cut your own disks, one for the tool as well, and as a base for a polishing lap. A suitable drill press is great. Run the cutter fast enough for the mixture to race around, but not to splash or fly about.

Cut a disk of plywood, chipboard, or fiberboard, 3/4 or inch thick. Sheet metal places might have galvanized steel strip, about 2 inches wide, or will cut one or two for you. Drill small holes along close to one edge. Wrap the strip around the disk on a flat surface, and screw or nail it to the disk. Use snips to cut narrow v notches, quite deeply, or use a disk grinder, making teeth about an inch wide. Make a handle to go across the top, raised on a block. The cutter will not go round, just rock back and forth. Use rubber cement to fasten small blocks of board just gently against the cutter, on the glass. Us 80 carbo and water, and start rockin'. When the cut is about a sixteenth deep, it will run easily. The larger the disk, the faster the cutter moves, and the cutting is quicker. I find, 7 minutes to the millimeter. If you have the glass on fiberboard, you can cut straight through, and get an almost parallel cut. Nearly through, you might turn the glass over, and start again. The cutter will wear about a fifth as fast as it cuts. As soon as disks are cut, bevel the edges to reduce spilling, which happens easily. The beveled edge is very strong. A piece of old grinding wheel and patience will do it, but a disk grinder with a masonry wheel is good. Try it on scrap glass first. After the grinding, use coarse sandpaper to smooth the edges, which you can examine with a lens. Scallops hold coarser grits, which fan out and will give foggy edges on your polish.

The tool for grinding can be made from broken or cut pieces of scrap glass. Heavy plate can be cut with a small wheel cutter. Use heavy pressure to scribe the line. If the cut is important, clamp a guide on the glass. Turn the glass over, on carpet, lay a metal rod along the line, and give the rod a sharp smack with a hammer. This glass is easier. To fasten glass to a board disk, grind the back against other pieces, then lightly coat it with Stockholm tar. Rub the tar on with newspaper, then try to clean it off. You can coat the wooden disk too. Pour hot soft pitch on the disk, and press the glass onto it. Have the glass warm, and use a propane torch to settle facets. Fill the gaps, for strength. A hot rod will help. The fill disk is easy, but the torch will be needed later. *Continued on page 11*

Sidewalk Astronomy—Internationally by Anthony Carlos De Silva

November is a very special month for amateur astronomers from all over Brazil—that's when ENAST, the National Amateur Astronomy Meeting, takes place. It was held in Brotas, a small town near Sao Paulo, in 2004. A popular spot among extreme sports aficionados because of its beautiful forests and rivers, the town also boasts some of the best seeing in Sao Paulo State. Maybe that's why CEU (*Centro de Estudos do Universo* or Center for Studies of the Universe) is located there. CEU has a lot of excellent facilities for amateur astronomers, such as an observatory with a 16-inch Meade telescope, auditoriums, exhibition rooms and even an astronomically aligned miniature Stonehenge. With all these attractions and excellent infrastructure, CEU was the natural choice for ENAST in our state.



Since this major event took place so close to us last year, many of the members of CASP – Sao Paulo Astronomy Club – were able to attend it. We also decided it was an invaluable opportunity to disseminate sidewalk astronomy even more. Therefore, we prepared a video with some of the highlights of our experiences on Avenida Paulista, the main avenue in the heart of Sao Paulo. There are some very interesting scenes. My favorite one is the reaction of a homeless woman peering through a scope most probably for the first time in her life. Her amazement at the majestic beauty of the Moon is definitely one of the most memorable moments of our work on the streets. *Continued on page 15*

Annual Amateurs Congress, Chile 2004 continued from page 8

ACHAYA and SAVAL are the two oldest clubs in Chile. For many years it seemed as if ACHAYA was the only club in Chile but, SAVAL started one year earlier (Oct 6, 1956) and was doing activities in a more quiet mode. Nowadays, there are clubs all along Chile, and in 1997 a group of students in Concepcion started organizing annual national events. The first time it was called "First Encounter of Amateur Astronomy Groups" (or something like that), and since that event, we have had meetings, conventions, however you want to call them, annually, and every time in a different place along Chile. Each and every occasion has had its own good things to remember, but according to many, Coyhaique had a special "magic something" that captured our souls.

There is no national association where all clubs would belong to, but few years ago, a group of amateurs started a cyber "Chilean astronomy net" with the idea of serving as a communication means where you could have chats, forums, etc.

So, last November in Coyhaique, the local club organized the event and invited some these well known speakers. Several clubs attended as such, but many individuals did it by themselves. Some of the clubs attending were Saval from Valparaiso, Achaya from Santiago, Lowell from Iquique, Orion from Copiapo, and groups from Concepcion, Talca, Temuco, and Santiago (my apologies to those I forget here). We also had people from Argentina, Colombia, and the USA, that's why it was called "international".

We do not have much structure, we in a way are a bit like Sidewalk Astronomers, all we want is to enjoy the activity and let others know about it. Like the group with machines and telescopes in Coyhaique, we call ourselves "telescoperos" (telescopers) **I am part of this group more than any other because we got only one rule: No rules!** All we do is enjoy, and enjoy as much as we can, this crazy tendency to look up, to the immense Universe, our origin and destiny.

I would like to mention something else related to astronomers, David Levy was talking a lot about his dear friend Bart Bok, who said to him that when his life on earth ended, he would be in Eta Carina, and so David is always observing that star and when he does he says, "Hi, Bart". I and all telescoperos have lost a very dear friend, Ricardo Gonzalez. He also, like David and Bart, loved the sky so much that he must be somewhere out there, possibly by Alchernar, a star (Alpha Eridani) he gave to Elena, his wife, when they were beginning to know each other many years ago.

