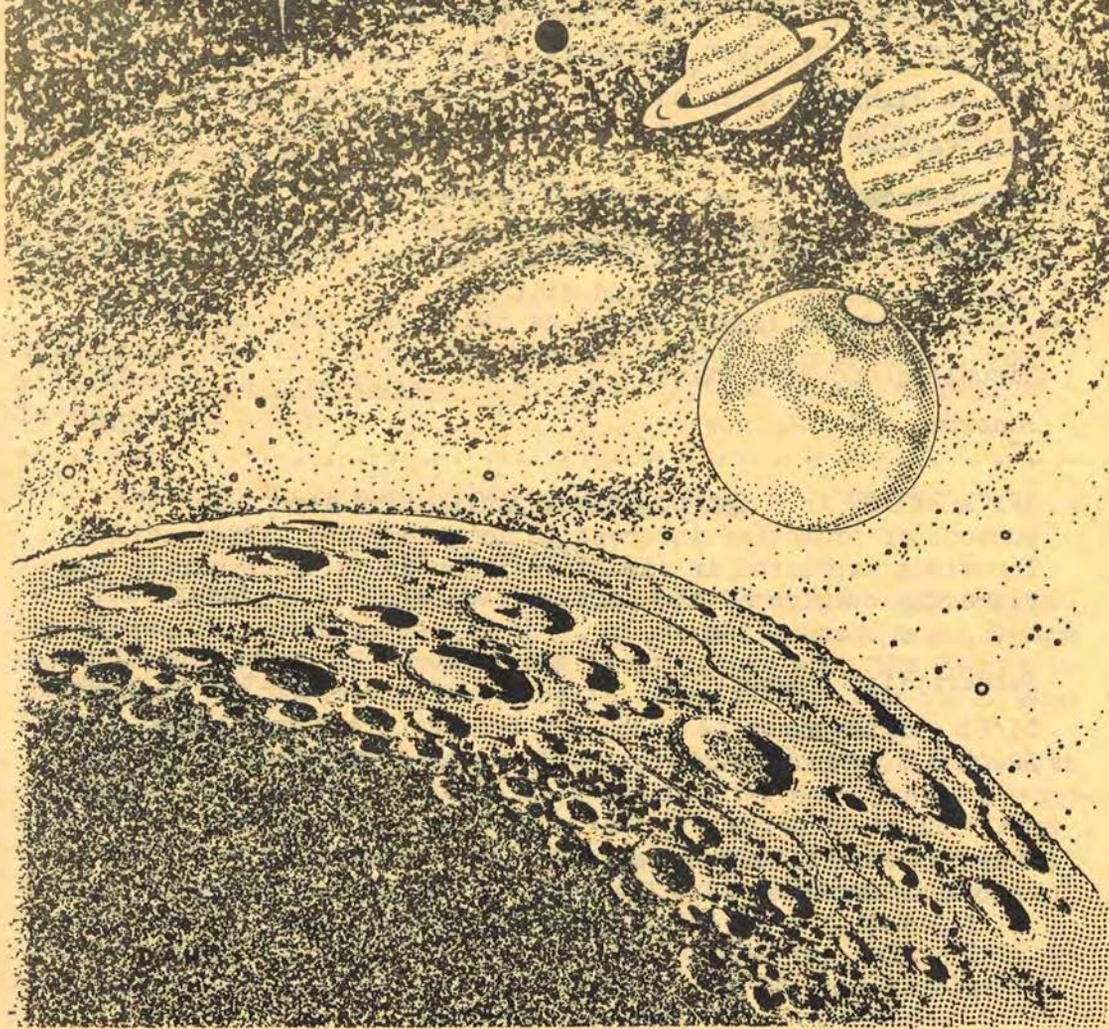


SPACE

REVIEW



Contents

Editorial	Page 1
The Dichotomy of Venus during 1962 by C.M.Pither	1
Investigations made of the Other Side of the Moon by Peter Hedervari FILS	2
Recent Highlights	5
Book Reviews	7
Correspondence	10
'Fantastic' Telescope Developed	13
Lost Cosmonauts - Report and Statement from Jodrell Bank	14
Miscellaneous News Briefs	15
Panorama and late news	18

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SPACE REVIEW is a non-political publication issued for the purpose of promoting interest in astronomy and allied sciences. The views expressed in signed articles do not necessarily reflect the opinion of the editorial board.

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 (Hungary) and Gene Duplantier (Canada)

EDITORIAL

With this issue we begin a new volume in our publication year. From now onwards 'Space Review' will be issued at irregular intervals according to the state of the funds and the extent to which our incoming material 'boils over'.

Many people responded well to our last issue and copies are in the hands of a number of professional astronomers and physicists actively engaged in research connected with the furtherance of our knowledge of the cosmos. An additional number of copies of the last issue were printed and these are still available for distribution at 2/6d (40¢) each.

Unsolicited material such as articles, reports, news cuttings etc., are continuously requested. Book reviews, however, are sent in by request of the editor, due to the specialised nature of the subjects concerned.

