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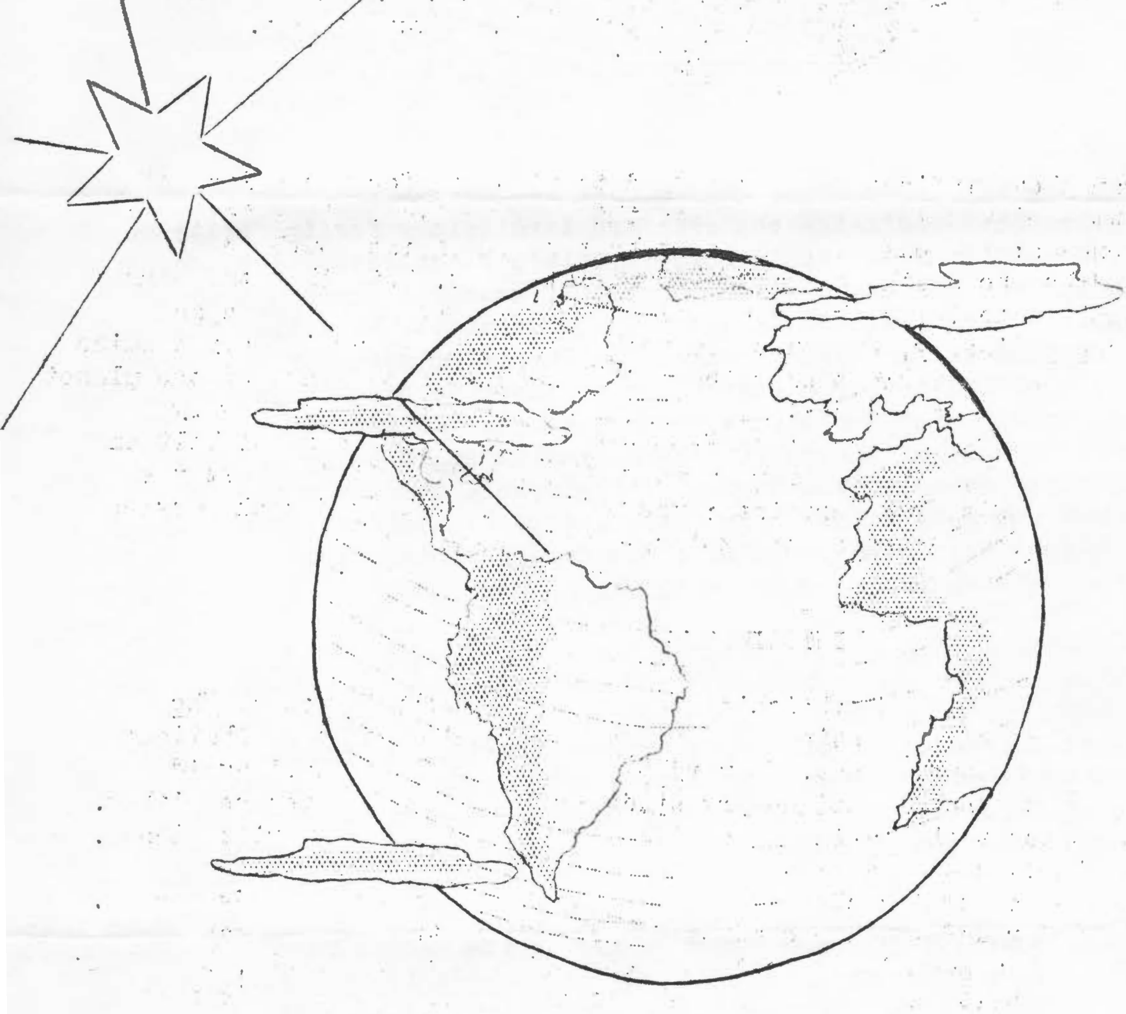