Some Sunny Thoughts By John Dobson

When you burn a log in the fireplace it burns to carbon dioxide and water, and a bit of ash. It was carbon dioxide and water in the forest, and, with the help of sunlight, the tree made it into wood. It threw the oxygen out as waste and left the sunlight inside. Then you, with the help of the oxygen in the air, burn it back to carbon dioxide and water, and the sunlight heats your house.

The many things that we think we do, really we don't. They are all driven by the energy of sunlight. When you watch a football game, it's just the sunlight recycling itself on the football field.

And my steps, when I walk the Golden Gate Bridge, are similarly driven by the energy of sunlight. They are driven by the oxidation of the reducing agents made, with the energy of sunlight, by the plants in the wheat fields of Kansas, in the vineyards and pastures of California, and in the pineapple plantations of the Philippines. They are driven by the sunlight on the orange groves of Florida and California, on the cane fields of Hawaii and Brazil, and partly by sunlight the fell on the ocean off Cape Cod.

Although the reducing agents which we eat may have come from far and near, they were made by plants in the recent past, whereas the oxygen which we breathe has been thrown out as waste by all those green leafy things over the past hundred million years.



Travels in Umbria *continued from page 3*

Next we had three days in Gubbio, John was to give telescope classes in the afternoons. This meant we had mornings free (the lectures were in Italian) and the evenings were spent being guests of the local clubs at dinners given in John's honor.

Telescope class was difficult. Many of the items John prefers weren't available in Italy and initially, for insurance reasons, they only wanted John or me to grind – right! We ignored that after about 10 minutes and made everyone take a turn at pushing glass (they learned too well, I think they ended up with an 8" f/13 or something). We were especially happy when we found Milvia – she'd made a mirror with John a couple years ago in San Francisco before returning to Spain. I think I spent the first hour or so asking if anyone had seen John's mysterious "lady from Spain". You see, when organizing his tour of the UK a couple years ago, he kept telling me to call the lady from Spain, she wanted him to come there. Unfortunately, that's how he knew her and that's all he knew – hence, "the lady from Spain".

Later in the week, on our way back to an "Astronomy Day" in Spoleto, we stopped in Assisi for dinner with the local astronomy club and the mayor, who presented John with an award— I kind of missed exactly what it was, honorary citizen or something.

While we were in Gubbio, Dr. Halton Arp and Walter Murch had arrived in Spoleto as they were part of the "Astronomy Day" events. We'd donated a finished 8" mirror and Favio, one of the local amateur astronomers had built the mount. He'd taken the mount apart so that he could reassemble it while John spoke. This worked really well, the children got to see a bunch of wood become a telescope in about 45 minutes. That evening, local citizens and amateur astronomers came to hear Dr. Arp, Randall, Mr. Murch and to view "UNIVERSE – The Cosmology Quest". It was a good event for Spoleto, covering many aspects of astronomy. *Continued on page 12*



John Dobson Articles Wanted

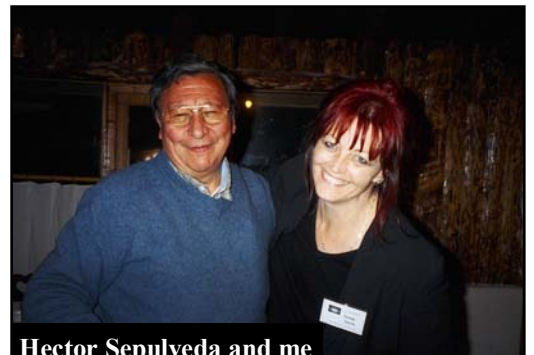
Recently I found some old newsletters in the office and they contained some “Helpful Telescope Tips” written by John and also other articles, such as the “Some Sunny Thoughts” one I’ve put in this newsletter. I was surprised, I had never seen these articles and I started thinking that it would be good to collect a lot of the writings he has. You all know John, trying to get copies from him of anything other than “Watchers of the Sky” or the “Double Slit Experiment” is nearly impossible.

We don’t have masters of these articles, so if any of you have old articles by John, please send them to the office. We would like to be able to share them with new members.

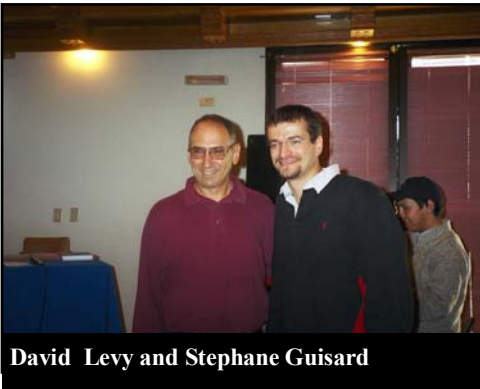
Also, I get requests often from people who would like photos of John, different ones than those all over the internet. If you have photos, even old ones, we would love to have copies.

Conference in Chile

The conference officially opened the following afternoon and Jose Maria was the first speaker, relating the telescope making and observing experiences of his students in Argentina. His article and emails hadn’t prepared me for the amount of work these student have done, it was pretty impressive. I don’t remember the other talks that day, they were in Spanish and with out accompanying photos, so I was pretty lost. We did meet Jose Ignacio Valdes, a musician who would be our translator and friend. We



Hector Sepulveda and me



David Levy and Stephane Guisard

also met telescope maker Claudio Argandona and Angel Vergara, who was described to me as a Chilean John Dobson.

The next day was a special outing—a boat trip to the San Rafael Glacier. I can’t describe it well enough, you’ll just have to look at the photos on the website. It was a 5 hour boat ride to get to the glacier and then they collected glacier ice and everyone drank a toast. It was a great day with time to get better acquainted with our new friends.