In addition to astronomical material, we are going to include a philosophical section and a 'question and answer' column. Readers may therefore send in questions pertaining to the Universe as a whole.

All readers who subscribed to Volume 1 will receive a copy of this issue, but if a large 'X' appears on the address label, you will receive no more issues. The subscription rates are printed in the inside cover.

.....

The Dichotomy of Venus During 1962

by C. M. Pither

The dichotomy of Venus is the time when from the earth we see the planet as a half phase and this, of course, occurs twice during one Sidereal period of Venus. The first occurs when the planet is approaching the earth and the phase is diminishing; the other when Venus recedes from the earth and the phase is increasing.

In point of fact, these are two types of dichotomy - theoretical and observed dichotomy; each being exactly what its name suggests. Theoretical dichotomy is the time for which it is predicted that half phase will occur, while observed dichotomy is the actual time at which the half-phase was seen in the telescope. There can be as much as 4 days' difference between the two and this difference is termed the 'Schröter Effect.' The reason for this effect is not, at the moment, fully understood, but work on this problem is

being carried out. It is thought that the answer lies in the dense thick atmosphere of the planet.

With an eastern elongation - when the planet appears as a morning star, observed dichotomy is always early, and with a western elongation - when Venus is an evening star, observed dichotomy is always late.

Thus, during the eastern elongation of 1962 when the date of theoretical dichotomy was September 3rd, observers were of course expecting the observed dichotomy to occur somewhere between August 31st and September 2nd. But, (and the writer believes he is correct in saying), for the first time in recorded astronomical history, this did not happen. In actual fact, dichotomy occurred sometime in the early part of August.

Unfortunately, the writer cannot give the date on which he, at his own observatory, observed dichotomy, due to the fact that around this time, the writer was clouded out, i.e. poor weather conditions. But, when the writer was observing Venus on 1962, July 31, it could definitely be seen that the phase of the planet was quite a bit less than had been predicted for that date.

It is not known for sure why dichotomy occurred so early, but an answer will, in time, be found and it will be very interesting to see if this phenomena is repeated during the next elongation or at any future elongations to come.

.....

Investigations Made of the Other Side of the Moon

by Peter Hedervari, F.I.L.S.

By studying the photos and charts of the other side of the Moon taken by the third Soviet cosmic rocket (Lunik III), we may learn some interesting facts.

The most important difference between the two sides is that on the hidden part there are no large 'basins', Maria, 'seas' and 'oceans'. We may see a darker territory around the Moscow Sea, but it seems that the Soviet scientists do not classify this as a real basin. A similar territory is to be found near to the Soviet mountain, which is probably the longest mountain-range on the Moon.

According to the latest Soviet chart of the hidden side (Atlas Obratnoj Staronj Luny, edited by the Soviet Academy of Sciences, 1960 and Y.N.Lipsky, 'Charting the Hidden Side of the Moon', and 'Sky & Telescope', XXI, No. 3, respectively), these territories are not listed as basins.

When the first photos had been published ("The first photos of the Moon's Opposite Side" edited by the Soviet Academy of Sciences, 1959), the general opinion was that the Moscow Sea region is, as a matter of fact, a gigantic crater-sea, a mighty ring-mountain, with a dark basaltic floor, like Plato, for example. But according to the latest theory, the Moscow Sea itself is a real basin, i.e. a smaller mare.

Professor Bülow's opinion is, that the chain of basins represents a belt-like zone around the whole sphere of our Moon. This idea seems realistic if we also take into consideration the distribution of the real basins on the Moon's far side. Namely, near to the equator we may find smaller basins on the opposite hemisphere.

It is well-known that the excellent lunar observer, the late Dr. H.P. Wilkins, tried to draw a map of the Moon's hidden side, (Journal of the British Interplanetary Society, Vol. 12, No. 1 1963). We combined his very interesting maps with the chart of Dr. A. Fresa, President of the International Lunar Society (Observatorio Astronomico di Capodimonte, Contributi Scientifici, Nuove Serie, Vol. II, No. 16, 1960).

The latter was made in orthographical-meridional projection. We may state that Dr. Wilkins recognised rightly the place of a large center of a ray-system on the far side which may be identical to the Astronauts' Bay, (Sinus Astronautarum) near the South edge of the Moscow-sea, (Mare Mosquense). Another center of ray-systems are to be found near to the territory of the Soviet Mountain (Sovietici Montes). This center is equal with the crater Edison, Lomonosow or Maxwell respectively. A third center may be identical with the crater Lobachewsky and another center, perhaps, with the crater Pasteur.

Wilkins tried to draw the boundary lines of the basins there too. Comparing his maps with the photographs, we may state that this succeeded only partly. Namely, in the middle of the largest basin on Wilkins' chart, there is a real basin, indeed, but the territory of this is essentially smaller than that of the original basin on Wilkins' map. Nevertheless, it is very interesting that the shape of this basin on Wilkins' chart and the shape of the real basin is similar. In addition to this, the south part of the large basin on Wilkins' chart is equal with the north part of the Sea of Dreams (Mare Somniorum).