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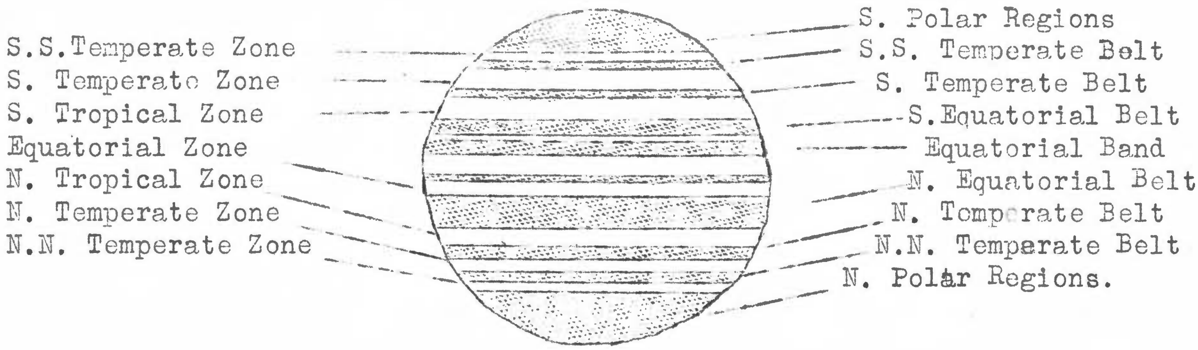
STANDARD NOMENCLATURE ON JUPITER



The diagram above indicates the standard terminology for the belts and zones on Jupiter. We employ this terminology in this publication. Its extensions should be obvious enough; for example, the next belt south of the South South Temperate Belt would be the South South South Temperate Belt. Note that the term belts, or bands, applies to the dark spaces only. The intervening bright spaces should be called zones. Finally, one must remember that the diagram is only a guide to terminology and cannot pretend to show the actual general appearance of the planet at all times. The appearance of the various belts and zones is subject to very pronounced changes; for example, the North Temperate Belt was the darkest belt on Jupiter in 1940, but was very faint a few years later. Finally, it is sometimes difficult to identify a belt with certainty; one does best to record such puzzles and to indicate by a sketch the name one employs.

INTRODUCTION

We have not succeeded in publishing any of the 15 past issues of The Strolling Astronomer without discussing the observations and other contributions of Elmer J. Reese of Uniontown, Penna. We very much doubt that we shall avoid mentioning his excellent lunar and planetary studies in the next 15 issues either. It is a pleasure to present the following article from him on his favorite planet.

Mr. Reese observes with a 6-inch reflector of his own construction. Uniontown is better known for its coke-ovens than for its astronomical advantages. Truly splendid work under unfavorable conditions is a great tribute to what a persevering amateur with a good instrument can accomplish. As an example, one might point out that even the best lunar maps show almost no features on the floor of the crater Conon. Yet Reese has recorded here clefts or dark streaks, craterlets, low mounds, and whitish areas; and many of these objects have also been observed by other lunarians in A.L.P.O., particularly Hare, Vaughn, and White.

Almost a decade ago Mr. Reese was awarded a prize by the Astronomical Society of the Pacific for the independent discovery of a comet. He has also been an attentive student of sunspots for a number of years.

The editor hopes that this account of Jupiter in 1947 will stimulate interest in the current 1948 apparition. Our contributor's address is 241 S. Mount Vernon Ave., Uniontown, Penna.

JUPITER IN 1947

by Elmer J. Reese

Jupiter presented a wealth of detail during the apparition despite its southern declination which resulted in generally poor atmospheric conditions for observers in northern latitudes. At opposition on May 14 the planet's equatorial diameter was 44".9 and its declination was -17°. A most noteworthy feature of the apparition was a prominent dark streak or disturbance in the south tropical zone.

The brief account of Jupiter in 1947 which follows is very tentative and is based on observations which I have made with a 6-inch reflecting telescope from February 1 to September 20.