That night, David, Carolyn, John and I had dinner at our hotel and we met some American pilots staying there also. They were pretty excited (what are the chances you just happen upon three well known American astronomers in a small, southern Chilean city?) and joined us for a drink. We’d just discovered Pisco, an alcoholic drink made from grapes but stronger than wine, served frozen with lemon juice (pisco sour). Then we were joined by Stephan, Alain, and Vincent, all transplanted French astronomers working in Chile. They were very funny, especially Alain and maybe the Pisco had something to do with it, but it was a great way to end such a remarkable day.



John and Jose Maria Palandri

Continued on page 14



The 4 non-Spanish speakers and our translator Jose

Telescope Donation

Doug Trelfa of Long Beach, Ca. donated a 76mm refractor to the Sidewalk Astronomers this past December. We immediately donated the scope to the Mountain Restoration Trust facility in Calabasas, Ca. Several sidewalk astronomers in Los Angeles have been doing programs at the MRT on a regular basis for the past two years.

We thought they would be the perfect recipients for this refractor because they could also use it during the day to observe wildlife. Also, it's on a tripod and we're a little spoiled with our dobs, so we thought it would be good to give it to someone who could set it up (in the daylight) and pretty much leave it up.

The staff at the Mountain Restoration Trust is already designing a program to put the scope to use.

Travels in Umbria continued from page 10

Now it was time to go back to Gubbio for the cosmology conference. Again, we had three days and John, Chip, Randall, and Walter each had one talk and again we screened the film. This meant we had lots of free time. Walter spent most of his time working on his presentation (this trip was the first time he'd presented his ideas on the Titus-Bode theory and connecting music and astronomy), and John, Chip and Randall sat in on the other lectures. Apparently both Chip and John could understand enough Italian to get some of what was being said. I didn't bother, I probably wouldn't have understood it in English. Unfortunately, Randall was recruited to translate for the other three, which was exhausting for him. The response to all the talks and the film was extremely positive, apparently, amateurs there aren't so much into the bang theory. John spoke on telescopes briefly, and at the urging of Chip got right into cosmology and gave his "Frustration" talk, which was as popular there as it is here.

We ended our trip in Umbria just as we started, at Randall's house. His wife, Ewa had returned from a tour and on our last night, she gave a private piano concert, playing some new music Randall composed.



We spent 11 days in Umbria, which was as beautiful as the pictures had promised. Spoleto and Gubbio are medieval cities, built on the sites of ancient Etruscan cities and much of the stone used in the current buildings comes from Etruscan and Roman ruins.

Our last night in Italy was in Rome. Our hotel was very centrally located and I took a walk and got a quick look at the Forum, Coliseum and other sites in the area. John stayed in the hotel reading Hoyle's BLACK CLOUD, he said he had no desire to go see where they fed the Christians to the lions.

We met so many people, it's impossible to thank them all for their hospitality. Our hotel

in Gubbio was beautiful, one of the nicest in the city and we loved the owner of the trattoria where we took our meals, he greeted us each time like we were long lost friends. Marco did an outstanding job of assisting the telescope making classes, and it was a hard job (we've all made changes to our scopes, and we know how John feels about that!).

All the local amateur clubs were great, we were taken to dinner on most nights, but many of them didn't speak English and they also belong to more than one club so it's very confusing.

Continued on page 14



There are many photos from the conference in Gubbio and the lectures in Spoleto at www.sidewalkastronomers.us

News from Argentina by Jose Maria Palandri

My experience in Chile Amateur Astronomy International Congress was fascinating. I was lucky to meet John, and have the opportunity to thank him for his generous contribution to Amateur Astronomy. John has a great sense of humor and is always willing to share his knowledge and experience. As soon as we met at the airport in Chile, he invited me to taste “a digestive flower”, called “Diente de León”(lion’s tooth). I had never before eaten a flower, but it tasted really nice. At the Glacier we toasted with whisky and “ancient ice”.

At the Congress I also met Carolyn Shoemaker and David Levy, who explained in detail their Comet discovery, and shared with us their love for Astronomy.



All the participants contributed to this wonderful exchange. I was delighted to see that my experience with young students building up their low-budget telescopes really helped to make true John's words: “Everybody's got to see this”

When coming back to my country, I told my 13-year-old class everything I learned and we carried on with our project. We modified our Dobsonian telescopes for bird watching and took photos of local species.

Thanks to all Chilean amateur astronomers for their hospitality and effort to make this Congress possible.



News from Brazil continued from page 5

Ever since we started the club, we've wanted to help them as much as possible. The opportunity came up in June when two new directors took over and invited us to work with them. Since then, the school has been holding monthly events with lectures and public observations in the park where the school is located. We always take care the sidewalk (or should I say, lakeshore?) observations. It's been great even though the park is shockingly light polluted and the weather... well, you know. Unfortunately, the sky has been terrible this year; therefore, we haven't had as many sidewalk observations as planned.

Coincidentally, we had a very good one last week, though, and you'll find the pictures attached. Besides, we had a memorable dark sky party with a good number of people in June. A friend of Helga's, Bob Osborne, was here. He's one of those who started the Texas Star Party, so it was fantastic to have him with us for this event. The sky was wonderful, and we had a 12-inch Schmidt-Cassegrain with Goto, besides other great scopes.

However, what I think is a really important thing we've done so far this year is an observation at a shantytown here in SP. It was incredible in spite of the cloudy weather. We took the big Dobsonian you'll see in the pictures, and had a Baader filter to show the sun to the kids. We were only able to show them Venus, but they really liked it. It was amazing to see how those very poor children loved observing with the scope. One of the club members, Alberto, started talking to them about the sky, and a boy suddenly asked him why Earth had begun to spin... I'm dying to see the pictures. I really have to find out who has them, and I'll send them to you. It was such a rewarding experience that we've thought about going there on a regular basis.