The Soviet observers determined many craters and ring-mountains on the hidden side. The total number of recognised features is 251: they found these objects on at least three photos. They

discovered a further 190 features on only two photos. These are less certain. Finally, there are 57 objects which were found on only one photo. We are not yet acquainted with the nature of these features, but it is very probable that they are craters and ring mountains.

It is a pity that the first photographs were taken at a time when the Sun was in a high position above the surface of the invisible side; therefore there were no shadings and the details were indistinct. We hope that we shall have a fuller picture of the Moon's hidden side in the near future, when further photos will be taken. For the rest, Soviet Chartographers made lunar globes, the diameter of which was about 10 inches. On these, we may see the features of both sides of the Moon.

Budapest, Hungary, 19th June, 1962.

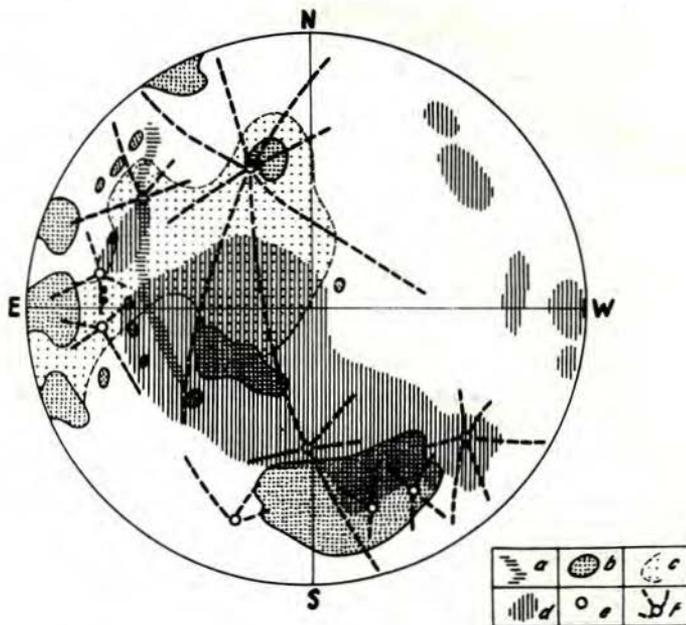


Figure:

Comparison between Wilkins' chart and the real situation on the Moon's far side; the latter is partly taken from Dr. A.Fesa's map (in orthographical-meridional projection),

Legend:

- (a) The Soviet Mountain
- (b) Maria and some ring-mountains after the original photographs.
- (c) Shallower depressions on the surface.
- (d) Large basins, according to Wilkins
- (e) Centers of ray-systems, according to Wilkins
- (f) Rays in the ray-system, after Wilkins.

* R E C E N T H I G H L I G H T S *

Mariner II Suggests Life on the Planet Venus.

At 20.00 U.T. on Friday, December 14th, 1962 the Mariner II spacecraft made its nearest approach to the planet Venus. The instruments for recording atmospheric and temperature data were switched on by remote control from California under the auspices of the National Aeronautics and Space Administration (NASA). Valuable scientific data was received in the form of code signals and the analysed information so far released indicates that the planet has little or no magnetic field, the axial rotation period much slower than on earth and the surface temperature much cooler than formerly believed. Scientists now speculate that conditions are favourable enough for earthman to attempt a landing on Venus.

Space Men may have Visited Earth says Scientist

Dr. C. Sagan, Assistant Professor of Astronomy at Harvard University recently told the American Rocket Society in Los Angeles that it was mathematically probable that intelligent life had developed on various other planets and that these species could have visited this earth. It is possible that artifacts of these visits still remain and that some sort of base is maintained, possibly automatically, within the Solar System to provide continuity for successive expeditions. Because of weathering and the possibility of detection and interference by the people of earth, it would be preferable to erect a base on the Moon.

(General Press Release, November 14th, 1962 and 'Space Bulletin' Vol.1 No. 4).

Recent Highlights (continued)

Men on Mars

Dr. Glenn Seaborg, Chairman of the U.S. Atomic Energy Commission, said last month that the United States would send a manned nuclear-driven spaceship to Mars in the 1970's. He said 'a couple of men' would be sent to Mars, stay there about a month and return to earth after a year's trip.

'ATOM NEWS' November, 1962.

Russian Satellites to Gather Solar Data

As part of the world-wide 'International Year of the Quiet Sun', a period of scientific co-operation similar to the International Geophysical Year, which will, take place from April, 1964 to December 1965 when solar activity is at a minimum, the Soviet Union has announced that several specially instrumented satellites and high altitude rockets will be launched to gather data about the Sun.

The Moon 'White Hot Inside'

Professor Zdenek Kopal, Professor of Astronomy at the University of Manchester told scientists at Virginia Technical University that the gravitational pull of the earth may have heated the interior of the Moon to blast furnace temperatures. This heat is said to be more powerful than the radioactive materials present in the Moon.

Kopal pointed out further that the gravitational pull of earth on the Moon would be 100 times greater than the lunar force which controls our tides...

