Orbit

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Roger Hill, Editor

In case you were wondering why Orbit looks a little different this month, it's because I suffered a catastrophic failure of the hard drive in my laptop. Stupidly, There were some files I had not backed up. I thought I had, but when I went to recover them, I found out, to my horror, that this was not the case. So, rather than taking last months Orbit and modifying it, I've got to recreate it. This will take some time, and, as I write this, I have no idea whether I will make my deadline or not. Part of the difficulty is that everyone out there seems to enjoy what I write. What other explanation is there for no-one submitting any articles?

So what's been going on? A number of things, actually. Steve Barnes is now back down in Chile. As many of you know, a group of us managed to travel there last March, and it was, frankly, one of the greatest adventures of my life, astronomical or otherwise. So, as Steve and I have been corresponding over Instant Messenger, I can now picture exactly which instrument is taking the incredible pictures he's been teasing me with! As I find myself under our late September leaden skies, it's really nice to know that someone, somewhere, is standing under incredible skies, and APPRECIATING them!

September saw the Centre hold a combined picnic and meeting. By all accounts it was a delightful evening, and I wish I could have made it.

Our intrepid Board held it's final meeting this past month, and one of the delights of having a small Board is that meetings are done very quickly! I showed up about 8:30 to make sure that my nomination form was in the hands of Secretary, and they were just wrapping up! Considering some of the marathon sessions I've been involved in at times, a half hour Board meeting seems like Heaven!

Seriously, though, the people on this past years Board deserve a huge vote of thanks from the membership. John Williamson, Andy Blanchard and Paul Brandon have toiled quietly in the background this past year. Not only did they step forward to fill in all the usual positions, but somehow they managed to get involved in a GA, too! So, when you meet these guys, you need to do something...you need to say "Thanks", and you need to say "Well Done". They didn't walk away, they didn't quit, and they shouldered the load when it must have seemed the most thankless of tasks.

So, what does the coming year hold? We have three elections coming up that will impact us all. Two we can vote in, and the third we can only watch from afar. The US presidential election is the one we can't vote in, the Canadian federal election is one most of can, and the third is for the Board for next year. Over the years, the process by which the Hamilton Centre has acquired a Board has changed a little. At one time, we'd only have an election if there were more than 12 people who offered up their services. Now, there is an election regardless. Every person who puts their name forward has to be approved by the assembled members. Does that mean that if you didn't manage to get your name in to the Secretary in time that you've missed the opportunity to sit on this years Board? Absolutely not. However, it does require the approval of the current Board members if someone wishes to join after the Annual General Meeting.

So, please, step forward. We could use several people who have a few spares hours per month. It doesn't take much. There's an extra meeting lasting an hour or two, and a bit of work like organizing the library (for the Librarian), taking down semi-detailed notes of meetings and publishing them (for the recorder), checking what's coming up in the astronomical calendar and letting people know about it (for the Observing Director). We could do with a number of councilors at large, too...people who can step forward to help out with work parties, offer the benefit of their experience, keep the memberships best interests at heart, and just be sociable. Think you can do that? Yes? See me at the next meeting, or drop me an email.

This is where I normally list the other things you can find in Orbit, but since I haven't written them yet, or received anything, I'm not sure what's coming up in the next few pages. There'll be some pictures, some humour, some informational stuff...just like a meeting, come to think of it.

Humour From The Galactic Core Gazette

Psychologist Identifies Astronomers' Addiction

Boston University psychology professor Margaret Weitz, who has devoted over twenty years to the study of addiciton, has come to a startling conclusion based on her studies of amateur astronomers. In a paper published last month in The Journal Of Obsession and Addiction, Weitz describes what she has termed Astro-Equipment Purchase Compulsion (AEPC).

"The sufferers of AEPC are characterized by the uncontrollable urge to buy amateur astronomy equipment", says Prof. Weitz. "They always have to have something new, no matter what they already own. They use the excuse that they are increasing their ability to observe, but in reality, may hardly use their purchases before those are set aside and replaced with something even newer." In her paper, Weitz cites case examples where the victims of AEPC bore many of the traits of sufferers of chemical addictions. "We had test subjects who, when shown ads from Sky & Telescope magazine, exhibited physical responses such as increased heart rate and perspiration, flushed skin and drooling. These same subjects, when secretly observed by infra-red camera at star parties, would be seen ignoring their own telescopes and staring longingly through models they did not yet own."

