

JOURNAL of the
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

September, 1975.

Editor: Mr. J. Deans,
[REDACTED],
CAPEL ST. MARY,
Ipswich, Suffolk.

'Phone GT. WENHAM [REDACTED]

What's Up? The Solar System as seen from Ipswich, September, 1975.

The SUN is moving in the constellation of Leo and Virgo. Mercury will move direct until the 26th thereafter moving in a retrograde manner and VENUS is already retrograding in Leo and will move direct after the 16th. The EARTH would be seen in the constellation of Pisces if you were standing on the Sun, but as the chances of this happening are remote you might as well forget this gem of useless information but it fills the gap between Venus and Mars.

MARS is in Taurus, JUPITER is retrograding in Pisces (at least we are not the only planet in a retrograde state of affairs!) and SATURN is in Cancer.

URANUS and PLUTO are in Virgo and NEPTUNE is in Ophiuchus. CHARLES RADLEY will be in Guildford, he has been in the U.S.A. but more about that later, and our Dr. J. Mason will be leaving us to work at a hospital in Barnstable, North Devon.

Now for something completely different!

Have you ever looked up at the night sky in amazement bewildered by all those tiny pinholes of light and wondered how they could ever fit together into forming a constellation? Where would you expect to see Cepheus or Delphinus or the Ring Nebula and the Andromeda Galaxy?

If you have wondered, why not join the happy band of O.A.S.I. starspotters on Foxhall Heath on the first Wednesday of each month starting on October 1st at 7p.m. irrespective of weather conditions. Bring a star map, a torch, binoculars or small telescope if you have one and wrap up warm. This will be the first attempt at what we hope will develop into a regular expedition right through the winter months, so please support this venture, bring your friends for the more who come along the more enjoyable it will prove to be.

Development of Astronomy from Ancient to Modern Times.

This is the title of a 32 page dossier which will be broken down and featured in the Journal over the coming months. The article is by O.A.S.I. member Roy Gooding who has obviously devoted a great deal of time and effort in research for the preparation of this article.

Having read the complete article I can tell you that it is most enlightening and educational and will be well worth taking the trouble of keeping the various pages and building them into the 32 page dossier. I feel Roy Gooding should be applauded for his efforts in producing such a first rate article.

U.F.O.s by Mrs. P. Maxwell.

We have a report on the sighting of three unidentified manifestations in the sky.

It is not my intention to decry the validity of these or any other sightings of U.F.O.s for that matter but isn't it about time some co-ordinated approach be made into identifying what seems to be an increasing number of sightings in East Anglia.

Maybe there is already a network operating in East Anglia that I am unaware of. If there isn't it appears to me that we as a society have at our disposal telescopes, binoculars cameras and could possibly set up some alert system whereby several observers would try to identify anything considered abnormal in the sky. Is there anyone in the Society who would be willing to set up such a network?

SOLAR SECTION.

Sunspots: rotation 1631 revealed the presence of quite a considerable number of Sunspots which are featured in our picture page. It is noteworthy also that during this rotation we had the extremely hot weather and there was a great deal of interference due to atmospherics affecting television broadcasts, there may well have been some connection.

Synodic Rotation number 1632 commenced August 28.78d
" " " 1633 commences September 25.05d

Heliographic co-ordinates as at noon U.T.

	p	Bo	Lo		p	Bo	Lo
Sept 1st	+21.1°	+7.2°	310.9°	Sept 17th	+24.4°	+7.2°	99.6°
" 5th	+22.0°	+7.2°	258.1°	" 21st	+25.0°	+7.1°	46.8°
" 9th	+22.9°	+7.2°	205.2°	" 25th	+25.5°	+7.0°	354.0°
" 13th	+23.7°	+7.2°	152.4°	" 29th	+25.9°	+6.8°	301.2°

PLANETARY SECTION.

MERCURY reaches greatest eastern elongation (27°) on the 13th at 22hrs U.T. Mercury sets only a matter of 20 minutes after the Sun so the chances of seeing the planet are unlikely.

VENUS is now a morning star rising about 03h 30m U.T. by the middle of the month, magnitude -4.0 moving rapidly away from the Sun, greatest elongation (western) occurs in November.

EARTH The Autumnal Equinox occurs on the 23rd at 16hrs U.T.

MARS is in Taurus and rises around 22hrs U.T. at the start of the month, its magnitude being +0.1 about the middle of the month and western elongation 94°. Opposition occurs next December. The Moon will be near Mars on the 27th.