Abundant Water Supply on Moon ? Professor Kopal told space scientists of the American Rocket Society that water supply on the Moon was so great that it could cover the surface to a uniform depth of 984 feet. He continued, "ice close to the lunar surface could form glaciers covered by dust and debris." He contended such glaciers could take the form of domes or minor bulges numerous astronomers have observed in certain regions of the Moon.

Kopal agrees with the theory that the Moon was formed by an accumulation of tiny particles of cold matter drawn together by the mutual pull of gravity. These particles contained volatile compounds including water, locked within their

crystal structure. A relatively high proportion of water has been found in stony meteorites.

The 'blast furnace' inside the Moon broke the solid state bonds holding the water in crystals and liberated it as super-heated steam.

Associated Press. July/August 1962
.....

BOOK REVIEWS

'Solar Research' by Giorgio Abetti (London: Eyre & Spottiswoode, 1962) Pp. 173 Net Price 18s.

'Solar Research' is the fourth book in the series 'A Survey of Astronomy' edited by C.A.Ronan, the aim of which is to form a link between books upon elementary astronomy and those which assume the reader to have specialised knowledge. Professor Abetti's book fulfils this aim very well indeed; the mathematical formulae are kept to a minimum; there is a useful glossary of terms and the index is adequate. There are sufficient line diagrams and graphs, which are particularly necessary for this subject. A few of the plates could be improved on in the quality of their reproduction.

Chapter V is entitled 'Total Eclipses of the Sun', but in fact its content is much wider than suggested. About two-thirds of the chapter is under the heading 'Solar Activity', sufficient, surely, to warrant a separate chapter with this title?

However, Professor Abetti has made a very useful contribution to the series, 'Solar Research' will make an excellent addition to the book-shelves of those taking a serious interest in modern solar astronomy, whether as an amateur astronomer or as a university student.

Carole Jordan B.Sc.

Life in the Universe, by Dr F.L.Jackson and P.Moore (Routledge & Kegan Paul, London, 1962) Price 18s.

The biologist Francis Jackson and the astronomer Patrick Moore discourse ably and lucidly on a number of germane subjects, from the changing view of the Universe through the nature of life, insofar as this can be defined, its probable origin and the conditions on the solar planets, to the probability of other planetary systems and inhabited planets. This reviewer's chief complaint is that the book is too short (128 pages), but this is, no doubt, of advantage

Book Reviews (continued)

to busy readers who seek a quick and up-to-date bird's-eye view of the situation.

Perhaps the treatment of the problem of origin of life is somewhat more thorough than of the other subjects and this creates a slight unbalance of composition.

The book makes passing mention of the possibility that life may develop on a chemical basis different from ours, and in particular that ammonia may replace water on a cold planet and silicon take the place of carbon as the chain-building element on a hot one. The known limitations of the straight substitution of silicon for carbon are stressed, and perhaps overstressed, but the theme of alternative biochemistries is not properly developed and the general approach is somewhat conventional.

There are a few points where this reviewer would dissent from the joint authors. In particular he has not much confidence in our present information about the conditions on the surfaces of other planets, and, while he agrees whole-heartedly with the view that it would be proposterous to imagine that the earth could be the only planet in the vast Universe to bear intelligent life, it seems to him unlikely that even within the Solar System the earth could occupy a privileged position. These, however, are matters of emphasis or interpretation and not of fact and the authors may be right in striving to present a majority view. The factual information is sound.

Let the reader not be discouraged by a few carping remarks. This is a very readable and enjoyable book, which can be sincerely recommended as an introduction to the manifold and difficult problems of Life in the Universe.

V.A.Firsoff M.A.,F.R.A.S.

'Men Among Mankind' by The Hon. Brinsley le Poer French,
London: Neville Spearman Ltd., 1962 Pp.207 Price 25s.

The author has done a grand job in presenting a new picture of the history of mankind during the past 10,000 years.

Historical records in the form of legends, ancient manuscripts and rock carvings are examined in the light of modern scientific fact. The conclusions drawn are highly controversial, but the book is very scholarly written and archaeological research carried out in the west of England, by the author himself, cannot easily be dismissed.

One of the main themes is on talented men of the past whose works and inspiration have altered the course of entire civilisations. On the other hand, there are numerous cases when great achievements in the field of science are suppressed if the end result is non-commercial or affects the national security of a country. An analogous case is that of the talented electrical engineer and physicist, Nikola Tesla whose great discoveries are discussed by the author.

To sum up: I personally enjoyed reading 'Men Among Mankind' as many of the subjects are of interest to those who like to see the 'break through' against orthodoxy. This should be the one aim among true scientists.

Susanne Stebbing, F.R.A.S.

'The Way Out World' by Long John Nebel (Prentice-Hall International New Jersey, 1962 Price \$3.95 Pp.225)

Don't be misled by the title. This is not a book connected with the serious study of space research. Undoubtedly, space activities are included, but the author doesn't intend you to take them seriously. Trips to Venus, Mars, Moon and Sun - even outside our Solar system. Saturnian lovers, telepathy, teleportation, E.S.P. Anything strange or unusual is included regardless or not whether the claimant is a hoax or genuine.