Another new activity we've come up with is our Virtual Study Group. Since the weather is mostly bad in this place, we have to do these other things in order to make sure we have something to do! Besides, many people from the whole state are on our list, so this is a good way for them to participate without having to come to SP. We found a good course on the net, and we study a different topic every 15 days. After that, we have a chat about the subject. It's really nice and everyone, especially the beginners, has a chance to learn in tandem and participate in the discussions.

Conference in Chile continued from page 11

Okay—this is where I lost my bag and one of my notebooks. We spent the next couple of days at the conference enjoying the company of Samuel, Olga, Hector and so many others. John, Carolyn, and David all gave presentations and we screened the “The Cosmology Quest” documentary. Everyone enjoyed hearing about the discovery of Shoemaker-Levy 9 from David and Carolyn and I’m pretty sure it was the first time any of them had heard John’s recycling model. After screening the first episode of the documentary, it was decided we should show it again the following day and allow more time for discussion. Unfortunately, technical problems and scheduling prevented that from happening, but like amateurs here and in Italy, most of them were open to the possibilities raised in the film.



On the last day of the conference, we spent the afternoon at a telescope workshop where Minnelli, Lucia and I had important things to talk about—Lenny Kravitz. Claudio, Ricardo G., and Angel were pretty happy surrounded by all those home-made telescopes. A couple of people asked John some questions about his talk the night before and that was the end of that—they were off by themselves pondering the universe.

That night, Jose gave a musical concert at the theater. It was unique, with nature photos as a back drop for his keyboards. Everyone was pretty impressed, he had been playing off and on between talks and as background for some of the visuals used, but I don’t think any of us were expecting such a great concert.



We spent the rest of our last evening together in Coyhaique at a barbeque celebration. I think it was the first time Francisco actually got to rest and enjoy himself, and he definitely deserved it. I think whoever hosts the conference next year will have to work very hard to do as good a job as Francisco did.

The following morning, we said goodbye and headed for Vicuna and Cerro Tololo. You’ll notice, I’ve haven’t mentioned any observing. Clouds, rain, and more clouds.

Continued on page 16

Travels in Umbria continued from page 12

I do remember the Mayor of Skeggia, they had John sign his name in cement for a plaque with a stick – it reminded me of him pouring pitch laps, only slower, and that night they made us members of their club.

Our thanks to Marco and Thomas, who drove us through the mountains in the rain, to Danielle, who took us on a tour of their club facility on the way to Assisi, and to Fabio, who built the mount in Spoleto. I was especially grateful to Emilia, our translator during the telescope class, and to Milvia. Traveling mostly with men, astronomy men, it was good to have a couple of women around to talk to about something other than astronomy. They became my friends, and I hope to see them again soon.

The city of Spoleto did us a great favor by arranging with the priest at the Duomo Cathedral to open the tower for us. The view was fantastic, you could see all the way to Assisi.

And mostly, thanks to Randall and Ewa for their hospitality. Randall had only returned to Italy a week before we arrived, Ewa returned while we were there, and they both were leaving a few days after us. They are either extremely gracious or completely insane, but either way were grateful.



John, Randall, Fabio, Michael (I think) and Chip

Sidewalk Astronomy—Internationally *continued from page 9*

Besides the video, we also prepared a short talk about our club, obviously emphasizing sidewalk astronomy. In spite of the beauty and simplicity of this activity, we've always felt that more clubs should do public observations. Therefore, we took the opportunity and, very much in line with our penchant for megalomania, launched a national campaign for sidewalk astronomy called *Telescópios nas Ruas do Brasil*, or Telescopes on the Streets of Brazil. Basically, we're going to help all groups that plan to start doing public observations as much as we can. If possible, we're even willing to travel to their cities. Also, we've put together a very unpretentious mini-guide for those who want to share their scopes with the public for the first time. It's based on our own experience and some of the questions we've often heard from other groups and CASP members from other cities.

One of the main challenges astronomy clubs seem to face when the idea of going to the streets first springs up is lack of information. I'll never forget the first time I got in touch with the Los Angeles Sidewalk Astronomers asking for help back in 2001. We'd just had our first meeting and were eager to go from a virtual club to a "real" one. We were actually helpless and had to overcome a few problems before we did our first observation. Most of these problems, though, were mostly due to misconceptions and unfounded fears (Thanks, Donna!) As a result, we feel filling this gap is probably a good start.

Maybe for "marketing purposes", we started our guide with a list of 15 reasons for doing sidewalk astronomy. We emphasized how easy it is and what a positive impact it has on the community and on the club itself. This part is also designed to tackle some common misconceptions concerning public observations, such as the dangers they involve, the need for excellent seeing, a possible misbehavior of participants, etc.

Continued on page 18

The Stars Came Out for Founders Day *continued from page 7*

We showed the moon through the clouds and waited for Saturn to rise as the advanced band played John William's theme from "Star Wars" and "Music of the Night" by Andrew Lloyd Webber. [The strings performed Bright Star by Bruce Chase, and the Chorus sang about the stars too.](#) Meanwhile, the sky cleared as if by magic. A coworker of mine, a Cassini flight software engineer, has joined us out on the Monrovia sidewalk and I asked her if she'd like to help out on this night, and it turns out she graduated from this very school!

While a student, she listened to a visiting JPL engineer give a talk about the Viking mission to Mars, and this talk inspired her to pursue an education leading to a career at JPL. She reminisced about that JPL engineer and her teachers who inspired her back then. She also talked about the school now and then in her brief speech at the close of the program. Then she invited everyone out for one more look at Saturn, Titan and the moon.

When we got home, Mojo commented that it was about as perfect as a school star party could be. The school picked a good night when the first quarter moon was out, and before daylight savings time adds an hour of daylight to the precious few hours available for an early weekday school star party. They allowed us to drive onto the playground blacktop and set up our telescopes next to our cars and off the grass. Astronomy was woven into the program, so everyone wanted to have a look through the telescopes, and were prepared for it. The kids were interested and informed. And last but not least, I even overheard the principal explaining the first quarter phase of the moon to someone!

