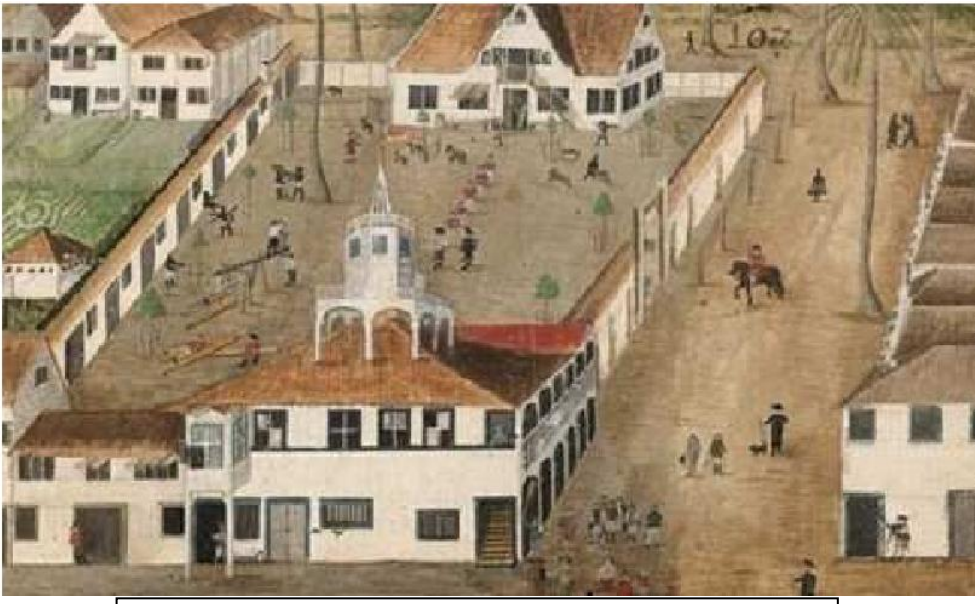
The Messenger
Mexborough & Swinton Astronomical Society
June 2017

The First South American Observatory

The establishment of the first astronomical observatory in the Southern hemisphere was during the Dutch occupation of the Brazilian north-east (1630 – 1654). The observatory was built in Recife by John Maurice, Prince of Nassau-Siegen, otherwise known as Count Johan Maurits van Nassau-Siegen) in 1639. The observatory was built on the roof of the governors' house. Recife is now the capital of the State of Pernambuco, but was in those days the capital of the Dutch colony called Nieuw Holland. Nassau was enthusiastic about science and brought many European scientists to Brazil to study the flora, fauna and the skies of the New World.
The observatory was built for the work of the German astronomer George Marcgrave. Marcgrave had built one of the first European telescopic observatories in Leiden, and was brought to Brazil to do astronomical and other work (mainly wildlife drawings). The observatory is said to have contained a quadrant, sextant and a telescope. From this observatory Marcgrave recorded the lunar occultation of mercury in 1639.

The buildings including the observatory were demolished in 1782 after falling into ruin.



The observatory on the roof of the Count Nassau residence, Recife Brazil.
A watercolour by Zacharias Wagenaer, painted around 1641.

Mike Hall's June 2017 Skynopsis



Diary (all times BST Greenwich, Sunrise/Sunset, local (Sheffield) time).

1st	Sunrise 4.48am, Sunset 9.23pm; Moon at First Quarter
3rd	6:00am Venus reaches greatest western elongation (46°)
4th	0:29am Jupiter 2° South of Moon
5th	Comet C/2015 V2 (Johnson) at brightest
8th	Sunrise 4.39am, Sunset 9.30pm
9th	Full Moon
10th	1.00am Saturn is 3.5° South of Moon
12th	11.00 Mercury is 2° North of Aldebaran
15th	Sunrise 4.37am, Sunset 9.36pm : Saturn at opposition
16th	13.00 Neptune is 0.7° North of Moon
17th	Moon Last Quarter
19th	4pm Uranus 4° North of Moon
20th	21.00 Venus 2° North of Moon (Close to dawn)
21st	Solstice at 4am
22nd	Sunrise 4.38am, Sunset 9.38pm
24th	New Moon
29th	Sunrise 4.41am, Sunset 9.38pm