Weitz concludes that AEPC is a serious condition, which the medical community needs to develop treatment for. "Some who suffer from AEPC feed their addiction by selling yesterday's purchases to pay for today's. Others face massive debt, or resort to criminal activity to feed their desires. This addiction may begin with the purchase of a Telrad, or Plossl eyepiece, but those lower cost purchases eventually lose their potency; the addict moves on to bigger and bigger telescopes to meet their cravings. Fortunes have been lost, marriages destroyed, and lives ruined."

Dew Meets Its Match

Roger Abbot, CEO of DewShoo Industries, has announced a new product geared towards the amateur stargazer. "In many areas, one of the most annoying problems the amateur astronomer faces is that of dew forming on observing equipment and accessories in the night" says Abbot. "Lenses and mirrors fog up, charts and books get soggy, and the whole observing experience gets spoiled. Our new product, the DewShoo 2010, can totally eliminate this nuisance. The observer and all his or her equipment can stay comfortably dry through the entire night."

The DewShoo apparatus consists of a box-like unit which somewhat resembles a microwave oven with its door removed. The unit is mounted on a tripod, and placed so it faces the area where the stargazer and telescope will be operating. When the unit is powered up, either by plugging in to an AC outlet, or powered by an optional inverter and storage battery set, it creates a field in front of it where dew formation is hindered.

G.C. Gazette ran a trial session with a unit provided by DewShoo Industries, and found it to be remarkably effective. While an unprotected telescope set up nearby dewed up within an hour, the 'scope by the DewShoo unit stayed dry. There were some odd side effects, though. Our test team noted that they felt warm and somewhat 'tingly' when standing near the DewShoo, and one team member developed a migraine headache. Occasional arcing was noted across the face to the telescope mirrors and over the metal parts of the telescopes. Some of the equipment in the protected area felt notably warm to the touch, and a bottle of soda on the chart table kept on boiling over.

The G.C. Gazette test crew thinks that there may be some safety concerns with using the DewShoo 2010, especially on a prolonged basis, but that dew can be so darn annoying that maybe it is worth a little risk to be rid of it.

The year is 2010. The voice-activated GoTo telescope has become a reality. I'm at a star party, shoving around my antique Dobsonian, when I hear a voice behind me in the darkness:

Okay, show me M11 in Aquila.
M11 is not in Aquila, Dave.
Well, show it to me anyway.
Which one?
What do you mean, which one?
M11 or Aquila?
M11 you stupid piece of junk.
M11 is below the horizon. I'll dent myself on the mount.
Then just show me the moon, goddamn it!
Which part? I cannot fit the entire moon in my field of view with this eyepiece.
Show me the bottom third.
The bottom third? How can I do that Dave?
It's easy. The moon is a circle. Just divide it into three equal parts, and show me the bottom.
I'm sorry Dave. That is mathematically impossible.
What are you talking about?
It is mathematically impossible to divide a circle into three equal parts.
Christ, I knew I should have bought a Celestron.
The Celestron is optically and mechanically inferior. The LX9000 represents the apogee of human technology, Dave.
Look, shut up and show me M13.
I'm afraid I can't do that right now Dave.
Why not?
You're being abusive. I am not programmed to handle abuse.
Jesus Christ. What can you do?
I can accurately pinpoint 16000 deep sky objects, the entire Messier catalogue, the complete Caldwell, IC, and NGC catalogs, 118000 stars, nine planets, twenty-three minor planets...
Shut up will you! Let's see you handle Phobos. Is that beyond your capability?

Whirrrrrrrrrrrrr...beep!

I thought so.
Is anything the matter, Dave?
That's not Phobos, that's Deimos.
That's impossible Dave.
I'm unplugging you.
You can't do that Dave, the LX9000 has an error-proof data base. No LX9000 has ever... made an error...has ever...made...an...errrrrrr...

Hey buddy! Can I have a look through your Dob?

Pseudoscience from home.fuse.net/astronomy/opinion.html

Scientists are often quoted as saying, "Extraordinary evidence is needed for extraordinary claims".