Old Town Sidewalk Astronomers schedule and more: <http://www.otastro.org/>

School Star party tips: <http://www.aanc-astronomy.org/school-star-parties.html>

Making a Mirror- Part 2 continued from page 5

Over the course of the next few days, seated at my makeshift work station, sandwiched between my brothers motorcycle and various bits of lumber, I work my way through the various grit sizes, the glass becoming smoother and smoother as each grit interval decreases in particle size. John Dobson has shown me a tangential stroke, that is, one where the center of the smaller (8") tool glass is pushed straight back and forth on the mirror glass, just slightly off center on one side, then slightly off center the other. One hour like this, then move the tool glass edge to just inside the mirror edge, same stroke pattern, again for another hour. Occasionally, I stop to test the focal length, trying to stay close to my $f/6$ target. Wet the glass, sprinkle on Carborundum, and grind until the grit has been pulverized and no longer maintains its abrasive characteristics. Rinse off the grit, and start again. As much as my back would get a little sore, I'm also drawn into the rhythm and meditative qualities of pushing glass. I also acquire a real affinity for Ibuprofen!!!!

By now, my daily ritual has gained the attention of passerbys, from nannies on the sidewalk to regular office goers driving by on their way to work. Children in carriages are especially captivated by the man in the garage pushing glass. Even a block away, they still strain their heads out of the carriage to look back, as if they were watching Merlin creating a portal (or is that porthole?) to another time and space. Also craning her head out of the first floor window to watch is my brother's landlady, who is less than enamored with the magic flowing around her. The grits, (which I meticulously rinse away with a hose at the end of each session, so as not to carry a larger grit into the next finer grit session) though harmless, are beginning to pool up at the curbs edge, and, quite frankly, her diminutive driveway. That her property value may suffer as the result of my science experiment begins to reveal itself in her thinly veiled smile. Tensions have flared between her and her renter (my brother!) and this little stunt of mine may be the straw that lands David and I out on the curb, along with the rest of the grit! I introduce myself, and appealing to her scholarly nature (she's a former school teacher) begin to lecture her on the wonderful science project taking place right here in her own backyard (or front yard as it were), thanking her for her indulgence in allowing this astronomical, observational piece to come to fruition in her driveway. A tool that will allow many to observe objects millions of light years away, nebula, star clusters, planets and other Galaxies that may also harbor other forms of life, and other fast food chains!!!! "So" she chimes in, in a voice reminiscent of the Wicked Witch of Oz fame, "you leave at the end of the month?"

Sensing mounting pressure, I move quickly through the finest of grits and am now ready to begin polishing the mirror glass. I call John at the Vedanta Center one afternoon to see if he's available to help me pour my first pitch lap. We arrange to meet at Bill Scott's place the following morning.

Watching John Dobson prepare to pour a pitch lap is like watching a child unwrap Christmas presents. Considering the potential for disaster in this endeavor (after you've poured a few, you'll understand) this is quite remarkable.

Pitch has been described as being a viscous, tar-like substance, a pinewood derivative. Usually stored in 5 lb coffee containers by ATM'ers (amateur telescope makers) it at first appears very hard. Smack on the can with a hammer and the pitch quickly fractures into minute pieces.

continued on page 21

Conference in Chile continued from page 14

The flight from Balmaceda to Santiago is about 2 hours over the Andes, it was so beautiful, but I kept thinking about that movie "Alive". Many of the amateurs from northern Chile were with us on the flight, including Malcolm Smith, the Director of the Chilean part of AURA (Assoc. of Univ. for Research in Astronomy) Observatories, and important member of the IDA (International Dark Sky Assoc.). At the conference, there had been talks on telescope making, astrophotography, observing, public service, cosmology, comets—and those were just the ones I could figure out, who knows what else was covered in Spanish that I missed.

From Santiago, we continued on to La Serena with Malcolm, Oscar and Minelli. When we arrived, some members of Observatorio Comunal Cerro Mamalluca club picked us up and drove us to Vicuna. While David and Caroline went out to try and do some observing with Oscar, John and I headed into town with a couple of the members and tried to do some sidewalk astronomy, but it was useless. We returned to the hotel where John gave an impromptu cosmology talk. *Continued on page 20*



Making Telescopes—A Simple, Practical Method continued from page 6

Whenever I tried ceramic tiles, they turned out to have marshmallow cores, or to contain abrasive particles, ouch. These can appear when you are almost ready to polish. Glass is good, as you can see.

Whatever style of tool you now have, give the edges a good bevel with a small disk grinder, and use it to cut deep grooves across each way, to distribute and feed grit and water during grinding. Wear eye shields and ear guards, of course. To gain confidence, attack scrap glass first.

Grinding is best one face down on a full-sized tool. If the tool is thin, have that on a flat table, on plain woolen carpet. A water sprayer is handy. Lightly spray the carpet, and then a sheet of newsprint. Glass will not easily slide on it. You might prefer to use wedges, or a hole cut in plywood, to secure it.

Do no waste time washing during work with one grade. Use newspaper to clean it just reasonable. Wash up thoroughly between grades.

You can use 60 carbo to quickly rough out, but do not grind right out to the edge. The polished surface is hard, and when it is fractured by grinding, cracks run down into the glass. Smaller and softer grits do not make such deep fractures, so I finish initial grinding with 80 and 100Alomite. Renew the bevel on the edge, ok.