GENERAL DESCRIPTION

The most prominent feature on the planet was the north equatorial belt (NEB) which was invariably the widest though not always the darkest of the belts. The edges of this belt were usually darker than its interior, and on a number of occasions a bright white rift was seen dividing the belt into two components. The north edge of the belt contained a number of dark, copper-red condensations and some small white bays, while the south edge was very irregular with many large dark-gray humps and projections. A few of the projections extended all the way across the equatorial zone.

The south temperate belt (STB) was usually the second most conspicuous belt though sometimes third near the end of the apparition. The south edge of this belt contained some well-defined dark humps which marked the prededing and following ends of brighter sections of the south temperate zone.

The south equatorial belt (SEB) was much more conspicuous than in 1945-6, and, as the case has been for many years, the belt was divided into two components (the SEB_n and SEB_s). Towards the close of the apparition, the two components and the space separating them became so dark that for awhile the SEB was almost as conspicuous as the NEB.

Usually the third most conspicuous belt, the SEB_n became quite active after opposition when num. erous small dark condensations were visible along its north edge. A narrow, white rift was seen along the middle of the belt in longitudes preceding the Red Spot Hollow during May and June.

The SEB_s usually ranked fourth in conspicuousness. The belt was very dark following the STrZ Disturbance.

The north temperate belt (NTB) was fifth being faint and narrow. The follow-end of a darker section of the belt was at λ_2 59° at opposition. There is some evidence that the latitude of this belt varied considerably in different longitudes. Was it nearer the equator at λ_2 180° than at λ_2 45° ?

Several belts in high latitudes and the equatorial band (EB) were seen intermittently.

The combined north temperate and north tropical zone was the most conspicuous zone during most of the apparition. The equatorial zone became brighter as the apparition advanced and perhaps took over first place near the end of the apparition. Area for area, the south tropical zone was the brightest of the zones, but it was quite dull near the Red Spot Hollow.

COLORS

The polar regions appeared neutral-gray with an occasional bluish tinge.

The north temperate zone averaged white for the apparition but displayed rather rapid changes in color, brightness, and width.

The NTB was gray or bluish-gray.

The north tropical zone was yellowish white before opposition and decidedly bluish-white thereafter.

During April the NEB appeared almost neutral gray, but as the apparition advanced the color turned to brown and reddish-brown.

The equatorial zone was dull ochre in February, yellow-ochre in March and April, strikingly yellow on May 23 and yellowish-white near the end of the apparition.

Such rich colors as deep orange, copper-red, and red-brown were noted in the SEB_n. The $S.E\ B_s$ was decidedly less red being bluish-gray prior to July, gray in July, and brown thereafter. The space between the SEB components was dull ochre and grew duller towards the end of the apparition.

Though dull-gray near the Red Spot Hollow, the south tropical zone was generally brilliant white. A number of dusky gray colunms were seen extending across the zone during the latter half of the apparition.

The STB probably changed from gray to brown during the apparition.

There were three bright, white sections in the south temperate zone, but otherwise the zone varied from dull white to very dull gray.

RED SPOT HOLLOW

From March 20 to the end of the apparition, the Hollow was seen as a large, yellow-ochre oval in the south tropical zone. The Hollow was somewhat brighter than the adjacent south tropical zone but slightly duller than the equatorial zone. The SEB_s was deflected northward to form the familiar bay or hollow in the south equatorial belt, and the north edge of the STB was slightly repelled by the large oval. Narrow dusky columns connected the preceding and following shoulders of the Hollow to dark humps on the north edge of the STB. The SEB_n behaved rather strangely near the Hollow. The belt was frequently very thin and faint just following the Hollow. Since this thin section did not move with the belt it seems probable that light vapors from the south were lying over the belt. However this would hardly account for a dark hump usually seen on the south edge of the belt just following the thin section. At opposition the Hollow was about 24° in length and its center was at $\lambda_2 229°$. A faint dusky mass, presumably the Red Spot, has been seen in the south portion of the Hollow, while some small, bright spots have been seen in the north portion. (to be continued.)

