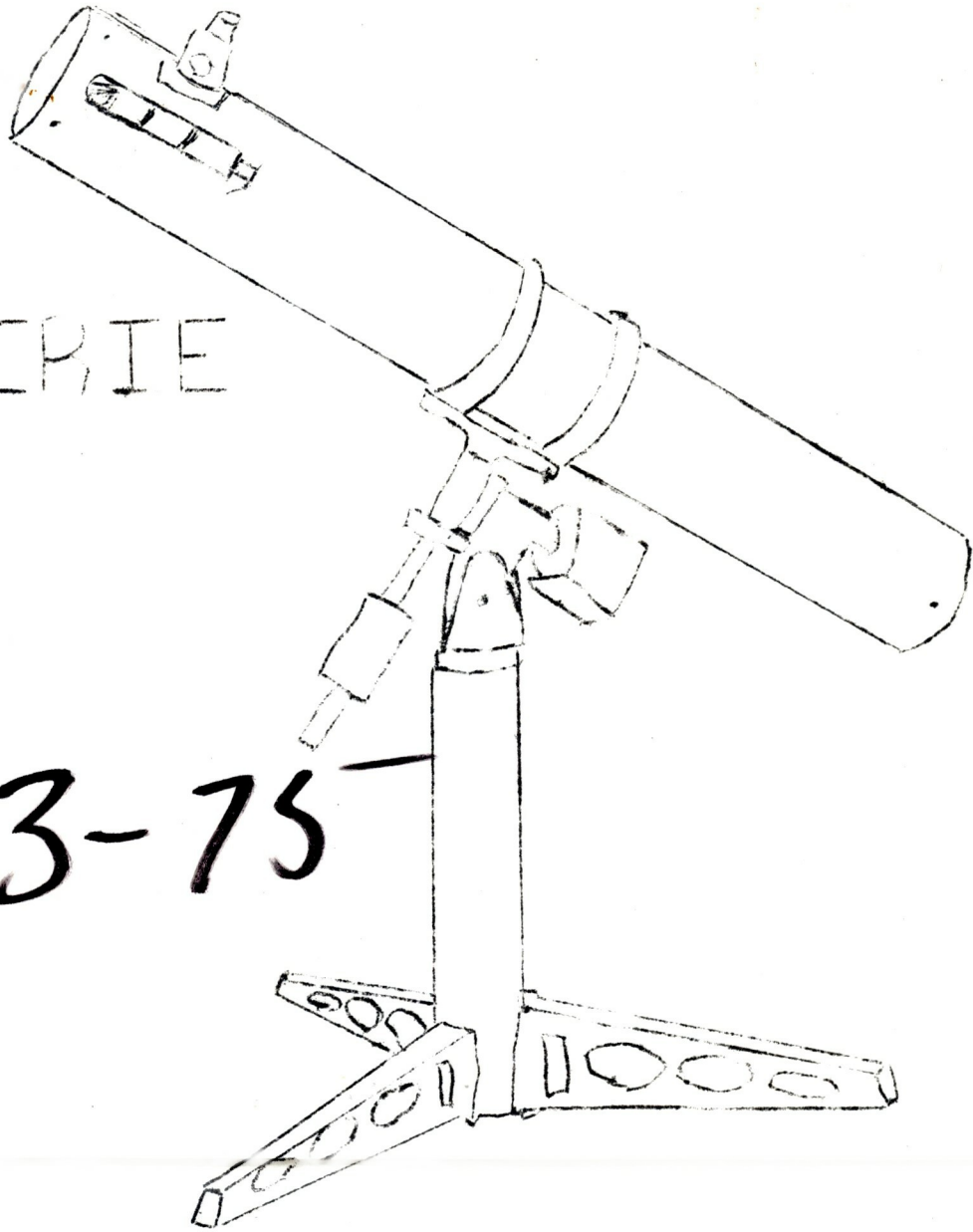


THE
PRAIRIE

TELEPHONE

3-75



THIS MONTH OUR MEETING WILL BE HELD AS USUAL IN THE OLIN HALL OF SCIENCE ON THE NEBRASKA WESLYEAN CAMPUS AT 7:30 PM ON THE 25TH DAY OF MARCH 1975. THERE WILL BE A DRAWING FOR A DOOR PRIZE AND REFRESHMENTS. SOME IMPORTANT BUSINESS WILL BE MENTIONED IN THE PRESIDENTS REPORT AND IT WILL CALL FOR A VOTE OF THE MEMBERSHIP SO READ ON.