The book is mainly a collection of claims made by participants in the all-night programme 'Off Beat' broadcast by WOR, New York on 710 metres. Long John Nebel is the host and brings to the microphone anyone who has an interesting story to tell - with a strong bearing on the unknown. The more fantastic and unbelievable the claim, the better. All set to broadcast a varied and entertaining programme.

The reader would most probably like 'The Way Out World', but the majority of the claims will be seen to be quite absurd.

S.S.

Book Reviews (Continued)

'The Planets' by Patrick Moore F.R.A.S. (Eyre & Spottiswoode Ltd, London, 1962, Pp 189 Price 21s)

Patrick Moore has an exceptional talent at being able to present difficult subjects such as astronomy and astronautics in layman's terms and make them interesting even to the non-informed public. In 'The Planets', he has succeeded again in capturing my interest in what is actually known about the conditions on other planets in our Solar System. Like his previous work, 'Guide to the Planets' each chapter is devoted to one planet in turn, but since 1954, new discoveries in astronomy and other sciences have caused revision of the old theories.

The chapter 'Life on the Planets' includes a remarkable account of the research carried out by Dr. F.L.Jackson of King's College Hospital who was able to simulate known Martian conditions in a laboratory to determine what type of living organisms could exist there.

Finally, the amateur astronomer will find a useful list of astronomical societies and publications at the end of the book. These will also enable a would-be astronomer to seek the expert advice he needs.

S.S.

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C O R R E S P O N D E N C E

Dear Editor,

Thank you for the copy of 'Space Review'. On reading Dr. Browne's article, I find that it is mainly a summary of his previous article in 'Nature' with which, I have to say, I was not very impressed. Browne's claims that his theory finds support in various ways are, in several instances that I have investigated, not borne out on closer examination of the available facts. Also, I had the opportunity to hear Dr. Browne in a seminar, since the time that he wrote the present article I should think, and I was able to demonstrate fundamental fallacies in his theory in those few places where it can be pinned down to rigorous mathematical logic.

This is in fact the trouble with the 'all embracing' type of theory. It is so unrelated to existing theory that one can hardly get a hold of it anywhere. A useful theory should be able to show where previously accepted theories fit in, or are special cases, such as Einstein's theory does for the Newtonian Theory, in a completely satisfactory way mathematically and physically. I remain quite unconvinced that Browne's ideas can do this. They appear far too diffuse and qualitative.

My very best wishes for the success of 'Space Review', which on the whole, I found very interesting.

Yours etc.

Scientist (Name & address supplied)

Dear Editor,

At last I can get down to commenting on Colin Pither's article in your magazine, as the rush of work has temporarily subsided, but I have had a dose of flu to add to the confusion.

Pither gives a very good general summary, and although it is filter biased, I am in agreement with what he says. His drawings are excellent - especially the diagrammatic one. It should be made quite clear that the shadings on Venus are very much exaggerated in the drawings, although you make reference to this in your Editorial.

The remaining article appears to be of a high standard, and the one by Dr. Browne, 'The Universe as a Finite Isolated System' deserves special mention.

It is gratifying to see an article by C.M.Pither which presents a true representation of an experienced observer. Accurate reliable observations are always welcomed, and one can feel confident that we have a true representation of fact.

This cannot be said, however, for the U.F.O. reports. I always feel sceptical of such sightings, and I am pleased to see that the Editorial Board do not necessarily share the views of the 'contributors'. However, I am pleased to see that you include in such reports, the SOURCE of the information.

I hope you will not think my criticism too harsh, but I do feel that a criticism should be a true representation.

May I wish you continued success with the publication. I am sure that with the continued progress of space exploration, it

Correspondence (continued)

it will prove to be a valuable source of information.

Yours etc.

Alan W. Heath F.R.A.S.
Long Eaton, Notts.

Dear Editor,

'Space Review', is, I think, improving with each issue. I found the latest most interesting. I thought that the half-tone illustrations had reproduced remarkably well considering the type of process involved, and I look forward to seeing more of this.

The only criticisms I would make are as follows: I think you may have to beware of including articles which are too technical. Dr. Browne has obviously simplified his article, but I feel that some of your readers may find it rather 'heavy going' even so. It is a pity, also, that some of the mathematical symbols are rather indistinct in this article. Generally I think work of this nature is probably best confined to journals of, for example, the R.A.S., wherein it can be expounded in full. Your magazine excels with articles of more practical or unusual interest - such as that on Project West Ford, Brian Dean's 'Space Log', and Harry Lord's 'Anomalies in Nature?'

Finally, I think you might be wise to avoid items which are too up-to-date, such as the last one (on the Vostoks) as if there are unavoidable delays in production, they are bound to be hopelessly out-of-date.

I certainly look forward to receiving future copies. Keep up the good work.

Yours etc.,

David A. Hardy F.R.A.S.
Hall Green, Birmingham.28.