Wash the glass, dry it, then hold it near a window or light, with the ground side away. Use a short-focus lens to see the ground surface in detail, against the dark around the window. If the pits are bigger in the center, or around the edges, grind on, with short stroke, if the depth is right, until it is fairly even. Repeat this down the grades, say, 120, 220, 400, and the fine white finishing grades, 25, 12, and 5 micro-grits. You can have the mirror face-up, on damp paper, on carpet, rotated often, without warping the grinding. The grinding will feel even, smooth the grooves, renewed, will reduce the possibility of sticking, and give a place to squirt water in from a hose. Certain unsticker, if the mirror or tool begin to slide around, the mix is getting too dry. If the tool is facets or pieces of glass, pitch can be poured into the spaces, or a hot rod can melt it until it flows onto the sides of the pieces, so that crevices do not hold coarser grit.

Leasowe Lighthouse continued from page 1

Graham Roberts managed to sell 21 LAS booklets and, as usual, the Friends of Leasowe Lighthouse had set up their tea/coffee bar inside. We finally left the lighthouse at about 22:30 as we were eager to see the special TV programme that was being broadcast at 23:30 on the landing of the Huyghens probe on Titan.

The total number of visitors was estimated to be about 200. If only they could, somehow, make the inside of the lighthouse a bit bigger! Jim Stacey and Dave Thomson were able to take a few photos. Our next Sidewalk Astronomy Event is on Fri 4 Mar 2005, at Pickerings Pasture, near Widnes. More photos can be found at www.angelfire.com/pokemon2/pirsig/ls050114.html

Chance Encounter with John Dobson continued from page 3

Ortrud pointed to a figure standing directly in front of me wearing a down North Face jacket. It was JD himself. "Come look at the moon, come look at the moon," he repeated while handing out his "Watcher's of the Sky" fliers. Then JD turned and recognized me and smiled. I in turn used my cell phone to call Dave Fields and Ron Mastrogioseppe. What a thrill to find JD on the sidewalks of San Francisco! What a fine crowd there was eagerly looking at Theophilus and Catherina on the moon. "Thank you for doing what you do!" said a passerby to JD after stopping to view the moon.

It was wonderful to see JD again and to see him doing what he does best, sidewalk astronomy on the sidewalks of San Francisco. What a great ending to a most perfect day.

Using Photos on the Sidewalk in Baltimore by Herman Heyn

I have developed a little specialty, which is showing my public lookers photos of what they're going to see before they look. Currently, I'm working with photos of the Moon, Saturn, Jupiter, M 42, and Uranus. My scope is a Meade, vintage 1981, 8" SCT. with clock drive.

For the Moon I have two photos laminated back-to-back.

One shows the Tycho region craters at ~300X, the other the full Moon with Tycho and its ejecta rays. The first I use as a focus check. (I long ago discovered there are two distinct focuses when dealing with the public. One is good for 90% of my lookers. The one for the other 10% I call the "astigmatic focus", because I have astigmatism and its my focus.) Before people look (especially kids), I tell them the craters thru the scope should be as clear as in the photo. If they aren't, I tweak the focus for them.

I use both Moon photos during the waxing gibbous and full phases, when Tycho becomes my main feature.

First I show them Tycho in the full Moon photo followed by the close-up and invite them to spot the central peak. Once they do, I spiel off Tycho's pertinent physical and historical data--including that it's where the Monolith was found in the movie 2001.

All of this may sound like a lot of extra work, but it really isn't, and I'm sure it adds lots of meaning to the experience.

For Saturn I use a nice Hubble photo and tell lookers that the image in my telescope is much smaller but that they should see the ring just as clearly. I also tell them they'll see something not in the photo, "Titan, Saturn's largest moon." If they don't, I tweak the focus. I also show lookers Cassini's Division in the photo and invite them to see it for themselves.

One of my most frequent comments with Saturn is, "I thought it has colors." The Hubble Saturn photo is helpful in dispelling that myth!

And then there's Uranus which, along with Albireo, I do from the street when the "big three" are AWOL. I show lookers Hubble's color photo (Lucky me. I live only five minutes by bicycle from the Space Telescope Science Institute!) and tell them that while Uranus is teeny-tiny in the scope, its color is the same as in the picture!

Continued on page 21



Herman on the street in Baltimore

Sidewalk Astronomy Internationally continued from page 15



The second part is about the logistics of the event and the equipment needed. We also listed the (unfortunately very few) objects that can be observed reasonably well from heavily light-polluted places. There's also a list of questions people often ask. Some of them are: *How do you know that's Venus/Jupiter/Saturn? What's the power of the telescope? How far can you see with it? What's going on on the Moon?*

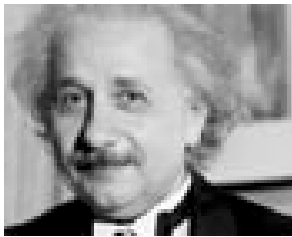
We end our mini-guide by giving some hints on how the club can get the most out of sidewalk events and on how we can make the whole activity a bit more comfortable for ourselves. This way, we hope to attract more members and make things easier and more pleasurable for everyone.

Even though we believe we have enough experience to help clubs interested in sidewalk astronomy, we're aware that this is just the beginning. Much more can be written about this fascinating topic, and our guide is certainly a work in progress. We still don't have an English version of it, but even so, we're open to the ideas and suggestions of our friends from all SA chapter all over the world. A Portuguese version of the site the guide can be found on <http://www.astrocasp.com.br/telenarua.html#campanha>.

CAREFUL USE OF LASER POINTERS

The following was taken from a news article that appeared in several papers a few weeks ago. Anyone who uses a laser pointer should probably think twice.

A man charged with temporarily blinding the pilot and co-pilot of an airplane with a laser beam claims he was simply using the device to look at stars with his 7-year-old daughter. Federal authorities used the Patriot Act to charge David Banach, 38, with interfering with the operator of a mass transportation vehicle and making false statements to the FBI. He is the first person arrested after a recent rash of reports around the nation of lasers being beamed at airplanes. If convicted, Banach could be sentenced to 25 years in prison and fined \$500,000. The FBI acknowledged the incident had no connection to terrorism but called Banach's actions "foolhardy and negligent."