HOW TO OBSERVE JUPITER

by Walter H. Haas

Jupiter is the easiest planet of all for an amateur astronomer to study. Any ordinary-sized telescope will easily reveal the more prominent belts and some of the bright and dark marks along their edges; and if the instrument is of good quality and the observer is experienced, a truly immense wealth of detail becomes visible. In addition, the pattern of detail never become wearisome through repetition; the planet frequently undergoes the most striking changes, and it is always springing surprises on its followers.

Jupiter will be at opposition on June 15, 1948, and will be visible in the early hours of the night until autumn. The oppositional declination of -23° will result in its being low in the sky in the United States, especially in the northern states. (The height on the meridian will be only 27° at latitude 40° N.) Nevertheless, most of us live farther south than do our colleagues in the British Astronomical Association; and it is doubly important for us to study the planet while their efforts, which have contributed so much to knowledge of the planet, are very seriously handicapped.

Drawings of the planet are attractive, of course; and in addition they will give information about matters likely to be overlooked in more specialized studies. The Jovian artist has to wield a nimble pencil to finish his sketch before the rapid rotation changes the picture; ten minutes is all that can be allowed for a full-disc drawing. Sketches of features of special interest, such as the Red Spot, may be more leisurely.

Observations of the colors of the belts, zones, polar shadings, and other features may also be attempted. They will not lack interest, if only because two different observers apparently never describe the same color the same way! One may, however, try to make his own estimates internally consistent and to watch for changes in color. To realize such consistency, one should make all color-estimates with the same telescope at the same magnification on a clear and dark sky only. It may even be well to avoid making estimates in poor seeing, for there is evidence that the hues look richer in good seeing than in poor. Simplicity in word-descriptions of colors is desirable; as small a vocabulary as possible should be employed. Some observers find color filters helpful in observing Jovian hues; filters of known transmissivities, such as Eastman Kodak Comapny Wratten Filters, should be used.

One may also estimate the relative conspicuousnesses of the belts seen. Here conspicuousness is defined to be an integrated effect of intensity and width. Since it is difficult to compare a wide, light belt and a narrow, dark one and since changes in seeing give rise to notable spurious changes in the appearance of a belt, it is best to make these estimates by means of extra-focal images, which observers of comets use. One puts Jupiter so far out of focus that no belts can be seen and then remarks the order in which they appear as focus is approached. It would, of course, be of more physical significance to know the changes in intensity of the belt, not just in its conspicuousness. The former investigation is unhappily much influenced by such factors as aperture, seeing, and magnification; the latter is unaffected by them, or nearly so.

One of the most useful programs that the amateur can undertake is the determination of Jovian longitudes by means of central meridian transits. There is required only a telescope and a watch accurate to the nearest minute. In a simply inverted view the markings cross the disc from right to left as the planet rotates. The observer records the minute when a feature is halfway between the limbs, along with a brief description of the mark. The belts enable the image to be oriented accurately. The time of transit allows the computation of the Jovian longitude, with the aid of tables on pages 418 and 419 of the 1948 American Ephemeris and Nautical Almanac and the known hourly rotation rates of 36°.26 for System II and 36°.58 for System I. When and if the mark is reobserved, the intervening change in longitude supplies the rotation period. If the mark can be followed for a month or longer, a very accurate period can be obtained. Simple as this method is, it has supplied most of our present knowledge of atmospheric currents at the visible surface of Jupiter.

A word about Systems I and II may be in order. The former applies to the space from the south edge of the North Equatorial Belt to the north edge of the South Equatorial Belt; the latter, to the rest of the planet. The above sentence is only a rough guide; many Jovian features are far from stationary in either system of longitude. About a dozen latitudinal currents have been established, and the fastest of them ($9^h 48^m$) is not near the equator at all but at the south edge of the North Temperate Belt. The slowest of them ($9^h 56^m$) is at the north edge of the same (narrow) belt.