JUPITER is retrograding in Pisces and is strikingly brilliant in the eastern sky mag. -2.4, now rising around 20hrs U.T. The Moon will be near Jupiter on the evening of the 22nd.

SATURN is still a morning object, though by the end of the month it will rise just before 00hrs U.T. magnitude +0.5. The Moon will be near Saturn on the morning of the 3rd.

LUNAR SECTION.

Moon Phases	Lunation 652
New Moon	September 5th 19h 19m U.T.
First Quarter	" 12th 11h 59m U.T.
Full Moon	" 20th 11h 50m U.T.
Last Quarter	" 28th 11h 46m U.T.

Perigee Sept. 6th 04h U.T.

Apogee Sept 20th 07h U.T.

The Odyssey near Clavius as seen by R.H. Cheesman.

The drawings reproduced in last month's Journal of the THING! that was on the Moon were sent to Patrick Moore who replied to the effect that the feature to be a depression which was not obvious in the usual way and apparently observed at the instant conditions were favourable. Mr. Cheesman says that when the conditions were the same for observation on the 16th he had to wait until 2300hrs U.T. for a break in the cloud before he could observe the Moon again through his 8½" spec. The cloud only allowed a few minutes clear sky for viewing but it was there again! Did anyone else see it on August 16/th at all?

Lunar Occultations.

Date	Star	Mag	D	Time
September 14th	2C 2833	7.0	D	22hrs 27.1m U.T.
" 17th	46 Cap	5.3	D	18hrs 53.6m U.T.
" 19th	Kappa Aqr	5.3	D	0hrs 28.2m U.T.
" 26th	43 Tau	5.7	R	1hr 11.5m U.T.
" 27th	106 Tau	5.3	R	3hrs 52.8m U.T.
" 27th	57 Ori	5.9	R	23hrs 42.1m U.T.
" 28th	64 Ori	5.2	R	3hrs 59.7m U.T.

METEOR SECTION.

Quite a contrast from last month as this month there are no spectacular showers predicted but there will be a sporadic meteor count on Saturday 20th September at Foxhall Heath again from 10.00p.m. This meeting will take place as usual irrespective of weather conditions.

Mr. D. Barnard has taken over the directorship of the Meteor Section from Mr. S. Flory.

Meteor Section (Continued)

Meteor Section report from the Director, Mr. D. Barnard.

There are no major meteor streams this month but there are three minor ones:-

1.	Sept. 8th	Maximum,	DELTA PISCIEDS	Normal limits	Sept 5 - 11th
2.	" 30th	"	ZETA PISCIEDS	" " "	27 - Oct 3rd
3.	" 30th	"	SIGMA CYGNIDS	" " "	27 - " 2nd

These three streams are very weak giving a ZHR at maximum of only one meteor every one or two hours, so this month there is a watch for sporadic meteors only at Foxhall Stadium on the 20th September.

Meteor Count held on Saturday 26th July, 1975 21.00 U.T. - 2245hrs U.T.

DELTA AQUARIDS SHOWER

Eight members turned up for this count but it was cancelled at 2230hrs U.T. because of Spode.

Meteor Count held on Saturday 2nd August 1975, 2130hrs - 2330hrs U.T.

ALPHA CAPRICORNIDS SHOWER.

A crystal clear night enabled a total of 56 meteors to be seen, 32 shower and 24 sporadic. Six members, five visitors, one dog and numerous rabbits turned up for this count. The limited magnitude was 5.5.

Meteor Count held on Saturday 9th August, 1975 2135hrs - 2340hrs U.T.

PERSEIDS METEOR SHOWER.

This was the third meteor count in as many weeks with the best attendance, but the weather was not at its best. Ten members and nine visitors turned up for this count.

A total of 34 meteors were seen, 29 shower and 5 sporadic. For this count six stations were set up for observation but the limiting magnitude varied from 3.5 to 4.0 and at 2340hrs U.T. the clouds steadily thickened and the watch had to be abandoned. Also the lightning in the east prevented a lot of observation.

Meteor count held on August 23rd.

This meteor count was a private one organised for photographing the KAPPA CYGNIDS SHOWER but it had to be cancelled because of thick cloud.

U.F.O. REPORT from Mrs. Maxwell.