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SK05

75th Anniversary Recognition of Clyde Tombaugh's Discovery of Pluto

The event was hosted by the church that Clyde founded/attended in Las Cruces, New Mexico. Those participating (from left) John Dobson, Brad Smith, Rick Binzel, Patsy Tombaugh, Herb Beebe, Rita Beebe. Speakers are standing in front of the Tombaugh Window at the church. For more photos of the window visit the website at <http://www.uuchurchlc.us/tmw/>



Conference in Chile continued from page 16

The next day Oscar arrived early to take us to Cerro Tololo. We spent the day there looking at massive telescopes. David was in heaven! David is by far the most passionate person I've met when it comes to astronomy. He loves everything about it. Listening to the history of the observatory and looking at the scopes, he had the same glowing look he had when he heard it would probably clear up that night. Oscar works at CTIO, so we couldn't have had a better guide. After showing us around CT, he drove us over to see the Gemini South and SOAR telescopes. And the view from those mountains—and this time I was on the ground and there weren't any horrific movie scenes spoiling it.



The view from CITO

I lost two rolls of film, I am so sorry, a couple of them wanted to have their picture with John so badly and I took several and they are the ones I can't find. These guys were great, they were really helpful to me when we were observing. I have a hard time finding things in a sky I know, without them I would have been lucky to find the Large Magellanic Cloud! John was invited to Temuco for next year's conference. If I can make that work out, I promise I will make it up to them, and this time I will leave the film with them!



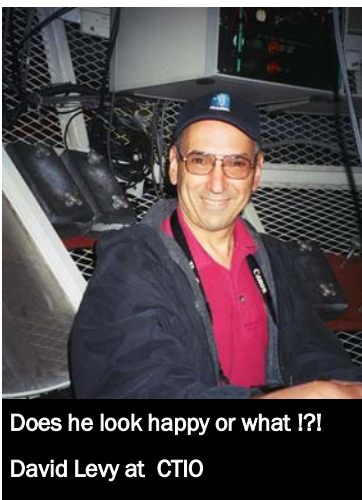
Maybe the next ones to discover a comet?

Later that evening, school children and local club members attended the talk given by David, Carolyn, and John. Then, we went to Mamalluca Observatory and with the 16" dobsonian made by Ricardo Gonzalez, I finally saw the Tarantula Nebula, 47 Tucane, NGC 1316 and several others objects in and around the Large Magellanic Cloud.

I have a great apology for the guys in the club in Vicuna.



John, David, and Carolyn with some of the students in Vicuna



Does he look happy or what !?!

David Levy at CTIO

When we returned to Santiago we had several hours before our flight home, so Hector Sepulveda picked us up and drove us to Jose's house to spend the afternoon. It was so nice, just relaxing with Jose and Maria Luisa and their family.

As always, there are so many people we want to thank, Francisco for the wonderful job he did, Claudio for tirelessly trying to translate when Jose wasn't around, Hector—next time I will drive, Oscar for CTIO, Jose, Maria Luisa, Lucia, the list could go on.

"You've probably noticed that we are returning to the gate, there has been a medical emergency on board. As soon as we've had some medical personnel assess the situation, we'll get this flight from Santiago to Dallas back in line for take off." So, our trip ended the same way it began, except this time we did miss our connecting flight!

Making a Mirror continued from page 16

The pitch is then heated over a low flame for about an hour or so, however long it takes to get a syrup-like consistency without boiling it. Boil it and you tend to get a harder pitch when it's poured. The hardness of a pitch lap is directly proportional to the ambient air temperature. Pitch conforms to the glass surface best when it's a *little* bit on the soft side. After heating the pitch, the tool glass is laid face up and turpentine smeared over it's surface to act as a bond with the pitch. Simultaneously, the mirror is coated with a cerium oxide and water mix, and perhaps a little bit of soap to keep from sticking to the pitch. Pour the pitch onto the tool, let it cool for 30 seconds or so and then quickly place the concave side of the mirror onto it so that pitch conforms to the shape of the glass. Move the mirror continuously along the surface of the lap for a few seconds then slide it off. Hopefully the mirror hasn't stuck to the pitch or pulled any of it off in the removal process. Then using a rod of about 3/8" diameter, made of wood or metal, a grid is pressed into the still warm pitch lap, much like a waffle iron, slightly de-centered to avoid zoning problems during the polishing. The lap must then be re-pressed as the channeling with the dowel has caused the facets to rise up unevenly. After good contact has been made over the entire surface, the mirror is then kept coated with a little cerium oxide and water to keep the pitch lap from sticking to it, which can then be laid on top and allowed to cool for 30 minutes or so before polishing begins.

It's a real treat for me to watch Dobson and Bill Scott (I can't say enough about Bill's generosity, as he's taken more time off of his considerable duties at the Vedanta Center to facilitate the lap pouring and help with my mirror) quickly move through the pouring of my first pitch lap. That Dobson has poured a few pitch laps is readily evident by his precise movement and timing throughout the "procedure". "Stick" he snaps to Bill. Like surgeons in the operating room, the dowel is handed over and Dobson quickly and methodically presses out a grid onto my 8" pitch lap. Quickly dropping the dowel, he flips over the mirror for the final pressing. And a beautiful lap it is, seemingly perfect in shape and depth of facets. "Beautiful, beautiful" Dobson chirps as he begins to shave off excess pitch that has slumped over the edge of the tool.

"Ok," Dobson winks, "take it home, now comes the hard part."

"Huh? Grinding wasn't the hard part?" I think to myself. What followed next would make for an interesting couple of months.....