The Solar System

Mercury	Poor viewing, best seen after superior conjunction on 21st in Taurus
Venus	Visible throughout the month in the morning twilight together with Uranus
Mars	May be viewable at the start of the month but dropping slowly into the evening twilight
Jupiter	Best seen at the start of the month in Virgo, Moon close by on 3rd and 30th
Saturn	Best on 15th when at opposition, mag. Zero in Ophiuchus
Uranus	Uranus may be found 1.75°/11 o'clock from Venus in the morning sky
Neptune	Visible just before dawn, mag.+7.9, in Aquarius, stationary 16th then moving into retrograde orbit

Galactic Goodies.

M51 'Whirlpool' Galaxy	Actually two galaxies together in Canes Venatici, below Great Bear's tail
Cigar and Bode's Galaxies	M82/ M81 in Ursa Maj, mags +6.9/8.4; apparent sizes 21 and 9.4 arc minutes;
	visible in binoculars

THE THOUGHTS OF CHAIRMAN LES



Our organised events within the society are many and varied and we are to provide a couple of workshops. With the summer months in mind and many of you probably observing the Sun we are aware that doing this could be dangerous if the correct procedure is not followed, if you are not sure about this please seek advice from other members

DO NOT LOOK AT THE SUN WITHOUT SOLAR FILTER PROTECTION

There will be a workshop to construct a solar filter for your telescope no matter what the size. This is something we did about a year ago and it was a particularly interesting subject as it was for the individual member and their 'scope. A date hasn't been set yet but it won't be too long and you will be able to use it this coming summer.
This month, Friday 23, most of us are looking forward to the Solstice Dinner. If you haven't got your name on Roy's list yet I think there is still time to correct that.

We as your committee are still worried about our meeting room and how long we might have it. We have had a look at one or two other venues but we are finding hard to find somewhere 'local' that would accept a group such as ours with a permanent room for us to have 'soul use'. We need your help on this and ask you to keep your eyes peeled for a place you feel would suit us, if you have any ideas on a place just let the committee know and we will take a look.
I will repeat my message from the previous Messenger about our AGM. If you have anything to say now is the time to make it known. Should you have something to offer as a committee member please enter your name on the nomination forms on display in the meeting room?
We as the committee continue with our efforts to keep our society on its forward path to keep us on moving onward 'n upward.

Les Marsden

Chairman

"Astronomers, like burglars and jazz musicians, operate best at night."

— Miles Kington, Journalist

KEEP YOUR EYES OPEN

Friday 23rd June 2017 : Solstice Dinner



Dr Chapman is well-known to the amateur astronomy community, for his books; for his appearances on television shows including The Sky at Night; but most of all for the many talks that he has given to astronomical societies around the UK.
We are honoured and delighted that Dr Allan Chapman serves as a patron and honorary President of Mexborugh & Swinton Astronomical Society.
We welcome him back twice each year for a truly interesting evenings talk

Thu July 6th : The Lost Gardens of Fireside - The story of James Hall Nasmyth



Kevin has been interested in astronomy since age 4 and has had a particular interest in the moon and sun for about 50yrs. In his mis-spent yoof he saw the launches of Apollo 15 and 17 first-hand from the Cape and has spent 20minutes in moon shadow during four cloudless total solar eclipses.
He is currently studying the surface colour of the moon and taking whole disc white light and H-alpha images of the sun for the BAA Solar Section whenever skies permit, typically on 150-200days each year.
Having been president of Manchester AS on three separate occasions (they were desperate!), he is currently Vice President of Manchester Astronomical Society and Vice Chairman of the Society for the History of Astronomy.