I have seen the following manifestations in the sky but am uncommitted about their significance, first because I am fully aware of the possibilities of the human imagination and second because we cannot know what objects scientists are now putting up in the sky, apart from satellites.

All I can say is that I saw these things when I was in good health and not tired, that with the possible exception of No. 3 I could not identify them and that they did not give me the impression of being man-made.

1. 1974. October 10/11 00.34hrs U.T.

Two identical circular lights, each about 1° of arc in diameter, separated from each other by about two degrees of arc. They moved in strict parallel from R.A.23 40 Dec +24 to R.A.00.20 Dec 70 to R.A.09.00 Dec 70 where they disappeared into the distance. They were of an opaque white and visually similar to M31 seen through good binoculars but with a distinct perimeter. They maintained their shape on course so cannot have been discs. Time on passage: 11seconds counted "one and two and....."

2. 1975. April 14/15 21.58hrs U.T.

I was pre-occupied attending a camera and my notes are sketchy. I quote:- "Object in sky. Like a vast moth - cigar shaped. Darting, searching movement. NW-SE over horizon. A minute later seen again proceeding on a reverse course NW. Lost over a roof. As far as I remember by "vast" I meant about the size of the lights in No. 1.

3. 1975. May 4/5 23.24hrs U.T.

A blinking light mag-2.5 moving from T1 Herculis about ten degrees of arc towards Polaris in approximately 34 seconds. There were about five blinks per second but it continually "went out" and then appeared again along the course. Can satellites behave like this? But it was very bright for a satellite.

On October 11th 1974 I telephoned Bentwaters and discussed what I had seen. They swore they had had nothing up in the sky. They denied experiments with searchlights or the possibility of the lights being in some way reflected from an aircraft. There had been no flying that night and in fact none of the three objects had any accompanying sonic effect, Bentwaters rang round various air-fields for me and reported back that what I had seen had nothing to do with the US Air Force. I consulted two psychiatrist friends who said independently that this first sighting had none of the characteristics of hallucination.

Mrs. P. Maxwell.

Meteors observed by Mrs. P. Maxwell.

Date.	Watch U.T.	Limiting Magnitude	Mag
11/12th July	23.02 - 23.47	4.5	One + 1 sporadic
			" + 2 "
			" + 3 "
	23.57 - 00.57	5.0	One + 1 "
			Two + 2 "
			One + 3 "
13/14 July	22.05 - 23.05	4.5	One + 1 "
			One + 3 "
	23.37 - 00.10	5.5	Nil
30/31st July	21.17 - 22.17	4.5	One 0 " Perseid
			Two + 1 " i Aguairid
			One + 3 " Sp
	22.52 - 23.40	4.5	One + 3 " Perseid
		4.0	One . 1 " a Capricornid

Notes:- 30/31 21.17 - 22.17 hrs U.T. One mag 0 Perseid, very long smokey trail Head went over a roof probably into Ophincus, Marked sonic effect.

22.52 - 23.40 hrs U.T. One -1 a Capricornid. Large fragmenting head with very short persisting trail.

(The rather early watches are because Mrs. P. Maxwell was principally out for fireballs) Ed.

COMET KOBAYASHI - BERGER - LILON 1975h.

Shortly after the August Journal had gone to press predictions were pouring in giving details of the new comet which is at present Mag 5 and brightening in the constellation of Ursa Major moving towards Leo Minor. Those of you who have been to the observatory will know that details were posted on the Notice Board, At the present moment no predictions have been received for September but to get a rough idea of the direction the comet is travelling here are the latest information available.

	R.A.	Dec.	Mag.
August 22nd	11hrs 28.98m	+39°32.7	4.7
" 24th	11hrs 22.30m	+38°12.4	4.5
" 26th	11hrs 15.85m	+36°48.2	4.4
" 28th	11hrs 09.60m	+35°18.5m	4.3
" 30th	11hrs 03.59m	+33°41.9	4.2

The Comet has a large circular diffuse coma with a sharp central condensation but as yet no tail.

FORTHCOMING EVENTS.

OPEN DAY We are holding another Open Day on Saturday 4th October when all members of the public are welcome to come along and see what our Society gets up to. To make a success of this most important event of the year we need everyone's support so please contribute in some way either by sending in some observations, loaning of instruments/books and posters for display, or by attending and giving a helping hand to organise things. We are planning a film show and draw, amongst other things the first prize will be a pocket electronic calculator. Draw tickets will be available by 1st September and you could help by selling some draw tickets so PLEASE contact Mr. R.H. Cheesman, [REDACTED], Ipswich for some draw tickets to sell on behalf of our Society.