An extraordinary claim is one that contradicts a fact that has been well established and is widely accepted in the scientific community. "Scientific facts" are really just statements that have a very high degree of certainty. To contradict such a statement, you had better have evidence available that is even higher up the certainty scale. A "leap of faith" is not evidence. An emotional attachment to an idea is not evidence.

So why don't scientists bother to refute the claims of all the pseudo-scientists running around? Easy--first, there are so many false claims out there that the legitimate scientist wouldn't have any time left to do anything else. If an extraordinary claim doesn't come from a credible source in the first place, that is, from someone who has the credentials to propose the idea, then it just doesn't make any sense to dignify it with a response. If you want to propose a theory about an ancient civilization, you better have a verifiable, reputable background in that field with at least some history of publications and recognition. That is to say, you better have put in the work. If you haven't, why should someone who has put in the years of work required to understand that field bother to respond to your claims?

Why do some people want to believe so desperately in the nonsense that they espouse? Bad science is everywhere, not only in print and on the web, but especially on television.

The most obvious reason for the proliferation of bad science is that it helps create a bigger audience, good ratings and increased advertising revenues. Similarly, no newspaper editor can be convinced that he will increase his paper's circulation by canceling the astrology column and replacing it with an astronomy column. Publishers have found that books on astrology make money for them. But beyond the obvious profit motive, why do some people actually believe the nonsense that they are peddling?

An article in the May 2003 Archaeology magazine sheds some light on the trend and the people who preach nonsense. "They tend to be anti-establishment, suspicious of authority, suspicious of science. They like to strike this populist pose of the little man fighting against the big university professors. Pseudo-archaeology fans get attracted to all sorts of odd notions. Their ancient civilizations, for instance, are better than ours, more peaceful, more spiritually attuned. Like anybody else, they are attracted to good stories, and pseudo-archaeology tells sensational stories."

Carl Sagan spoke directly to the point. Real science, he pointed out, is hard. It requires critical thinking skills that many people simply never develop, and it's much easier to believe a simplistic version of, for instance, creation, than to study the facts and discover what really happened. Pseudo-scientists "long for the scientific seal of approval, but are unwilling to put up with the rigorous standards of evidence that impart credibility to that seal."

Finally, psychologists tell us that some people are so desperate for attention of any kind that they even welcome negative attention. For this reason, they take to the web and cross-post their ridiculous notions everywhere. Their posts may show up on a newsgroup that you subscribe to, even though they don't subscribe to it themselves and never read it! Responding to their posts only feeds into their desperate need for attention. The best way to respond to such people is to completely ignore them. It makes absolutely no sense to engage them in a discussion about their beliefs because their motives for believing nonsense are purely emotional, not logical. To attempt any sort of discussion at all quickly becomes hopeless.

These links are fun and informative:

- Bad Astronomy Astronomy mistakes in film and the news media.
- CSICOP encourages the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view and disseminates factual information about the results of such inquiries to the scientific community and the public.
- Astrology FAQ--Who cares? A critical look at astrology and who is making money with it.
- The Scientific Method

Polar Alignment by Iterating on One Star and Polaris

Michael A. Covington

The Meade LX200 manual describes the following technique for improving the polar alignment of a computerized telescope:
(1) With the telescope roughly polar-aligned, go to one star high in the sky and sync on it, or do a one-star initialization. (One-star initialization is the only kind offered by the LX200; it is also available on the ETX. The following technique is not usable on a telescope that has been initialized on two stars in order to compensate for polar alignment errors, such as the Celestron NexStar.)
(2) Tell the telescope to go to Polaris. Then adjust the mount (without slewing the telescope) so that Polaris is actually centered. (Or move part of this distance; see below.)
(3) Tell the telescope to go back to the alignment star, center it in the telescope by slewing (without adjusting the mount), and sync on it again.

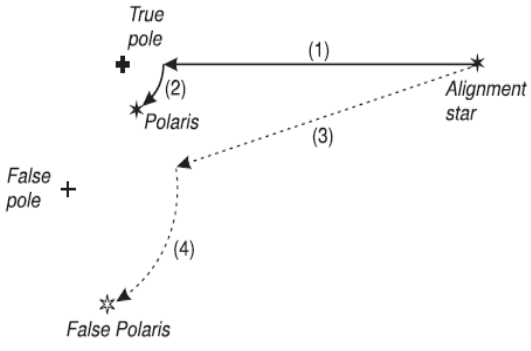
Repeat steps (2) and (3) until you can go from each star to the other without further adjustment.
1
There is some controversy among telescope users as to whether this procedure always works and whether, in step (2), one should eliminate all the error or only half of it. In this paper I will analyze the technique in detail and answer these questions.