Dear Editor,

I was most interested to read the edition of 'Space Review' which you so kindly sent to me. A large amount of very interesting information seems to have been included in a comparatively short space. There does seem to be a need for a

Correspondence (continued)

magazine to keep record of the increasing number of space probes and their results (apart from the one or two new Scientific journals for Space research) and I hope the magazine will have every success. One might, I suppose, aim at a review of the more interesting literature in the technical journals.

Yours etc.,
Peter F. Browne Ph.D.
Thames Ditton, Surrey.

.....
'FANTASTIC' TELESCOPE DEVELOPED

Cape Canaveral, Fla (AP) - A missile and satellite tracking television - telescope far more precise than the best radar has been developed experimentally by a group of U.S. Air Force scientists here.

The military potential of such a camera for tracking, mapping and battlefield surveillance is little short of fantastic.

It has already been used to take photographs of orbiting satellites at altitudes of 150 miles with such precision that they can be distinguished by shape.

It is so sensitive that it can photograph an object no larger than a bowling ball at an altitude of 100 miles. By using the natural light present on even the darkest night, this camera can take pictures in the dark better than a man with a box camera shooting in bright sunlight.

Photographs Moon: It has photographed and identified craters on the Moon no larger than 2,100 feet in diameter with less motion distortion than still photos taken with the best telescopes in the world.

The 23,000-pound camera, mounted on an anti-aircraft gun frame, was used to track astronaut Walter M. Schirra Jr. during lift-off on his projected six-orbit trip around the world.

The camera was developed by Walter H. Manning Jr., chief of the space track division at the air force missile test centre at nearby Patrick Air Force Base.

Frank Edwards Reports Lost Cosmonauts

At least five Soviet cosmonauts have died in space flights, United Press International said on June 1st, quoting TV commentator Frank Edwards, a member of NICAPS Board of Governors.

Two of the lost Cosmonauts were a Soviet man-and-woman Moon exploration team which disappeared in 1961, Edwards reported. According to Edwards' sources, their rocket was launched on May 17th and was tracked by stations at Turin, Italy, Jodrell Bank, England and Meudon, France for a full week before it mysteriously disappeared.

The climax came in the early evening hours of May 24: 1961' reported Mr. Edwards. He said that Italian and French tracking stations recorded the last broadcast from the doomed pair. The last words from the male astronaut were: "Here there is something ... it is difficult.... if we do not get out, the world will never learn about it..'

(Source: The UFO Investigator, Vol.2 No. 4)

Editor's Comment: It is stated in the above news item that Jodrell Bank had tracked the Soviet moon rocket before it mysteriously disappeared.

On the 20th August I wrote to Dr. R.D.Davies at Jodrell Bank to check as to whether a Soviet space vehicle was tracked on the dates mentioned. This is their reply -

Jodrell Bank,
Macclesfield, Cheshire.

30th August, 1962.
RGL/jms

Dear Miss Stebbing,

Thank you for your letter of 20th August addressed to Dr. R.D.Davies. This account was officially denied by Jodrell Bank when the report was first circulated in the American press in the following manner -

"I (a spokesman) can categorically state that no such tracking occurred at Jodrell Bank. We have no knowledge of any such event, and at the time in question (May 17th, 1961) we were endeavouring to locate the Russian Venus probe which had been launched on February 12th, 1961 and which was due to reach Venus in mid-May"

Yours sincerely,
(signed) R.G.Lascelles F.R.A.S.

MISCELLANEOUS NEWS BRIEFS

Mr. Bernard John Byron of Flat 64, Walford Road, Stoke Newington N.16 has the gift of speaking in foreign and interplanetary tongues. Some of his speeches and scripts have been analysed by scientific linguists. He has great occult gifts and is also able to remember former incarnations.....

Great globs of white sticky material fell from the sky on the afternoon of October 18th, 1962 and settled in balls and sheets and threads over much of the Utah Power & Light Co., Gadsby Plant, 1407 W.North Temple. Some pieces were 60 to 70 feet and resembled a tattered parachute. But the substance was sticky and disintegrated into nothing. The material came from the north and fell from the sky for 15 or 20 minutes. Dr. Grant Wynn of the State Health Dept., said that he was unable to guess what the substance might be (Deseret News & Telegram, 19/10/62)... According to I.G.Y. findings, the ice wall in the far north is due to disappear by 1975 bringing the ice age back to Europe and the U.S.A. high altitude H Bomb tests are being held by both the U.S.A. and the Soviet Union in an endeavour to alter the course of the Van Allen radiation belts in an attempt to slow down the thawing ice in the North. At the same time, they are contending with the problem of the accumulation of ice in Antarctica.....

Magnetic anomalies are said to be causing mystery plane crashes, holes in the ground, house cracking, mystery explosions, out-breaks of fire, etc. These are world-wide. Earthquakes have also risen considerably since 1956.....

In Lake Erie, St. Williams, Canada, gray spongy doughnut-like creatures have been seen floating on the surface. The first few were only a few inches in diameter, but now some 'things' the size of a tyre tube have been found. Specimens have been submitted to University of Western Ontario in the hope that biologists will determine what the 'thing' is.....