----THE PRESIDENTS REPORT----

AT THIS MONTHS MEETING WE WILL DECIDE IF WE (THE CLUB) SHOULD PURCHASE THE MIRROR GRINDING MACHINE THAT MONTE COLE AND ED MOERNER HAVE FOR SALE. AS OF THIS WRITING THE ASKING PRICE IS

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ENOUGH BUSINESS FOR NOW. IN READING THE MARCH ISSUE OF "ASTRONOMY" I CAME ACROSS A ARTICLE ON INTERSTELLAR FLIGHT AND THERE WERE SOME QUOTES THAT WERE MADE BY SEVERAL DIFFERENT PEOPLE ON THE SUBJECT, AND LOOKING BACK AT THEM SHOWS HOW GREAT OUR ADVANCES IN AERONITICS AND SPACE FLIGHT REALLY ARE. [CONT'D ON NEXT PAGE]

"ALL THIS STUFF ABOUT TRAVELING AROUND THE UNIVERSE BELONGS BACK WHERE IT CAME FROM, ON THE CEREAL BOX," REMARKED PHYSICIST EDWARD PURCELL IN 1960. ALTHOUGH INTERSTELLAR TRAVEL APPEARS AWESOMELY COMPLEX BY TODAY'S TECHNOLOGICAL STANDARDS, PURCELL AND OTHER CRITICS SHOULD HAVE LEARNED A LESSON FROM THEIR SHORTSIGHTED PREDECESSORS. THE PAST ECHOES WITH THE HOLLOW PESSIMISM OF SCIENTISTS WHO SCOFFED AT AND "DISPROVED" THE REALITY OF AIR TRAVEL AND SPACE FLIGHT.

1910-ASTRONOMER WILLIAM H. PICKERING:

"THE POPULAR MIND OFTEN PICTURES GIGANTIC FLYING MACHINES FLYING ACROSS THE ATLANTIC.... IT SEEMS SAFE TO SAY THAT SUCH IDEAS MUST BE WHOLLY VISIONARY, AND EVEN IF A MACHINE COULD GET ACROSS...THE EXPENSE WOULD BE PROHIBITIVE. IF WITH 30 H.P. WE CAN NOW ATTAIN A SPEED OF 40 MPH., THEN IN ORDER TO REACH A SPEED OF 100 MPH WE MUST USE A MOTOR CAPABLE OF 470HP. IT IS CLEAR THAT WITH OUR PRESENT DEVICES THERE IS NO HOPE OF COMPETING FOR RACING SPEED WITH EITHER OUR LOCOMOTIVES OR OUR AUTOMOBILES."

1920-THE NEW YORK TIMES-EDITORIAL:

"AFTER THE ROCKET QUITS OUR AIR AND REALLY STARTS ON IT'S LONGER JOURNEY, ITS FLIGHT WOULD NEITHER BE ACCELERATED NOR MAINTAINED BY THE EXPLOSION OF THE CHARGES IT MIGHT HAVE LEFT. TO CLAIM THAT IT WOULD BE IS TO DENY A FUNDAMENTAL LAW OF DYNAMICS."

1926-PROFESSOR A. W. BICKERTON:

"FOR A PROJECTILE TO ESCAPE THE GRAVITATION OF EARTH, IT NEEDS A VELOCITY OF SEVEN MILES A SECOND. THE THERMAL ENERGY OF A GRAM AT THIS SPEED IS 15,180 CALORIES. THE ENERGY OF OUR MOST VIOLENT EXPLOSIVE-NITROGLYCERINE-IS LESS THAN 1,500 CALORIES PER GRAM. CONSEQUENTLY, EVEN HAD THE EXPLOSION NOTHING TO CARRY, IT HAS ONLY 1/10 OF THE ENERGY NECESSARY TO ESCAPE EARTH. HENCE THE PROPOSITION APPEARS TO BE BASICALLY IMPOSSIBLE."

1941-PROFESSOR J. W. CAMPBELL:

"WHILE IT IS ALWAYS DANGEROUS TO MAKE A NEGATIVE PREDICTION, IT WOULD APPEAR THAT THE STATEMENT THAT ROCKET FLIGHT TO THE MOON DOES NOT SEEM SO REMOTE AS TELEVISION DID LESS THAN 100 YEARS AGO. IS OVEROPTIMISTIC."