Any thoughts and ideas as to something you would like to see at the Open Day make them known now.

There will be a committee meeting to which all members of the Society are invited on Friday 4th September starting at 8.30p.m. and the Open Day will be discussed and arranged fully then.

The U.S.A. by Charles Radley.

Many of you will know that I recently spent a month in the U.S.A. I thought I would write a little article outlining some of the astronomical tourist attractions they have. About all I saw was Cape Canaveral and the Smithsonian Institute.

At Cape Canaveral I saw the launching of the Apollo part of the Apollo-Soyuz mission which was fun. I was sitting on a wall with my feet dangling above the water, in the sweltering Floridan afternoon sun. The sky was fairly clear, so I saw the rocket for quite a distance. I took the Greyhound bus to Titusville (the nearest bus stop) from Orlando. Launch was at 3.50p.m. local time. I arrived about 3.00p.m. to claim my piece of wall and by 3.30p.m. the entire wall was full of people with cameras, binoculars and radios giving the countdown. I borrowed somebody's binoculars and settled down to watch. It was just like the television, only much better. The The Lox "smoke" was pouring out of the side of the rocket.

Before I knew it the radio announcer was counting away the last few seconds, and a brilliant orange flame appeared out of the base of the rocket. There was no sound except for the people around talking, the waves and several infernal helicopters who kept roaring overhead. Silently the rocket moved upwards away from the launch pad, and disappeared behind a cloud. Everybody went "Boo!!!" Then the noise came. It wasn't so much loud as deep and penetrating. A rumble, which set the wall I sat on shaking. The rocket reappeared above the cloud, noticeable more distant, the orange flame contrasting with the blue sky, and leaving a white trail just like a jet's contrail.

T + 4 minutes, the rocket was still visible in my binoculars, and I watched staging. There was an orange flash at separation as the first stage fell away, and the second stage re-ignited. Shortly after that the rocket disappeared from view, over 200 miles downrange.

A couple of weeks before the launch I had tried to visit the Jet Propulsion Laboratory at Pasadena, near Los Angeles, California. I travelled by Greyhound to Pasadena, and from there I took a local bus to J.P.L. which is about 3 to 4 miles out of town. Not quite sure I would be welcomed I walked up to the security guard, who didn't seem to notice me in my Mickey Mouse tee-shirt. He was neither aggressive nor helpful really. He simply told me that J.P.L. was open to the public only on first Monday of each month "then all they see is a movie in that there building and maybe they're shown a spacecraft in that building, and they get to have a brochur." So I denied the pleasure of touring J.P.L., but if you ever get out there, I think it's worth going on their tour if you arrive on the right day of the month.

Upon leaving J.P.L. I found that the next bus to Pasadena wasn't for another two hours! I always like walking anyway.

Continued.....

A few days after the Apollo launch I visited the Smithsonian Institute at Washington D.C. (I also visited the now world famous Watergate building, but that's another story) where they had the actual first Mercury spacecraft, Gemini 4 and Apollo 11. From a distance, the Mercury spacecraft looks tiny and it is hard to believe that that tiny dustbin like object had really gone into space. Close up I could see through the window that it was actually quite comfortable inside, even if there wasn't enough room for athletics. By contrast the Apollo spacecraft's size was quite impressive. It did have room for modest somersaults and the like, it is comparable to the volume in the interior of a car. There is a shop there in the Smithsonian which sells all sorts of mission patches, pictures, posters and souvenirs of the U.S. Space Programme.

Two places I wanted to see but didn't were Houston mission control and the space centre at Huntsville Alabama. There is a bus service from Houston city centre out to the Johnson Space Centre which houses the manned spaceflight centre and mission control. Most of those buildings are open to the public.

Huntsville, Alabama is quite similar, and for about £1 (\$2) you can go into a simulator for a simulated moon flight. The Alabama Space and rocket centre at Huntsville is about 90 miles north of Birmingham, Alabam.

If you want, you could visit Mount Wilson Observatory (100" spec) which is on the edge of Los Angeles, and Palomar (200" spec) also in Southern California. The Vandenberg Air Force Base is on the coast mid-way between San Fransisco and Los Angeles, it sits on a pininsula. It is the next important rocket site from Cape Canaveral. I'm not sure whether it's open to the public or not. It is between Santa Barbara and San Luis Obispa.