At a recent meeting of the British Astronomical Association, Mr. W.E.Fox of the Jupiter Section announced that many disturbances have been taking place on the giant planet. Observations showed that the appearance was fuzzy and the northern and southern equatorial belts had emerged. The 'red spot' on Jupiter was also observed much clearer and redder than usual.....

Blue rain fell in Surrey on September 9th and covered bathers and golfers located at Virginia Water. It was believed that aircraft from the Air Show at Farnborough were responsible, but

an Air Ministry spokesman denied that any of their planes using blue stain were in the area at the time....

It rained black in the village of Jemaluang, Malaya on June 26th, 1962, the newspaper Strait Times reported. The black raindrops filled streams to their banks with churning black water. Scientists were trying to find out what caused it....

Black snow covered acres of fields and woods around the South Finland village of Juga on 15th December 1962. Meteorologists believe the reason could be that London's smog has descended in the area....

Mystery explosions have been reported in Wrexham, Denbighshire and Sandhurst in Surrey during the past months. None were attributed to factories or military installations. A student from Royal Holloway College at Egham, Surrey informed the editor that the explosion at Sandhurst took place in the early hours of 6th November. It was so loud that at first it was assumed that an atom bomb had exploded....

An April 22nd radio broadcast from Bangkok, Thailand, disclosed that a resident of a nearby town witnessed a 'fog' which broke into little pieces the size of peas. The pieces were sent to a police laboratory for analysis....

The following items were taken from the 'International Paranormal Bulletin' Nos. 8 and 9, Netherlands Studygroup, G.P.O. Box 1524, Amsterdam, Holland. Subscription, four issues \$1.00 or 7/6d.-

Interstellar Matter

It is generally assumed that no interstellar matter (i.e. particles and gases) is present between the stars in the elliptical extra-galactical system. However, spectral investigation recently carried out at Mount Wilson and Lick observatories, showed clearly interstellar lines, (that of ionized oxygen) in the various elliptical extra-galactical nebulae. In other systems, on the other hand, there was no single indication of such lines. Whether these systems indeed lack interstellar matter or possess so little that it is not (yet) demonstrable, is not evident....

Comet Behaviour Puzzles Experts.

Cambridge, Mass, August 21st 1962 (AP) Comet Humason, seems to be in some kind of celestial trouble and Harvard College Observatory has called for observation from the Southern Hemisphere to help find out what it is.

Studies of the light being emitted by the comet reveal unexplained disturbances and, the announcement says, "the comet form is highly distorted."

"It is possible that a very active interaction with solar plasma (the sun's magnetic field) is occurring", the observatory suggests....

Master Clocks Synchronized via Telstar.

Buff. Courier Express 28/8/62 Washington (AP) -

Telstar is being used to synchronize the master time clocks in England and the U.S.A., the Defence department said on Monday. The first demonstration was made Saturday at 1.51.50 p.m. (EST) when transmitting and receiving stations at Goonhilly Downs, England, and Andover, Maine, flashed time check signals simultaneously via the communications satellite. An accuracy of 10 microseconds - one microsecond equals one millionth of a second - was obtained.

Using conventional radio communication, the accuracy of these measurements has been about one or two thousandths of a second. Experts of the Naval Observatory here said, the use of Telstar was much faster and better than conventional radio communications in which the pulse of signals is too variable for accuracy approaching that of the Telstar system.

The master clocks are located at the Royal Greenwich Observatory, Herstmonceux, Sussex and the Naval Observatory in Washington.

They had to be corrected to synchronize with the rotation of the earth which varies minutely and unpredictably. the experts said.

PANORAMA AND LATE NEWS

ORBIT is the quarterly magazine produced by the Tyneside UFO Society and is now in its fifth year of publication. So many people tell us that this is the finest UFO magazine of its type that even we almost believe it!! But certainly, if you are interested in theories as well as facts, recent sightings as well as historical evidence, or merely articles of lasting interest by prominent ufologers, then O R B I T is the magazine for you. In addition, it is the only British magazine to carry the latest news and teachings from George Adamski. The subscription rate? At least 8/- for four post free issues available from J.L.Otley, Esq., 41 Deanham Gardens, Fenham, Newcastle-upon-Tyne.5.

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The Preston and District Astronomical Society publishes a quarterly journal and holds monthly meetings. Full details and membership form from Mr. C. Lynch, 51 Bispham Road, Carleton, Poulton-le-Fylde, Lancs.

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The Croydon Group of the Junior Astronomical Society are well advanced with their construction work on a 16½" reflector thanks to the help and co-operation of a number of enthusiastic J.A.S. members. Work commenced within hours after planning permission was obtained.

The Croydon branch of the J.A.S., also publish a magazine called 'Altair' - issued on a bi-monthly basis. A years subscription can be had by writing to : Mr. Ken Stocker, F.R.A.S. 12 Oxford Road, Wallington, Surrey, enclosing a postal order for 4/6d. (uncrossed).

The Universe

A programme of films showing man's knowledge of the Solar System will be held on Sunday 3rd February at 7. p.m.