1945-DR. VA=NEVAR BUSH:

"THERE HAS BEEN A GREAT DEAL SAID ABOUT A 3,000 MILE HIGH ANGLE ROCKET SHOT FROM ONE CONTINENT TO ANOTHER. I SAY, TECHNICALLY, I DON'T THINK ANYONE IN THE WORLD KNOWS HOW TO DO SUCH A THING, AND I FEEL CONFIDENT THAT IT WILL NOT BE DONE FOR A VERY LONG PERIOD OF TIME TO COME."

AFTER READING THESE STATEMENTS YOU SEE HOW FAST OUR TECHNOLOGY HAS ADVANCED, SINCE ONLY ABOUT 50 YEARS SINCE THE FIRST OF THESE STATEMENTS WAS MADE WE HAD A MAN IN SPACE. SO INTERSTELLAR FLIGHT MIGHT NOT BE AS FAR OFF AS IT SEEMS.

JOHN BRUCE
PRESIDENT

JUST MOONING AROUND
BY RICK JOHNSON

WHILE I WAS LAID UP RECENTLY I HAD TIME TO CATCH UP ON MY READING AND CAME ACROSS AN ARTICLE BY ISAAC ASIMOV WITH THE ABOVE TITLE. THE RESULTS HE CAME UP WITH IN THE ARTICLE WERE SO SURPRISING.

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IN THE ARTICLE MR. ASIMOV SET OUT A TABLE IN WHICH HE COMPARED THE RATIO OF THE SUNS GRAVITATIONAL ATTRACTION FOR A PLANET'S MOON TO THE PLANET'S GRAVITATIONAL ATTRACTION FOR THE MOON. HE CALLED THIS RATIO THE "TUG-OF-WAR VALUE". THE TABLE IS SET OUT BELOW.

PLANET	MOON	TUG-OF-WAR VALUE
NEPTUNE	TRITON	8.400
"	NEREID	636-11

CONT'D ON NEXT PAGE

URANUS	MIRANDA	24,600
"	ARIEL	9,850
"	UMBRIEL	4,750
"	TITANIA	1,750
"	OBERON	1,050
SATURN	JANUS	22,600
"	MIMAS	15,500
"	ENCELADUS	9,800
"	TETHYS	6,400
"	DIONE	4,150
"	RHEA	2,000
"	TITAN	380
"	HYPERION	260
"	IAPETUS	45
"	PHOEBE	3.5
JUPITER	AMALTHEIA	18,200
"	IO	3,260
"	EUROPA	1,260
"	GANYMEDE	490
"	CALLISTO	160
"	VI	4.4
"	X	4.3
"	VII	4.2
"	XIII	3.7
"	XII	1.3
"	XI	1.2
"	VIII	1.03
"	IX	1.03
MARS	PHOBOS	195
"	DEIMOS	32

THE RATIO FOR NEREID IS GIVEN AS 636-11 AS THIS MOON HAS A VERY ECCENTRIC ORBIT AND THE GIVEN VALUES ARE FOR EACH EXTREME. ALL OTHER RATIOS ARE GIVEN FOR THE AVERAGE DISTANCE THE MOON IS FROM ITS PLANET.

THE TABLE APPEARS TO INDICATE SOME MOONS ARE STRONGLY IN THE GRASP OF THE PLANET THEY ORBIT WHILE OTHERS ARE SO CLOSE TO ONE THAT IT WOULD NOT TAKE MUCH EFFORT TO CAUSE THEM TO ESCAPE FROM THEIR PLANETS GRAVITATIONAL GRASP. INDEED IF YOU ARE TO DIVIDE THE MOONS INTO TWO CLASSES-ONE WITH A RATIO OF OVER 30 AND THE OTHER UNDER 30. AS SHOWN ABOVE ALL WITH THE BELOW 30 RATIOS ARE GENERALLY CONSIDERED AS BEING CAPTURED MOONS, AS THEY ARE SMALL HUNKS OF ROCK WHICH ORBIT THEIR PLANET RANDOMLY AND SOME EVEN RETROGRADE. THOSE WITH A RATIO OF OVER 30 ORBIT THEIR PLANET IN AN ORBIT CLOSELY MATCHING THE PLANETS EQUATOR AND ARE GENERALLY CONSIDERED TO BE TRUE MOONS.