Another observatory is in Flagstaff Arizona where there is the University of Northern Arizona. This is the best point, also, for visiting the Grand Canyon

That's about it! If you ever plan a visit to the U.S.A. it is worth dropping in on some of those places. Cape Canaveral does a guided tour for a small (???) fee, however, if you see me personally I can give you some very useful off the record tips about J.F.K. Space centre at Cape Canaveral.

Charles Radley.

INCREASE IN POSTAL RATES:

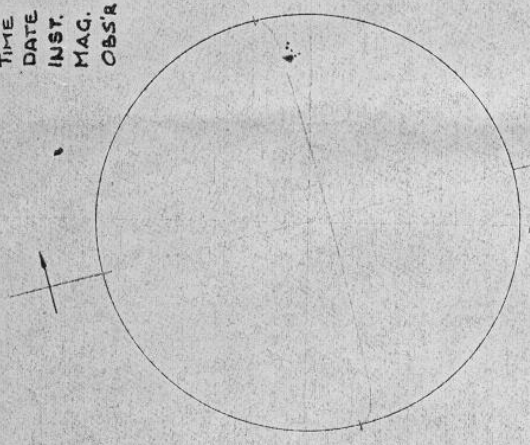
Would members who have sent S.A.E.s please forward a further supply of stamps to cover the imreased postal rates.. Please send stamps to:-
Mr. R.H. Cheesman, [REDACTED], Ipswich, IP4 5QA.

SUNSPOTS.

ROTATION N° 1631
P +15.3°
Bo +6.56°
Lo 205.6°
TIME 18H45M U.T.
DATE 13-8-75
INST. 80mm O.G.
MAG. 54 1/2 X
OBSR J.D.DEANS.

NB. DULL IMAGE SUN NEARLY SET.

N
H/C

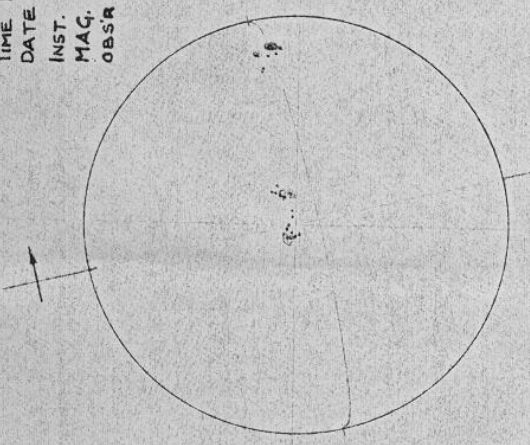


E

W

ROTATION N° 1631
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Bo +6.36°
Lo 256.5°
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DATE 9-8-75
INST. 80mm O.G.
MAG. 54 1/2 X
OBSR J.D.DEANS

N
H/C

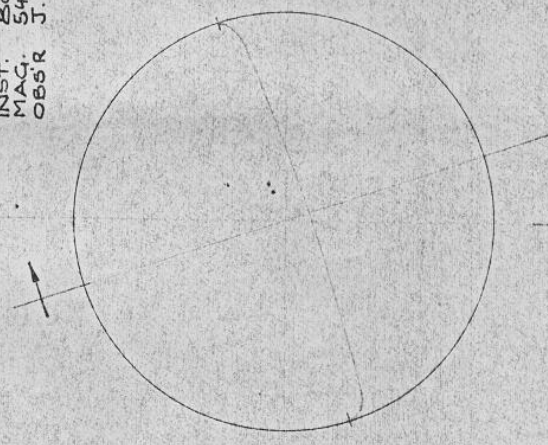


E

W

ROTATION N° 1631
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Bo +7.0°
Lo 69.8°
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DATE 23-8-75
INST. 80mm O.G.
MAG. 54 1/2 X
OBSR J.D.DEANS.

