

Three Planets Shine

by James Stokley

Added to the usual display of bright stars in the mid-winter evening sky are three brilliant planets. Brightest by far is Venus. It is visible in the west long before any other planet or star. It sets about four hours after the sun.

Venus is in the constellation of Pisces, which contains no very bright stars. The planet Saturn is also in Pisces. Although only a hundredth as bright as Venus, it still equals a first magnitude star.

Saturn, at the beginning of February, is above Venus and to the left. Venus moves across the sky much more rapidly and is approaching Saturn. After mid-March the two planets draw apart, as Venus loops back toward the west. By that time, however, they will be too close to the sun for easy visibility.

Jupiter is the third February planet. It is shown on the maps, which depict the sky as it looks about 10 p.m., local time, on February first; an hour earlier

at mid-month and two hours on the 28th.

Jupiter is close to the eastern horizon at these times, having just risen (in Virgo). Because it's so low, much of its light is absorbed by the great thickness of the earth's atmosphere through which it must pass. That's why it's shown by the symbol for a second magnitude star. Actually, it's brighter than any star and is about an eighth as bright as Venus. Later at night, when it is higher in the sky, it can be seen at full brilliance.

Mars, about as bright as Saturn, rises in the east about one a.m. On Feb. 23 Mercury will be farthest west of the sun, rising just before sunrise.

Brightest of the stars is Sirius in Canis Major. A little higher and toward the right stands Orion, with two stars of the first magnitude: Betelgeuse and Rigel. Between them is a row of three fainter stars that form Orion's

belt.

Procyon is another bright star in Canis Minor. It is to the left of Orion. Above it is Gemini, in which Pollux is of first magnitude.

Higher and to the right of Orion is Taurus. Aldebaran, a bright red star, marks its eye. Here also are the

CELESTIAL TIMETABLE

February	EST	
2	7:56 a.m.	Full moon
3	11:40 p.m.	Algol (variable star in Perseus) at minimum brightness
6	noon	Moon passes south of Jupiter
	8:30 p.m.	Algol at minimum
9	7:09 p.m.	Moon in last quarter
10	1:00 a.m.	Moon passes south of Mars
13	11:00 p.m.	Moon nearest, distance 226,400 miles
16	11:26 a.m.	New moon
18	9:00 p.m.	Moon passes south of Venus
19	2:00 p.m.	Moon passes north of Saturn
23	6:00 a.m.	Mercury farthest west of sun
	11:31 p.m.	Moon in first quarter
24	1:20 a.m.	Algol at minimum
	5:00 p.m.	Moon farthest, distance 251,500 miles
26	10:10 p.m.	Algol at minimum



Nova Planetariums
Are Designed
For Any School
Anywhere In The World.



Union Hill Road, W. Conshohocken, Pa. 19428
 215-825-0434

25 january 1969/vol. 95/science news/99



CLASSIFIED

Classified advertisements are accepted for the following classifications: Books, Business Opportunities, Camps, Colleges, Micro Ads, Personals, Positions Wanted, Schools, Services, Travel. All advertisements must be consonant with the character of Science News.

Rates . . . single insertion 30c a word. Minimum charge is \$6.00. For multiple insertions, write for rate card. Classified advertising is payable in advance. Closing date 4 weeks prior to publication (Saturday).

BOOKS

MUSHROOMS AND FUNGI. Comprehensive lists. LEW's, 2510 Van Ness Avenue, San Francisco, Calif. 94109.

THE PSYCHEDELIC LIGHTING MANUAL includes complete information for building your own strobes, light machines, audio controlled lighting, etc. Send \$2.00 to Lightworks, Dept. N, 507 Fifth Avenue, New York, N. Y. 10017.

IDENTIFIED FLYING SAUCERS by Robert Loftin. A complete survey of flying saucer sightings in the U.S. and abroad recorded from 1860 to the present. Includes descriptive details, eyewitness accounts, and a report on the U.S. Government's investigating activities. \$5.95 from David McKay Company, Inc., 750 Third Avenue, New York 10017.

CAMPS

HIGH/SCOPE—Co-ed, 11-16. Arts, science program providing freedom to grow in understanding and generosity, in friendships and responsibilities. David Weikart, Ph.D., 1305 Sherman, Ypsilanti, Mich. 48197.

SCIENCE EXPLORING FOR BOYS ages 11-15 at SPRUCE MOUNTAIN CAMP, Bryant Pond, Maine. Field and mountain trips, ham radio, photography, plants, animals, astronomy, weather, geology, ecology. Exciting concept of science recreation. Staff inquiries invited. Catalog: William T. Hartly, 12 Highland St., West Medway, Mass. 02053.

MICRO ADS

GOVERNMENT SURPLUS 80-page electronic-optical catalog showing hundreds of bargains galore. Pennies on the dollar. Meshna, Nahant, Mass. 01908.