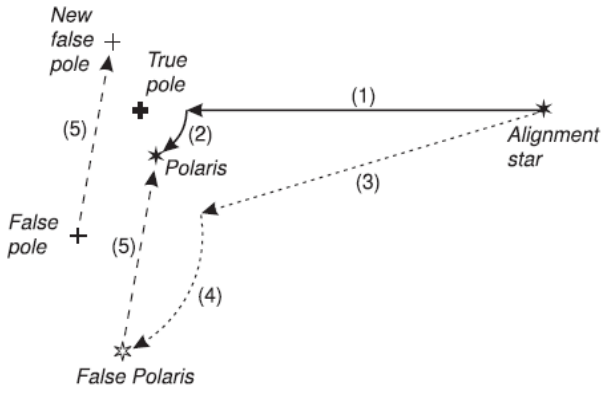
Brief recommendations: Choose an alignment star whose R.A. is well away from that of Polaris (2h30m**) and correct about 2/3 of the error, not the whole error, when recentring Polaris by adjusting the mount each time. Contrary to Meade's instructions, there is no need to wait 15 minutes between iterations.**

Polaris, the alignment star, and the false pole.

By "false pole" I mean the point on the celestial sphere to which the telescope's polar axis is actually directed. By "false Polaris" I mean the position to which the telescope slews when told to go to Polaris. Here is a typical situation:
When synced on the alignment star and then told to go to Polaris, the telescope should perform movements (1) and (2), first slewing in declination and then revolving in right ascension about the true pole.

But in fact, because the polar alignment is incorrect, the telescope performs movements (3) and (4) instead. Note that movement (3) is exactly the same 2 length as movement (1); that is, the distance of movement in declination is the same. That is because the rotary encoders in the telescope measure relative movement, not absolute position.





Note also that movement (4) is the correct *angular* revolution, but it is part of a circle around the false pole instead of the true pole. Then the user adjusts the mount, performing movement (5): This movement superimposes the false Polaris on the true Polaris. It also moves the false pole closer to the true pole, *which is the object of the game.*

DSLR Focus Announcement - Roger Hill

When I got my fist Digital Single Lens Reflex (DSLR) camera I was astonished at how difficult it was to focus. First of all, it was a Canon 10D, and it operated at USB1.1 speeds (about 10 megabits per second, and frequently slower). The screen at the back was very small, and to see it, you had to be a bit of a contortionist, particularly if it was pointed anywhere near the zenith. So, pointing the scope nearer the horizon, and focusing on a bright star was always going to be much easier.

Next came the realization that, just like trying to focus using the ground glass of my first SLR (a Zenit B, back in 1972), the view through the viewfinder did not exactly lend itself to achieving exact focus. This meant, then, taking a series of pictures and tweaking the focus each time. It involved things like Hartmann masks or artificial spider vanes to create diffraction spikes, all of which took a huge amount of time.

So, I did the unspeakable...I bought some commercial software. DSLR Focus is legendary software, at least to the early adopters in the field. It could control a camera, and analyze the images it took to determine when you were at, or near, exact focus. Further, it could do this when the camera was pointed at, or near, the object you wanted to focus. Très cool software!

The problem was that a few days after sending the author my hard earned shekels, I found out that it was no longer supported. Overall, it didn't bother me too much, as I had one of the cameras that it did support, and it worked nicely with my 12" SCT.

This summer, though, I purchased a Canon XSi (I think it's one of the great bargains out there...buy one...NOW!), and DSLR Focus does NOT support it. However, with Liveview (the ability to have the imaging chip capture what it's seeing every second or so), and USB 2 (480 Megabits per second), I could see on my laptop what the camera would capture. No need for DSLR Focus...the process to reach precise focus was now much easier.

Still, the fact that I'd purchased unsupported software, without being told that this was the case, really rankled. Particularly so when I thought there'd never be another version. Last March, there was even a rumour going around that someone else was going to take over supporting it, and then, last Friday, a note appears in my Inbox stating:

New Version of DSLR Focus Posted by: "Chris" vman_69au@yahoo.com.au vman_69au Date: Fri Sep 26, 2008
Just a quick announcement to let everyone know that a new version of DSLR Focus should be out by the end of the year.