We should also like to urge our readers to carry out exact timings of the phenomena of the Galilean satellites. They will probably find satellite ingresses and egresses and occultation disappearances and reappearnaces the easiest kinds of phenomena to observe. Such timings should be as exact as possible, and a watch accurate to the tenth of a minute is required. It may be well to explain the purpose of this project. We naturally do not expect to improve the fundamental theory of the motions of the satellites by observations no more refined than these. However, several of us have in recent years found a very persistent systematic difference between observed times and the Ephemeris predictions. The latter are on pgs. 430-452 of the 1948 volume. We invite others to study this matter. The phenomena occur progressively, of course; and observed times should be for the center of the satellite.

Any readers having micrometers for their telescopes or having access to instruments so equipped should measure the latitudes of the belts.

Central meridian transits of satellites and their shadows may be observed to learn something about the systematic and random errors affecting ordinary transits, since the times of transit of satellites and shadows can be computed. H.M. Johnson has discussed results of this program up to 1944 in a paper published in J.R.A.S.C., Volume 39, pg. 17, 1945.

A difficult observational program is the drawing of markings on the four large moons. That instruments used must be excellent or large or both should be obvious. Perhaps, however, some well-equipped and ambitious readers would like to find what they can see on these moons while Jupiter is near opposition. Observers in France in recent years have actually photographed such detail.

We hope to receive from our readers actual observations on Jupiter of the types indicated above. Once begun, they may prove fascinating. Also, your telescope won't shiver so much these summer evenings as next January!

SOLAR SYSTEM SCANDAL SHEET

During the month of June the planet Venus will come to its inferior conjunction with the sun. The civil time of conjunction in right ascension is 9 A.M. E.S.T., on June 24, when the planet will be about two and one-half degrees of declination south of the sun. The angular separation will be least a few hours earlier, but will change little for a number of hours. Probably the chief interest for planetarians of these inferior conjunctions of Venus is the increase of the angular perimeter beyond 180°, caused by diffuse reflection of sunlight in the planet's atmosphere. The sun-Venus-earth angle is so large on June 24 that it may be possible to observe the planet as a complete ring of light. However, the horns will be so extremely thin and the sky near the sun will be so very brilliant that the observed perimeter may depend greatly upon seeing, apertures, etc. Unquestionably any thin haze will quite obliterate the planet.

In connection with such observations, we cannot caution our readers too strongly to be very careful not to bring the image of the sun into the field of the eyepiece. Loss of sight might result.

Observers having circles on their telescopes will find these a great aid in locating Venus. We give some right ascensions and declinations at 7 P.M., E.StT., on various dates near the conjunction. It is naturally necessary to interpolate for times other than those listed.

Date	R.A. Sun	Dec. Sun	R.A. Venus	Dec. Venus
June 20, 1948	$5^h\ 57.^m9$	$+23^\circ\ 27'$	$6^h\ 22.^m1$	$+21^\circ\ 43'$
June 21	6 2.0	23 27	6 19.4	21 31
June 22	6 6.2	23 26	6 16.7	21 18
June 23	6 10.4	23 26	6 14.0	21 5
June 24	6 14.5	23 24	6 11.3	20 52
June 25	6 18.7	23 23	6 8.6	20 40
June 26	6 22.8	23 21	6 6,0	20 27
June 27	6 27.0	23 18	6 3.4	20 15

G.B. Blair has kindly supplied us with some past issues of his Astronomical Information Sheets that deal with methods of finding Venus near an inferior conjunction. These contain some suggestions from Dr. V.M. Slipher of the Lowell Observatory. The problem, of course, is to reduce the solar illumination of the optical system; sunlight falling on the lens of a refractor or the secondary mirror of an reflector will leave little chance of success. A paper tube extension, black inside, may provide the desired shading. This extension should be at least two feet long on most ordinary-sized telescopes; three feet may be still better. Dr. Slipher also recommended a piece of dark cardboard a little distance above the eyepiece to shield the observer's eye. A ring diaphragm to reduce aperture may be ahlpful. It will be well to try to find Venus near the sun a few days before June 24 for practice in observing it on that day - not tomention as a precaution against possible clouds. Observers should remember that the crescent will be extremely thin; only about 1/1,000 of the disc will be illuminated. The eyepiece used must be exactly focussed, perhaps with the help of a previously made mark on it. A low power will probably be necessary - say 10 to 20 diameters to the inch of aperture. Again: be very careful not to look at the sun directly.