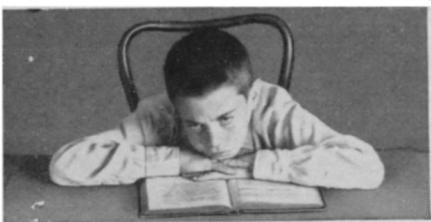
LIVE SEAHORSES, marine specimens, aquarium supplies. Illustrated catalog 15c. Marine Box 248-206 Dania, Florida 33004.

STROBES, COLOR ORGANS, the incredible Strobot. Factory prices. Save 25%-50%. Catalog 25c, refunded first order. Teletronics, Box 1266, South Lake Tahoe, California, 95705.

NEW LIQUID PLASTICS for creating unusual gifts with real flower embeddings, photographs, special collections. Reproducing originals. Hundreds of other profitable ideas. Illustrated information free. Castolite, Dept. 9C6A; Woodstock, Ill. 60098.

SERVICES

OVER 2,000,000 BACK DATE magazines! Low prices. Fast service. Send needs. No catalog. Midtown Magazines, Box 917-SR, Maywood, N. J. 07607.



If Your Child is a Poor Reader

See how **The Sound Way to Easy Reading** can help him to read and spell better in a few weeks. New home-tutoring course *drills* your child in phonics with records and cards. Easy to use. University tests and parents' reports show children gain up to *full year's grade* in reading skill in 6 weeks. Write for free illustrated folder and low price. Bremner-Davis Phonics, Dept. D-207B, Wilmette, Ill.

. . . planets shine

Pleiades, a loose cluster of stars in the bull's shoulder. Ordinarily you can see six with the naked eye but some optical aid—even a pair of opera glasses—will show many more. Above Taurus is Auriga, with Capella.

The Big Dipper, part of Ursa Major, is in the northeast. Directly north is Polaris, the pole star, in Ursa Minor. Cassiopeia is in the northwest. Her stars form a letter M on its side.

If you have been watching the western evening sky in recent months, you've seen Venus becoming more and more prominent. If, during this period, you had watched Venus through a telescope, you would have seen it change phase as the moon does. Last summer, when it first came into view, it was circular like the full moon. It was out far beyond the sun and practically the entire illuminated half was turned toward viewers on earth.

Last month, when it was farthest east of the sun (on Jan. 26), a line from Venus to the sun and another to the earth would have made a right angle. Then we could see only half of the sunlit hemisphere. It appeared, through a telescope, as a semicircle, like the moon at first quarter.

But now Venus is coming closer than the sun. Most of the bright half, which is toward the sun, is turned away from us. Therefore it shows a large crescent, like the moon a few days before first quarter. This crescent will get narrower until late March, when Venus will be nearly in front of the sun and will disappear from the evening sky.

The moon shows a similar change in phase as more or less of its bright hemisphere is turned toward us. But it maintains about the same distance, 240,000 miles, so its apparent diameter, when full, doesn't differ appreciably from what it is at other times.

It's different with Venus. Last summer it was about 160 million miles away. By Dec. 14 it was the same distance as the sun: 93 million miles. This made it look larger. On Jan. 26, as a half-Venus, it was about 65 million miles away. The apparent diameter of its disk, of which only half was visible, was more than twice what it was last summer.

Its distance will be reduced to less than 27 million miles on April 8 when, invisible, it comes almost between earth and sun.

The moon is brightest when full and faintest as a crescent, because its distance doesn't change greatly. But when Venus is a crescent, its closeness more than compensates for the fact that so little of its bright half is turned toward earth.



A prominent steel executive once paid \$25,000 for the same basic idea used in the Memogenda. Now it's yours for \$3.00.

Avoid confusion of scraps of paper . . . lost opportunities . . . forgotten duties and appointments. Use the Memogenda. Constant survey of work ahead . . . results in working without strain. Checks out complete tasks and builds valuable history of accomplishment. If making proper use of your time means success then Memogenda is a way to success, whatever your goal.

MEMOGENDA is a 96-page book, wire bound in a flexible leather-like covering. The right-hand pages (8 1/2 x 11) have numbered lines, one for each item . . . checked off as completed. Opposite pages are for additional memos. Includes instructions for use, an annual reminder, 3-year calendar, and active telephone list.

PLUS INVESTMENT RECORD

Provides record of purchase and sale of securities . . . profit or loss—long or short term . . . income by quarters. Simplifies preparation of tax returns.

Price \$30 a dozen F.O.B. factory, or send \$3 for sample, postpaid. Start Memogenda habit today. Refund if it isn't your best investment.

NORWOOD PRODUCTS CO.

1010 Thompson Lane, Nashville, Tenn. 37211



With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

CONTENTS INCLUDE:

Observing the sun, moon, planets and wonders of the sky • Constellation map • Hints for observers • Glossary of telescope terms • How to choose a telescope • Astrophotography

UNITRON
INSTRUMENT COMPANY • TELESCOPE SALES DIV.
66 NEEDHAM ST., NEWTON HIGHLANDS 61, MASS.

Please rush to me, FREE of charge,
UNITRON'S OBSERVER'S GUIDE and TELESCOPE
CATALOG #D-5

Name _____
Street _____
City _____ State _____