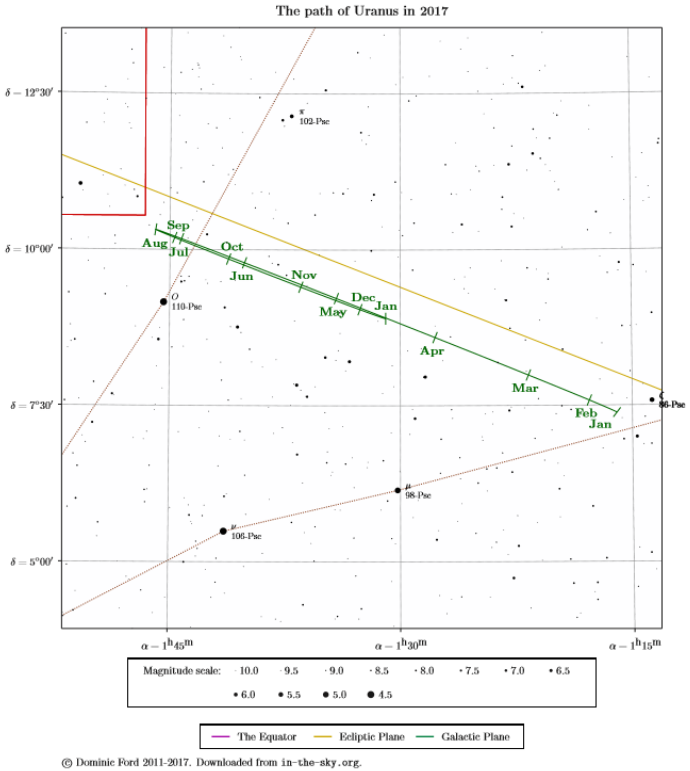


The Four “Just” Men waiting in anticipation of the Observation Officers summer talk!

Looking for Uranus

Uranus will be at opposition on 19th October 2017, so plenty of time yet! At opposition it will be magnitude 5.7, so not really a naked eye object from the Rotherham skies, though you may be able to pick it out with a good pair of binoculars if you know where you're looking.
Uranus will be in Pices, and although is not moving fast in the night sky, programms such as Stellarium can easily help in finding it for any particular night. Alternatively web sites such as in-the-sky.org can also be used to locate the planet.
The Moons cannot be seen directly by the eye unless you have a large telescope with a very large appature (larger than the C14 at the observatory), due to their faintness (magnitude 15 and fainter) and the relative brightness of Uranus. However it is possible to photograph them with a 20 to 30 second exposure with our observatory telescopes (In fact I have done this) At opposition Titania is magnitude 13.9, Oberon 14.1, Ariel 14.3, Umbrial 15.0 and Miranda 16.5.

Uranus was officially discovered by William Herschel in England on the night of March 13, 1781. Herschel was a musician by trade, but he spent his nights surveying the sky. He wrote, "In examining the small stars in the neighbourhood of H Geminorum I perceived one that appeared visibly larger than the rest..." Herschel's discovery was by no means an accident. He built the largest telescopes of the day--the first practical application of the reflecting telescope invented by Newton. Assisted by his sister Caroline, Herschel set out to observe every star in the sky. As he put it, "In a regular manner I examined every star in the heavens and that night it was its turn to be discovered."



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THE BRAZILIAN FLAG



There are 27 stars on the Brazilian flag. The stars are on a blue circle. The motto “Ordem e Progresso” is across the circle which splits it in two, one star is above the banner of the motto and 26 stars are below it. The stars are of different sizes.
The stars are intended to represent the stars in the sky over Rio de Janeiro at 8:30 am on 15th November 1889 (the date of the formation of the Republic of Brazil). The exact positions of the 27 stars on the flag makes the flag one of the most difficult to construct and the official design is defined by Brazilian law. The number of stars is an indication of the number of states that make up the Brazilian republic (Just as there are 50 stars in the flag of the USA)
The star Spica is the only one above of the white band; it symbolizes part of Brazilian territory in the northern hemisphere (and the State of Pará). The Sigma Octantis (south pole star) is small, but all the other stars turn around it. Its unique position in the sky of south hemisphere represents the stability of the Federal District in the Brazilian union.
The flag originally had only 21 stars, as more states were added to the republic then more stars were added in 1960, 1968 and 1992.
The Sigma Octantis (south pole star) is small, but all the other stars turn around it. Its unique position in the sky of south hemisphere represents the stability of the Federal District in the Brazilian union.
According to Brazil's national act number 5,700 of 1 September 1971, the flag portrays the stars as they would be seen by an imaginary observer an infinite distance above Rio de Janeiro standing outside the



firmament in which the stars are meant to be placed (i.e. as found on a celestial globe). Thus Beta Crucis appears to the right of the constellation and Delta Crucis to the left, in mirror image of the way they actually appear in the sky