Some observationsof the phase of Venus near the April, 1948, dichotomy arrived too late to be reported in our May issue. E.J. Reese writes that he found the terminator to be straight when the sun-Venus-earth angle was 85°.5. This value was attained on April 12 (U.T.). Reese writes that he made these phase estimates with the aid of a spider wib stretched across the focal plane of the eye lens of a compound microscope used as an eyepiece (giving 180X on a 6-inch reflector). In February, 1947, Reese observed the terminator to be straight when the sun-Venus-earth angle was 87°.3- an excellent agreement with his last determination. Mr. B.B. Heath in England reports that on April 12, (U.T.) the terminator was straight; the cusps slightly rounded. On April 13 and 14 Venus was "exactly dichotolized." On April 15 the ternimator was still almost exactly straight, but the cusps were suspected of projecting. On April 16 both cusps definitely projected. Heath used a 10-inch reflector. It is somewhat difficult to choose a date of observed halp-phase compatible with these observations and the ones reported earlier. Perhaps April 10 would be the best compromise.

Recent drawings of Venus have been received from E. Pfannenschmidt, H.D. Thomas, T. Cragg, and R.S. Ellwood. Mr. Pfannenschmidt has also sent copies of many of the past drawings of Dr. W.W. Spangenberg, a well-known German planetarian. The drawings by Thomas and Ellwood show prominently the bright limb-band; they also depict a very indented terminator. Ellwood sus pected a bluish tint to the dark shadings along the terminator. He was using a 3.5 inch reflector at 60X on May 2. Thomas on April 10 thought the south cusp-cap brighter than the north cusp-cap. D.R. Monger writes that he agrees with Dr. J.C. Bartlett that a red filter improves the image of Venus. Several of Cragg's drawings are unusual, if not actually unique, in showing rapid changes in the shape of the bright cusp-caps. J.C. Bartlett writes that he has had two distinct views of the illumination of the dark hemis - phere of Venus. These were at 6:57 P.M., E.S.T., on April 16 and at 6;40 P.M. on April 22. The sky was very clear on April 16, and the dark side exhibited "a peculiar purplish-gray color." The same appearance was found on April 22. On April 16 Bartlett remarked the terminator to be "markedly irregular" and saw both bright cusp-caps.

E.J. Reese has prepared a number of photographic copies of two drawings of Venus: one by himself at $22^h\ 15^m$, U.T., on March 14, 1948, and one by W.H. Haas at $1^h\ 30^m$, U.T., on March 15. Mr. Reese has some copies available for interested persons who would like to have them. The two observers agree fairly well, even very well as work on Venus goes; and both depicted two whitish spots near the terminator. Now Mr. B.B. Heath informs us that at $17^h\ 55^m$,U.T., on March 13, he remarked "two lighter areas near the terminator." If one may be so rash as to infer anything about rotation from these two lighter areas, one would get a period of at least some weeks; a 24-hour rotation doesn't agree with their failure to be displaced between observations spaced 28 hours, and then 3 hours, apart.

Saturn may allow some good views early in June; useful observations will be impossible by the end of the month. We described in our May issue a curious dark spot observed by R.R. LaPelle at 10 P.M., E.S.T., on February 18, 1948. LaPelle's drawing shows the spot short of the central meridian, and the transit may have occurred at about 10:30. J.C. Bartlett informs us that he had an excellent view of Saturn on February 18 from 7:44 P.M. to 8:09 P.M., E.S.T., in a 3.5-inch reflector at 64X. Bartlett did not record LaPelle's spot, which would have been very close to the sunrise limb if on the disc at all. He id note the South Equatorial and South Polar Belts, a slate-gray south polar cap, and the Ring C projection.