NOW ALL OF YOU ARE WONDERING WHERE OUR MOON FITS INTO THE ABOVE TABLE. THE ANSWER IS THAT IT DOESN'T?? DO TO THE SIZE OF OUR MOON IT IS GENERALLY CONSIDERED TO BE A TRUE MOON, WHAT EVER THAT IS. BUT BY THE ABOVE TABL TO BE A TRUE MOON IT MUST HAVE AN ORBIT CLOSE ENOUGH FOR THE TUG-OF-WAR VALUE TO BE AT LEAST 30. THIS WORKS OUT TO BE ONLY 29,000 MILES OUT, AND OUR MOON IS EIGHT TIMES THAT FAR AWAY. THIS WOULD SEEM TO INDICATE THAT OUR MOON FALLS INTO THE CAPTURED CATAGORY, AS THE RATIO IS UNDER 30. WRONG AGAIN??

TRUE THE RATIO IS UNDER 30 BUT TO BE A MOON AT ALL THE RATIO MUST BE AT LEAST ONE. FOR A MOON TO BE WITHIN THE EARTHS CONTROL CATCHED THAN THE SUNS IT MUST HAVE A RATIO OVER ONE. FOR A MOON

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TRUE THE RATIO IS UNDER 30 BUT TO BE A MOON AT ALL THE RATIO MUST BE AT LEAST ONE. FOR A MOON TO BE WITHIN THE EARTHS CONTROL RATHER THAN THE SUN'S IT MUST HAVE A RATIO OVER ONE. FOR A MOON TO HAVE A RATIO OF OVER ONE IT MUST ORBIT THE EARTH AT A DISTANCE OF UNDER 161,000 MILES. BUT OUR MOON ORBITS THE EARTH AT ABOUT 240,000 MILES WHERE THE TUG-OF-WAR VALUE IS ONLY 0.45. THE EARTH IS THEREFORE THE ONLY PLANET WHICH DOES NOT HAVE DOMINION OVER IT'S MOON. IN FACT AS VEIHED FROM THE SUN OUR MOON'S ORBIT IS ALWAYS CONCAVE (THE ONLY SUCH MOON) AND THEREFORE ORBITS THE SUN AND NOT THE EARTH.

SO WHAT IS OUR MOON?? ONE CLUE IS THAT THE PLANE OF THE MOON'S ORBIT AROUND THE SUN LIES WITHIN A FEW DEGREES OF THE ECLIPTIC. ASIMOV THEREFORE CONCLUDES THAT OUR MOON IS ANOTHER PLANET WHICH HAPPENS TO SHARE OUR ORBITAL PATHWAY AROUND THE SUN. THE EARTH MOON SYSTEM IS A DOUBLE PLANETARY SYSTEM RATHER THAN A PLANET MOON SYSTEM. ANYWAY THAT APPEARS TO BE THE UNAVOIDABLE CONCLUSION BASED ON THE ABOVE TABLE. SOME HOLES CAN BE POKES INTO THE ABOVE THEORY, HOW MANY OF OUR MEMBERS CAN FIND SOME??? (CONT ON NEXT PAGE)

MORE FOOD FOR THOUGHT---MERCURY HAS NO KNOWN MOON AND BY APPLYING THE TUG-OF-WAR CONCEPT TO IT YOU FIND THAT IT CAN HAVE NO TRUE MOON, AS THE POINT WHERE THE VALUE DECREASES TO LESS THAN 30 IS STILL INSIDE OF THE ROCHE LIMIT FOR MERCURY. THE ROCHE LIMIT IS THE POINT AT WHICH IF A MOON VENTURES ANY CLOSER TO THE PLANET IT WILL BE DESTROYED BY THE TIDAL FORCES CREATED BY THE PLANETS GRAVITY. IT IS ALSO UNLIKELY THAT VENUS WOULD HAVE A TRUE MOON EITHER, AS IT'S ROCHE LIMIT IS 9,200 MILES WHILE THE TUG-OF-WAR VALUE REACHES 30 AT 19,000 MILES LEAVING VERY LITTLE ROOM FOR SUCH A MOON TO EXIST IN. SO ASIMOV SAYS WE CAN STOP LOOKING FOR MOONS FOR THESE TWO PLANETS.

IF YOU HAVE ANYTHING THAT YOU WOULD LIKE TO HAVE PRINTED IN THE NEWSLETTER MAIL IT TO ME OR GIVE IT TO ME AT THE MEETING. THE DEADLINE FOR THE NEXT ISSUE IS ONE WEEK PRIOR TO THE NEXT MEETING. THANKS TO THOSE WHO HAVE WRITTEN ARTICLES FOR THE NEWSLETTER.
JOHN BRUCE

FOR SALE: 1 PHOTOGRAPHIC ENLARGER AND DEVELOPING EQUIPMENT. SEE OR CALL JESS WILLIAMS.