Place: 53 Marloes Road, Kensington, London. W.8.

Admission: 2/6 including refreshments.

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Space Log has had to be omitted from this issue of SR due to the delay in publication. A list of recent satellite launchings will however, be included in the next issue.

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A full report on Alexander Barabashov, the Soviet archaeologist and his research carried out in connection with the Titicaca calender and details of an electric accumulator, dated 4,500 years ago, in the Bagdad Museum, will be included in the next issue of the Review. A device dated at 3,500 B.C. which gives accurate measurements of planetary motion of the heavenly bodies during the year will also be reported on in full. This device is at present in The Athens Museum (Greece), and a report on its full significance was released originally in the Belgium magazine 'Auto Touring'.

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"Terra Una" is the title of a new book pertaining to space-age subjects as a whole and gives an outline of future civilisations advanced in spiritual and scientific knowledge, united as One World. The author is Johan H. Quanjier who is present working on the manuscript of this book and will later become a book reviewer for "Space Review."

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10,000 year old Astronaut An extraordinary picture of an astronaut of 10,000 years ago was recently discovered in the Tassili region of the Sahara Desert, by Henri Lhote on a recent expedition.

This mountainous area has been inhabited for hundreds of years by a race of shepherds and peasants. In their ranks are many artists who left their very living paintings on their rocky walls. Mr. Lhote and the members of the expedition found 25,000 pictures representing animals and also dancers.

A very strange effigy was also found that the French archaeologist called 'THE GREAT MARTIAN GOD'. Standing six meters (19½ feet) high, with a strange helmet and a large suit of God knows what, one has to concede that such a drawing is rather unusual among drawings of shepherds, hunters and animals, executed in such a way as to recall the friezes of the caves of Lahaux or Altamira.

In view of the staggering discoveries recently being made, one can no longer close his eyes to such findings and their implications. (Source: 'Auto Touring' and 'Cosmic Science Newsletter' Vol. 2 No. 1 1963. Subscription, 12 issues \$3.75 from C. A. Honey 1231 E. Belmont Avenue, Anaheim, California U.S.A.)

Warm Water from Well

Mr. and Mrs. Parton of Astley, Nr. Shrewsbury, Shropshire have for years been supplied with fresh cold water from the well in their backyard. Now it has suddenly started to give warm water, at a time when night ground temperatures are around freezing point. Mr. Dennis Corfield, the chief public health inspector of Atcham rural council said at the weekend. "It is a mystery. We have made a number of investigations, but are nowhere nearer solving it" There are a number of other wells and boreholes in the district but no one else reported anything similar (Daily Telegraph 14.1.63)

Radioactive Cloud

A commentator on the Paris (France) radio announced on September 13, 1962 that: "According to an (unnamed) scientist, a radioactive cloud of more than 2400 miles depth is floating over the Southern part of South America. It does not originate from recent U. S. A. nuclear tests but from terrestrial explosions dating as far back as 4500 years, at least..."

The French Paper 'SOIR' of 10th October, 1962 carried the following report under the title of "The Luminous Cloud." "Mysterious luminous clouds have been observed over North Sweden. Of a weak clarity they move rapidly at very high altitude, and can be seen only at twilight, for short periods in the late summer. Intrigued by the phenomena, the Swedish Government has assigned some specialists to study the matter. In August, 1962, rockets were fired at the clouds at four different intervals. This occurred in the neighbourhood of the Arctic Circle for the purpose of bringing down samples of the clouds. The samples contained a very high number of particles, but the origin and nature of the clouds has not yet been determined. The particles will be analysed for the possibility of their being water impregnated and whether their origin is terrestrial or extra-terrestrial. The analysis may take as long as a year".

'Cosmic Science Newsletter, Vol. 2. No. 1

Continuous Record of Lunar Shadows

The universities of Manchester and Kyota, Japan and observatories at Hyderabad and California will attempt to take motion pictures and photographs of Oceanus Procellarum, the largest of the lunar 'seas', next spring, to enable a round-the-world 16 hour continuous record to be made of the line of the terminator as it crosses the mare. Astronomers will then be able to make a complete map of the hills and ridges on the mare during one lunation. The Manchester and Kyota University team are using the Pic-du-Midi Observatory in the French Pyrenees and will be joined later this summer by the California and Hyderabad observatories.

The programme is sponsored by the National Aeronautics and Space Administration (NASA) in support of Project Apollo which will attempt to land two men on the Moon in the spring of 1969. (Source P.D.A.S. Journal, Vol. 3 No. 2)

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Sunburn Kills 122 people

According to the Tokio newspaper 'Mainichi Shimbun', the sun appeared in the sky for three days like a glowing unprotected sphere. On the town of Matsumoto and district, the thermometer moved within 30 minutes, five times up and down. 42° - 69° C. people walking in the streets collapsed with first and second degree burns. Emergency air brigades recovered, 1289 persons within Matsumoto alone. 122 people died following heat strokes suffered through their clothing.

Geologists and physicists are unable to give an immediate cause to this sudden and frightening phenomena. (Panorama, Vol. 1 No. 6.)