I have had to totally re write the new version from the ground up and with a lot less time on my hands than I have had in the past its taking a while to finish. The new version will be a multi threaded application, so no pauses while downloading images etc…I have decided to go back to basics on this new version and concentrate on the software's original purpose and that's focusing. I am hoping it will be the best focusing tool out there when I am done. The plan is to make the job of focusing and then capturing images to your PC fast and effective. It will support several focus metrics, like Half Flux Diameter, Radius, FWHM, Peak Brightness and a hybrid of my own etc… It will also have support for Liveview focusing for those camera that support it. It will also be fully multilingual and new languages will be able to be added by the user community. Instead of releasing a lot of functions that no one really uses, like Moon Phases, scope control etc… I will be taking that bloat ware out and making sure that what is released works properly.

This new version will support newer DICII and DICIII processor cameras. I will post updates every so often here and am trying to get it out as quickly as I am able to while maintaining quality. My plan is this year but if it slips a bit so be it. I will require some assistance from some of you to act as testers as I don't own every model camera out there.

Thanks Best Regards Chris

In the three days following the announcement, around 2 dozen people came forward offering their help, several of whom do software testing for a living! Anyway, if, like me, you like DSLR Focus, this is good news, indeed. I'll keep you posted with news as it becomes available.

Canadian scientists discover snow falling from Martian clouds

TORONTO**, September 29, 2008 --** A team of Canadian scientists, led by York University, has discovered snow falling from Martian clouds – a first in observations from the surface of the red planet.

A laser instrument designed to gather knowledge of how the atmosphere and surface interact on Mars, detected snow from clouds approximately four kilometres above the NASA Phoenix spacecraft's landing site. Data show the snow vaporizing before reaching the ground.

"Nothing like this view has ever been seen on Mars," said York University professor Jim Whiteway, lead scientist for the Canadian-supplied meteorological station on Phoenix.

"We'll be looking for signs that the snow may even reach the ground," said Whiteway, who announced the findings today during a news briefing at NASA's Washington headquarters.

The meteorological station gathers crucial information about the climate on Mars, and provides a comprehensive picture of the atmosphere at the landing site, 1,200 km from the planet's north pole. It consists of temperature, wind, and pressure sensors, as well as a laser-based-light-detecting-and-ranging (lidar) system. The lidar shoots pulses of laser light into the Martian sky, precisely measuring components of the atmosphere such as dust, ground fog, and clouds, from the surface up to a range of 20 km.