Bartlett writes that he observed Saturn on February 15, 17, 18, 19, 20, 21, 22, 23, 26, and 28 - a most laudable record! He saw no abnormal spot on the ball on any of these dates, compatibly with our interpretation that LaPelle's object had but a brief existence. E.J. Reese observed Saturn in good seeing at 11:30 P.M., E.S.T., on February 18, the image being good enough to show the Equatorial Band as "a fine dark line." He failed to find LaPelle's spot, but the editor would opine that it was too close to the sunset limb to be seen. Jovian and Saturnian spots an hour off the C.M. are difficult to observe. Surely more than three of our readers looked at Saturn on February 18. We again request reports.

Haas' March 20 - April 6 dark column on the south edge of the S.E.B.$_s$ remains unconfirmed. E.J. Reese observed Saturn without seeing this feature at C.M.'s. that should have revealed it on March 18, March 20, March 2., and April 16. Haas made several unsuccessful efforts to find the feature after April 6 and conjectures that it did not survive much beyond that date. Dr. A.F. Alexander of the B.A.A. proposes an interpretation of the motion different from that suggested in our May issue; he thinks that the column had the "regular" rotation-rate of $10^h\ 14^m$ up to March 27 or 28 and then was cought up in a current faster by a number of minutes, perhaps because it became detached from the belt.

E.J. Reese continues to observe stationary bright spots on the limbs of Saturn. He suggests that they are longitudinally extended clouds lying above the reflecting surface. He reports an exceptionally brilliant one on the east(sunrise) limb on May 2 at $2^h\ 15^m$, U.T. On May 9 another spot on the east limb appeared to project. It lay near the south edge of the S.E.B. and thus nearer the equator than any other spot of this type visible to Reese in 1947-8. The May 9 spot was brightest when first noticed at $1^h\ 30^m$, U.T., and was fainter by $2^h\ 30^m$. Reese failed to recover it definitely when observing the same region on May 12. Such spots have received little attention from students of Saturn and might repay careful study.

Reese's observation on April 4 is still the only one of the shadow of Ring B within the Ring C projection. All observers comment on the extreme darkness of the projection, perhaps a result of the presence of the shadow of B. Reese wrote on May 6 that he was obtaining 1.1 for the width of the projection. The unit is again the width of Cassini's at the ansae. D.R. Monger estimated 1.5 with a 6-inch refractor on May 1. Hare on May 20 wrote that he found the projedtion to be narrowing slightly. Haas estimated 1.0 on April 26, 0.8 on May 6, and 0.9 on May 14. Heath writes that he has often seen Ring C bluish gray off the ball and brownish gray on it, as some others have done.

The doubled South Equatorial Belt remains the most conspicuous belt on Saturn The South Polar Belt comes second, but Haas thinks that it weakened from late April to late May. This S.P.B. looked bery dark to Dr. W.H. Steavanson in the Cambridge 30-inch reflector on April 27, according to Dr. Alexander. Monger on May 1 found this belt thin,and Reese on May 6 wondered whether it was narrower than it had been a few weeks before. Hare found the Equatorial Band to be growing more difficult in May, and Haas noticed the same trend. A set of ten excellent drawings by Cragg from March 7 to May 5 indicates two belts north of the rings (observed simultaneously by Cave on April 18), and on April 28 he depicted two very thin belts between the S.E.B. and the S.P.B. Cragg regularly shows a small white spot on the south limb. Dr. Alexander had kindly copied for us a drawing by B. Burrell on March 27; it shows two thin belts, very much like Cragg's of April 28 and in addition a wider belt just north of the S.P.B. This third belt was the source of dark projections northward into the South Temperate Zone on March 14 and 27.