S N
H/C

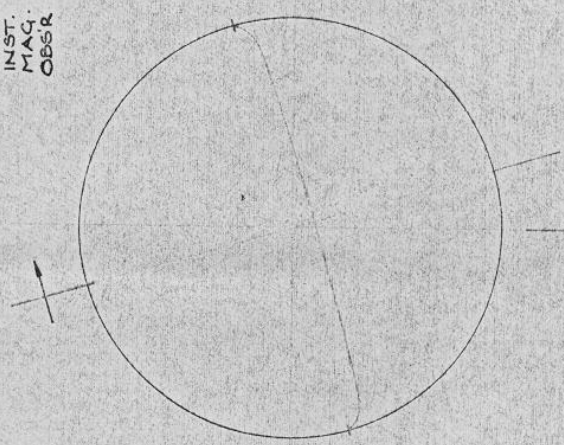


E

W

ROTATION N° 1631
P +16.3°
Bo +6.7°
Lo 164.2°
TIME 15H30M U.T.
DATE 10-8-75
INST. 80mm O.G.
MAG. 54 1/2 X
OBSR J.D.DEANS.

S N
H/C



E

W

NB. No SPOTS DISCERNIBLE.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

Programme for September

1975.

WEDNESDAYS: from 7p.m. Solar, Lunar & Planetary Section.
Director. Mr. R.M. Cheesman, [REDACTED], Ipswich.

3rd September
10th "
17th "

WEDNESDAY from 7p.m. 1st October. Astronomy for beginners. Meet at entrance to Foxhall Stadium .

THURSDAYS. from 8.30p.m. Double Stars Section.

Director Mr. D. Bearcroft, [REDACTED]. Ipswich, 'Phone [REDACTED]

4th September
18th "
2nd October.

FRIDAYS: from 8.30p.m. Lunar & Planetary Section.

Directors. Mr. J. Deans, [REDACTED], Capel St. Mary,

'Phone GT. WENHAM [REDACTED]

and Mr. K. Dye, [REDACTED], Ipswich 'Phone [REDACTED]

12th September
25th "

FRIDAYS. from 8.30 pm. Nebular & Faint Object Section.

Directors. Mr. M. Stow, [REDACTED]. Ipswich.

and Mr. R. Hazelwood, [REDACTED], Ipswich

'Phone [REDACTED]

19th September.

FRIDAY 5th September at 8p.m. Committee Meeting at the Observatory to which all members are invited.

SATURDAYS: METEOR SECTION

Director. Mr. D. Barnard, [REDACTED], Ipswich 'Phone [REDACTED]

sporadic
~~WAPP~~ CYCLED METEOR COUNT. Meet at entrance to Foxhall Stadium at 10.p.m. *20th Sept*

S A T U R D A Y 4th OCTOBER. Open Day At Observatory.

WEDNESDAY 1st October. Astronomy for Beginners. The first of a series of meetings to help beginners in astronomy. These meetings will be open to everybody who wishes to come along and the meetings will take place irrespective of weather conditions. It is hoped that as many Directors of our Society will help in these talks. For these meetings, wrap up warm and bring along small telescopes and binoculars.

Organiser of these meetings: R.M. Cheesman.

Meet at the entrance to Foxhall Stadium at 7p.m.

DEVELOPEMENT OF ASTRONOMY FROM ANCIENT TO MODERN TIMES.

by Roy Gooding O.A.S.I.

Introduction.

The origin of astronomy is unknown. Throughout history man has always been interested in the movement of objects in the sky. The Sun by day, the stars, planets and Moon by night. All cultures in the past have held beliefs, or have gained some knowledge of the sky. Some early communities have used the Sun and Moon as Gods. More advanced cultures have noticed certain patterns in the sky that repeat after a certain length of time.

All advanced cultures in the past needed to know the exact length of the year. Determining an accurate calendar was one of the first important uses of studying the sky. Having an accurate calendar was important for knowing when to hold yearly festivals and for agricultural reasons.

Very early on in the history of astronomy the pure science was linked with astrology. The astrological and astronomical side of astronomy were so mixed that it was impossible to separate them.

The degree of advance of astronomy in early cultures has been gained mainly through writings and symbols found on ancient buildings, though some books of Greek and Roman origin do exist.

Modern theories of the motion of the Sun, Moon and planets was started with Copernicus in the fifteenth century. His work on placing the Sun at the centre of the Solar System was the first step towards the actual model of our system being known. Kepler extended this model by providing three laws that described the motions of the planets around the Sun. The forces involved in these motions were discovered by Newton. At the same time Galileo was providing more proof of this model of the Solar System with the first telescope used for constructive astronomical work.

In subsequent centuries and up to the present time, three more planets have been discovered, existence of galaxies, understanding of the life evolutions of stars, and the existence of, as yet, unexplainable sources of energy discovered.