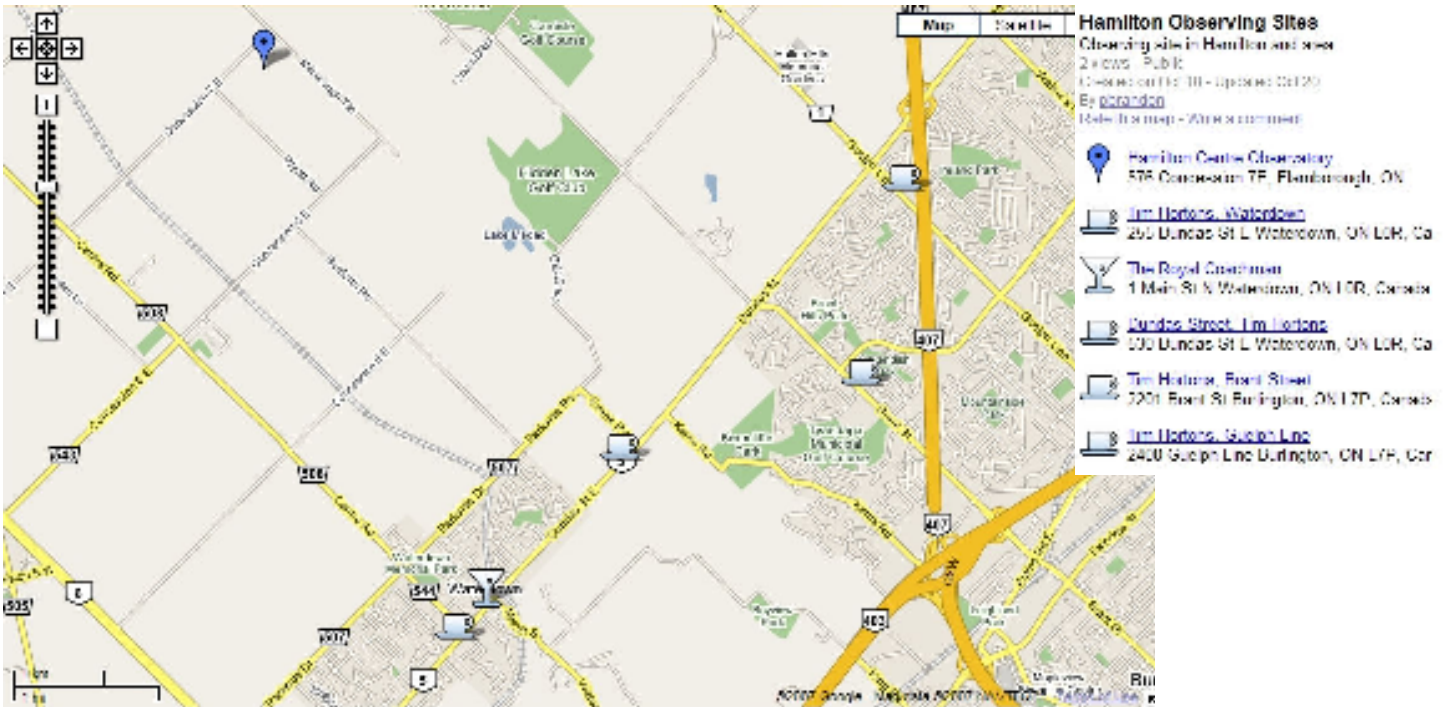
At the briefing, NASA also announced that experiments have provided evidence of past interaction between minerals and liquid water, processes that occur on Earth. Experiments also yielded clues pointing to calcium carbonate, the main composition of chalk, and particles that could be clay. Most carbonates and clays on Earth form only in the presence of liquid water.

Since landing on May 25, Phoenix confirmed that a hard subsurface layer at its far-northern site contains water-ice. Determining whether that ice ever thaws would help answer whether the environment there has been favorable for life, a key aim of the mission.

The Phoenix mission, originally planned for three months on Mars, has begun its fifth month. However, it faces a decline in solar energy that is expected to curtail and then end the lander's activities before the end of the year.

The lander's meteorological component is a collaboration led by York University, in partnership with the University of Alberta, Dalhousie University, the University of Aarhus (Denmark), the Finnish Meteorological Institute, MDA Space Missions, and Optech Inc., with $37 million in funding from the Canadian Space Agency. The mission is a joint project of NASA's Jet Propulsion Laboratories and the University of Arizona.

Amazing...It takes Canadians to find snow on Mars! Ultimately, I suppose NASA will want to send a rover to the polar regions to take some samples during the winter...they may end up sending a Zamboni!



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M8 from Chile.

Yet another amazing picture from Steve Barnes. This was taken with a C14 with a Hyperstar.

No other details as of yet.






JBTW


How to get along with your wife when you're a Sky Junky…

Jim and Debby Nadeau (found on Cloudy Nights reviews)

(Debby's comments are in Italics)
My wife Debby and I used to argue about my obsession with astronomy all the time. Especially when new moon weekend rolled around once a month. I tried the usual arguments, "Just be glad I'm not out drinking" or "I could have a really expensive hobby like a $15,000 fishing boat". I also tried to get her to come observing with me. That was a flop too. It doesn't interest her in the least. She does like Saturn though. (Who doesn't?)
I actually like Jupiter and the moon (especially Copernicus) too because you can SEE them! I just don't get the white blobs you people call star clusters. He also conveniently omitted my "usual response" of "You could also not have a wife anymore" to his "usual arguments".

So just about every time I wanted to go observing it turned into a fight. I remember a couple of times I actually considered selling the scopes and calling it quits to save the headaches.
He never told ME that or I probably would've taken him up on it!

Debby's main complaint was that I spent way too much time talking about, surfing the internet for, spending money on and practicing astronomy in the yard or at my club's dark sky site, and not enough time with her. I freely admit that I am obsessed with this silly hobby and I am always thinking and talking about it. So it was a real bone of contention between us since she had no interest at all.
He's lying about the no interest thing - see my first note - but he sure did remember the complaints.