Some final Saturnaina: Ring B has continued to look abnormally dim to Haas. Hare agrees that there has been a change; on May 3 the outer bright annulus in B was to him unmistakably narrower and dimmer than before. The width of the annulus indeed scarcely equalled that of Cassini's, and a fain and narrow division(concentric shading) bordered its inner edge. Hare later in May found the whole inner half of Ring B dusky. In the March and April issues we gave some observations of the shadow of the rings on the ball near the 1948 opposition. Heath reports seeing thin black lines on each limb (false shadows?) at $20^h\ 40^m$, U.T., on February 9. The one on the prec. limb was the thinner, opposition having occurred at 2^h, U. T., on February 9. At 20^h on February 13 Heath saw shadow on the following (east or sunrise) limb only. During the spring of 1948 Cragg and Cave have frequently seen a black spot against the ball at the boundary between Rings B and C. Is it an optical effect (as Cave opines)? The editor admits it has him puzzled! Have other observers seen anything.

Mars will be suffering badly from Accelerating Remoteitis during June; few observers are still watching it. On June 15 the angular diameter will be 6".4, the north pole will be tipped toward the earth by 24 degrees, and the areocentric longitude of the sun will be 112° (early summer in northern hemisphere).

The north polar cap was perhaps about constant in size from late April to late May. It was small and brilliant to H.D. Thomas on April 11, 19, and 20 and to D.R. Monger on May 1. Haas found it to show this sam e character from April 26 to May 6; on May 13, 14, and 17 it appeared less bright than before, but the views were poor for judging . Quantity Θ was 94° on May 6, 97° on May 13. Cave wrote on May 19 that he had noted an apparent enlargement of the north cap but gave no dates. A set of drawings from him suggests a fairly constant size during April (last drawing on April 27). While still extremely variable, the south cap is probably growing both brighter and larger. Cave on May 19 wrote of its "continuing enlargement" ; Monger found it larger than the north cap on May 1, though duller and more fidduse; Haas on a number of dates in late April and early May found the polar caps fairly comparable in size and brightness.

Monger on May 1 suspected a bright spot near the north tip of Syrtis Major then near the C.M. A Martian cloud? No motion of the spot relative to Syrtis Major was detected in 30 minutes of looking.

Drawings of Mars when it was closer than now have been received from T.Cragg, T.R. Cave, E. Pfannenschmidt, H. Overndorger, and W. Thornbury. We have some hopes of distributing with a future mailing photostatic copies of a suitable selection of 1948 drawings of Mars. Some really excellent ones have been made by our readers.

Little can be added to what we reported last month about E.J. Reese's remarkable NEB - to - SteZ band on Jupiter on Mardh 25, 1948. However, T. Cragg observed at C.M. (II) 266° on March 22 and saw no hint of the band, though a drawing he made shows eight belts. We can hence little doubt that a disturbance affecting tens of millions of square miles of the visible surgace of Jupiter developed within at most 70 hours! H.M. Johnson observed Jupiter on March 30 with a 6-inch refractor at C.M. (II) 304° but saw nothing of Reese's band. However, it could have been easily overlooked 46 degrees past the C.M. (using Reese's longitude for March 25). and in addition the seeing was so bad that only three belts were definitely visible to Johnson. Reese reports that on May 10 he did notice, in spite of very poor seeing, "a rather faded version of the March 25 bright band following Jupiter's Red Spot Hollwo." The relation between System I and System II was the same on May 10 as on March 25. No one else has reported looking for the band on or near May 10.

Jupiter has shown much of interest in recent weeks, but we shall have to defer details to a later issue. The longitude (II) of the center of the Red Spot Hollow is roughly 230°. The Red Spot inside the Hollow remains unobserved and is thus fainter than in 1947. The South Equatorial Belt is extremely confused, and much uncertainty about identification of belts between the north edge of the S.E.B. and the S.T.B. exists. The S.E.B., or part of it, is in some longitudes more conspicuous than the N.E.B., which is otherwise the strongest belt. A number of high-latitude belts have been seen when the air is good. Hare on April 25 drew 14 belts on the disc! On April 25 he found the S.T.B. to be deflected southward by the R.S.H., but on April 25 the belt was straight there. The current apparition bids fair to be an exciting one.

SUBSRIPTION RATES

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S T A F F

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