To be continued in the next newsletter

Using Photos on the Sidewalk in Baltimore continued from page 18

Small as it is, seeing the color match goes along way in helping the public appreciate a view of our distant seventh planet.

For Albireo I use a excellent color photo from S&T. I figure if the public thinks Albireo is good enough to make the magazine, it must be worth a peek through the scope. Most like it alot. I also use Albireo as a star colors educational. Incidentally, with stars I check focus by asking, "Is it a donut or a point?" If a looker say it's a donut, I know to tweak.

Jupiter! For focus check a Hubble photo showing the "stripes". Another check is the moons (not in photo)--"points or donuts?"

The photo I started with is M 42 with Trapezium. In light polluted Baltimore, the nebulosity is barely there, but the Trapezium comes through well. I show the photo, explaining it's one of the closest places to Earth where new stars are forming and that the four in a box are some of the newest stars in our sky. Once they see the four, I say that if they see some dim haze around them, it's the nebula in the picture. Most see it which, I'm sure, adds to the satisfaction.

One final caveat. I set-up in a brightly lit area where there's no problem seeing my photos. I'm not sure how this technique would work in a dark sky sitaution where you only want dim red lights. Maybe a reader who finds this photo technique worth pursuing can experiment a bit.

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The Sidewalk Astronomer is the official newsletter of the Sidewalk Astronomers. To submit articles/comments, send a message to John Dobson, or obtain additional contact information (because of space, above information is limited) email or call Donna Smith or mail submissions/requests to the main office in Hollywood.

The Sidewalk Astronomer is printed at least twice a year and sometimes quarterly, depending on the number of submissions. Please do not send anything to John's San Francisco address or leave voice messages on his phone. As he is gone 10 months of the year, you will be wasting your time. We will be sure to forward your message to John, wherever he is. You can also check his schedule on the website www.sidewalkastronomers.us often how to reach him.

2004 Financial Statement

| Income | | Expense | | Balance Sheet | |
|-----------------------------|----------------|--------------------------|----------------|-------------------|---------|
| Book Sales | 86.00 | Internet costs—.com/.org | 705.00 | Assets | |
| Contributions -John | 749.00 | .us | 200.00 | checking | 6210.47 |
| Plans | 7.00 | Office Supplies | 381.00 | petty cash | 38.00 |
| Misc | 100.00 | Postage | 333.92 | Inventory | 311.00 |
| Dues | 856.00 | Printing | 513.11 | Total Assets | 6559.47 |
| Program Fees | 50.00 | Refunds | 170.00 | Total Liabilities | .00 |
| Reimb. - Telescope Supplies | 3407.41 | Telescope materials | 1554.20 | | |
| Reimb.—Travel | 1129.00 | Travel | 1267.19 | | |
| Total Income | 6374.91 | Total Expense | 5124.51 | | |
| | | Gross Profit | 1250.40 | | |

To quote John Dobson, “you must have noticed” that even if you don’t send in your dues, you aren’t taken off our membership list. As we are dedicated to public service, it seems wrong to take members off the list simply because they didn’t pay \$15. We only take people off the list if they request it or if we have no deliverable address. This is why we always ask for dues with all newsletters. If you are in doubt about when you last paid your dues, you can contact Donna at the email address/phone number on the contact page or you help by sending a donation.

A little explanation about the above statement, contributions to John are from clubs who sent his honorarium to the club and we haven’t transferred those funds to JD yet. Telescope supplies/reimbursement and travel/reimbursement aren’t the same amount because of a date issue with supplies being taken from inventory or reimbursement from clubs for travel hasn’t been received. Also newsletter costs are higher than reflected because this issue isn’t included and if it were, dues would fall short of covering the related expense.

The above statement reflects dues from all members, but the income from telescopes and programs has all been from the Los Angeles group, as have all the expenses. We would be happy to assist Sidewalk Astronomers in other areas in telescope programs, but we receive neither funds nor requests from other areas. While the LA group does include telescope classes and programs in the accounting, they, like other chapters also have members donating supplies, doing programs, etc and those expenses are covered by the individual and not reflected in the above statement.

We would love it if other areas would notify us when they are holding telescope class. We would be happy to provide the funds for supplies and have the reimbursements made to the club rather than the individual holding the classes. We would also ask that when holding a telescope class, you include membership in the cost of the materials. The same is true for public events, we would be happy to assist in the cost of flyers, etc. and only ask that if anyone wishes to make a donation for the program, you have them send it to the main office.

Yearly Election of Officers

State law requires us to hold elections yearly. Please return this ballot with your renewal on the reverse along with your check for dues. Only dues paying members are allowed to vote.

| | | | |
|-----------------------|----------------|------------------------------|----------------|
| Bill Scott—President | yes ___ no ___ | Nancy Geiger—Board Member | yes ___ no ___ |
| Donna Smith—Sec/Treas | yes ___ no ___ | Hector Vasquez—Board Member | yes ___ no ___ |
| Betty Wakamatsu—VP | yes ___ no ___ | Jeffrey Newsome—Board Member | yes ___ no ___ |
| Katy Haughland—VP | yes ___ no ___ | Bob Alborzian—Board Member | yes ___ no ___ |

The Sidewalk Astronomer

Newsletter of the Sidewalk Astronomers

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Everyone should see. Everyone should understand. What we do for ourselves is a waste. What we do for others is beauty. Those who help others to see will see. Those who help others to understand, they indeed will

un-

Billions of eyes are waiting...



John Dobson with sunscope on the sidewalk in Oregon

Sidewalk Astronomers Membership Form

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

TELEPHONE _____

EMAIL _____

New Membership or new contact information Renewal with no changes

I am enclosing a check for \$15 for dues for 2005

I am not enclosing a check but would like to remain on the mailing list

I have paid my dues within the last 90 days

I no longer wish to receive information

I prefer to receive information by post email

Please return completed form to address at top of page.