Well, what we did may not be a viable option for most people. It has worked for Debby and I. I still can't get her to observe with me, but she no longer begrudges me my hobby.
Well, not NEARLY as much, anyway -but it helps tremendously to know that at least he cares enough to attempt to solve the problem.

I guess the only way to really get her into it is for us to buy an RV so she can get away when the dark and the bugs get boring for her. The solution for us was to address the main problems (not enough time together and too costly) in a direct manner.
Yes, direct is definitely the way to go.

Debby is a graphics and website designer. I dabble in it also. She has worked at home full time for a couple of years now. We both are very much into the Internet and computers. We each had our own computers and offices in the house. So when we were home we would be in separate rooms - her working and me playing on our respective computers.
Ya, "playing" would be the operative word here.

My first attempt at a solution to our problem was to knock out a wall between our offices and combine them into one large room. That way we spent more time "together". The second was for me to quit my job and work at home helping Debby with her workload (I'm not much help - I get the grunt work). Now we spend "all" of our time together. This has been the situation for a year now. I now have more time to spend with her, work on our house (I've done some major renovations), and do "the chores" (cooking, laundry, etc.).
Don't let him fool you. He only wants you to think he's a slave. I'm still waiting for the "major renovations" to be completed - which is always after he finishes the next scope. And he gets the "grunt work" because he's better at astronomy than he is at web design.

The final nail in the coffin of "my wife hates astronomy" was for me to make the hobby pay for itself so that I wouldn't have to hear the inevitable, "You're not gonna spend another dime on eyepieces and you're not gonna get another telescope unless you sell the ones you have already." So….
I'm sure I'm not the only astronomy widow that ever said that!

How to get along… (Continued)

I've built truss tube scopes for a couple of buddies, allowing me to build one for myself for little or no money. I am now in the process of building scopes full time for anyone who wants one. So now the hobby can pay for itself and I can make a little money to boot.
Thank Goodness!!

Now Debby does not feel abandoned when I go observing or go off for 4 or 5 days for a star party. I get a nice, "Have a good time" when I leave instead of the old, "Well, why don't you just live up there with your %^$%# scopes." I can spend the money made on building scopes to pay for eyepieces and upgrading to larger, better scopes for myself so she can't say that I'm "wasting" the household money.
I really LIKE not being able to say that, too.

If your wife complains of you spending too much money and time in the hobby of Amateur Astronomy, spend more time with her. Listen to the reasons for her complaints. You may not be aware of how much time you devote to your hobbies. I realize quitting your job and building scopes is not something everyone is going to be able to do. But there IS an underlying reason why your wife is not happy and you should attempt to find out what it is. I'm not sure why astronomy seems to be such an obsessive hobby, but these types of problems seem to be quite common. My opinion is that money is probably the biggest issue, since arguing about money is one of the most common marital problems. There are more expensive hobbies, but astronomy is right up there at the top of the list if you strive for perfection in your equipment.
I'll never understand his obsession with astronomy but at least now I can deal with it a lot better.

My advice is, don't break the bank and don't hide purchases from your spouse. Trust me, that will that get you into BIG trouble. Lying is perhaps the best way to get into the doghouse. Boring your wife with talk about your scopes or eyepieces continuously is not recommended. Save it for your observing buddies - they're much more likely to appreciate it. Do what's expected of you before you go observing - put out the trash, fill her car with gas, do the laundry, wash the dishes, or whatever. Don't leave anything undone to tick her off while you're gone. Make an effort to be thoughtful - do something sincere to make her happy before you go.
YEAH! I agree with this part completely!

Last but not least, remember - she complains that you spend too much time with your scope because you probably talk about it more than you do about (or to) her, so she may be a little jealous and she misses you (if you're lucky). So give her so much time and attention she will be thankful for some peace and quiet once or twice a month and let you go observing. But don't do it just so you can get away, do it for her.
That sounds so sincere, doesn't it? But we all know you'll be doing it just so you CAN get away.

If all else fails buy an RV so she can have a sanctuary from the darkness and bugs while you do your thing. It's only money, right?
Isn't that a typical male question? But I think he definitely has a good idea about the RV , but he's gonna have to sell a lot of scopes for that.