No	Star	State
1	Spica (Alpha Virginis)	Para
2	Procyon (Alpha Canis Minoris)	Amazonas
3	Alphard (Alpha Hydrae)	Mato Grosso do Sul
4	Gamma Hydrae	Acre
5	Sirius (Alpha Canis Majoris)	Mato Grosso
6	Mirzam (Beta Canis Majoris)	Amapá
7	Muliphen (Gamma Canis Majoris)	Rondônia
8	Wezen (Delta Canis Majoris)	Roraima
9	Adhara (Epsilon Canis Majoris)	Tocantins
10	Canopus (Alpha Carinae)	Goiás
11	Rubídea (Gamma Crucis)	Bahia
12	Pálida (Delta Crucis)	Minas Gerais
13	Epsilon Crucis	Espírito Santo
14	Alpha Crucis	São Paulo
15	Mimosa (Beta Crucis)	Rio de Janeiro
16	Antares (Alpha Scorpii)	Piauí
17	Graffias (Beta Scorpii)	Maranhão
18	Epsilon Scorpii	Ceará
19	Shaula (Lambda Scorpii)	Rio Grande do Norte
20	Kappa Scorpii	Paraíba
21	Mu Scorpii	Pernambuco
22	Sargas (Theta Scorpii)	Alagoas
23	Iota Scorpii	Sergipe
24	Beta Trianguli Australis	Santa Catarina
25	Alpha Trianguli Australis	Rio Grande do Sul
26	Gamma Trianguli Australi	Paraná
27	Polaris Australis (Sigma Octantis)	Distrito Federal - Brazilia

The Southern Cross appears on the flags of many southern hemisphere nations apart from Brazil – Australia, New Zealand, Papua New Guinea, Cocos Islands, and Samoa,
The northern hemisphere asterism, the Big Dipper, can be found represented on two regional flags of the USA these being the flags of Alaska, the Cherokee Nation

The flag of Alaska is shown below



DIARY

Date	Time	Location	Subject / Event	
Thu June 1st	**19:45**	**Club Room**	**Mars and the Spiders**	*Peter Jalowiczor*
Thu June 8th	**19:45**	**Club Room**	**Sun & Solar Photography**	*Mick Nicholls*
Wed Jun 14th	**20:00**	**Club Room**	**Executive Committee Meeting**	
Thu June 15th	**19:45**	**Club Room**	**Astro Clinic**	*Various*
Thu June 22nd	**19:45**	**Club Room**	**Astronomy News**	*Various*
Fri June 23rd	**19:00**	**Rotherham Golf**	**Solstice Dinner**	*Alan Chapman*
Thu June 29th	**19:45**	**Club Room**	**AGM**	
Thu July 6th	**19:45**	**Club Room**	**The Lost Gardens of Fireside**	*Kevin Kilburn*
Wed July 12th	**20:00**	**Club Room**	**Executive Committee Meeting**	
Thu July 13th	**19:45**	**Club Room**	**The Infamous |Marsden Quiz**	*Les Marsden*
Sat July 15th	**14:00**	**Club Room**	**Solar Data Processing**	*Mick Nicholls*
Thu July 20th	**19:45**	**Club Room**	**TBA**	*Paul D'Silva*
Thu July 27th	**19:45**	**Club Room**	**TBA**	*TBA*

Old Moor RSPB – Manvers Way, Barnsley, S73 0YF
PVE – Public Viewing Event – Bookable Only
CAE – Community Access Event
PO – Public Outreach
TBA – To be announced – (otherwise – We don't know!)

Web site: http://msas.org.uk
Meeting room is at Swinton Working Men's Club, Station Street, Swinton, South Yorkshire, S64 8AU.
Observatory is at Lee Brook Lane, Hoober, S62 7SH
Mexborough & Swinton Astronomical Society is Registered Charity N° 1064103 in England & Wales

For submissions to The Messenger - Editor: Roy Gunson: royg@gmx.co.uk



Radio Sheffield's Rony Robinson interviewed club vice-chair Roy Gunson at the observatory on May2nd, for the radio stations "Rough and Random" segment which was featuring the Hoober area.