IF YOU HAVE ANY UNWANTED ISSUES OR DUPLICATE ISSUES OF SKY AND TELESCOPE, NO MATTER WHAT THE DATE, BRING THEM TO THE MEETING SO THAT THEY CAN BE ADDED TO THE CLUB COLLECTION.

++++GATEWAY SHOW++++

WELL IT SHOULD BE WARM ENOUGH TO START OUR PUBLIC SKY SHOWS ON THE GATEWAY MALL FOR THIS YEAR. OUR FIRST DATE WILL BE THURS. APRIL 17TH AND IN CASE OF CLOUDS WE WILL TRY AGAIN THE NEXT NIGHT. COME OUT TO THE MALL NEAR THE ENTRANCE TO THE ENCLOSED MALL AT ABOUT 7:00PM. I HOPE THAT WE CAN HAVE A GOOD TURN OUT FOR THIS, OUR FIRST SHOW OF THE YEAR. SEE YOU THERE J.B.

++++OBSERVING REPORT++++

AFTER A LONG, FIVE-MONTH, ABSENCE OUR OBSERVING CHAIRMAN RETURNS ONCE MORE TO THE PUBLIC EYE. FULL OF ENLIGHTENED, HEARTY TALK OF NATURE'S WONDERS, HE WILL SET OLIN HALL ALIVE THIS COMING TUES.

ON MARCH 7TH JOHN BRUCE, LEE THOMAS, WALTER BAUMANN AND MYSELF JOURNEYED TO HICKMAN FOR AN OBSERVING SESSION. FAIRLY CLEAR SKIES AND LOW TEMPERATURES GREETED OUR EXPEDITION, THE FIRST SINCE LAST NOVEMBER. AFTER SETTING UP WE BEGAN LOOKING AROUND AT OLD AND NEW OBJECTS OF THE LATE WINTER SKIES. SATURN, IN CENTRAL GEMINI AND RETROGRADING, WAS EXCELLENT IN JOHN'S SIX-INCH. STEADINESS WAS GOOD SO SURFACE DETAIL AND RING DIVISIONS COULD BE SEEN VERY CLEARLY. TRANSPARENCY HOWEVER, WAS NOT VERY GOOD. DEEP SKY OBJECTS WERE RATHER MURKY AND UNDEFINED. I SWITCHED BERTHA TO M-108 AND M-97 IN URSA MAJOR AND GOT FAIRLY DECENT VIEWS OF THEM. THE OWL NEBULA WAS A CIRCULAR PATCH OF 12TH MAGNITUDE SOME THREE MINUTES ACROSS THAT APPEARS MUCH BRIGHTER THAN ITS STATED MAGNITUDE. AT TIMES ONE OF IT'S TWO EYES WAS VISIBLE TO US. M-108 WAS A THIN EDGE-ON GALAXY OF 11TH MAGNITUDE THAT HAD A DARK LANE RUNNING DOWN ITS EIGHT MINUTE BY ONE MINUTE LENGTH.

WE ALSO LOOKED AT M-46, A BEAUTIFUL OPEN CLUSTER IN PUPPIS. RIGHT ON ITS NORTH EDGE IS THE VERY TINY PLANETARY NEBULA, NGC-2438.

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WE ALSO LOOKED AT M-46, A BEAUTIFUL OPEN CLUSTER IN PUPPIS. RIGHT ON ITS NORTH EDGE IS THE VERY TINY PLANETARY NEBULA, NGC-2438. THIS OBJECT WOULD BE A GOOD TEST IN CLUB MEMBERS TELESCOPES, FOR IT CAN BE HARD TO FIND IF ONE DOES NOT KNOW WHERE TO LOOK. ALSO THE ROSETTE NEBULA IN MONOCEROS WAS VIEWED. NOT NEARLY AS IMPRESSIVE AS ITS PHOTOGRAPHS SINCE VERY LITTLE NEBULOSITY WAS VISIBLE. THIS OBJECT WAS NEVER THE LESS WORTH LOOKING AT. VISIBLE IN A FINDER SCOPE, THE LARGE STAR CLUSTER THE CLUSTER IS 5 FULL DEGREE ACROSS AND ABOUT SEVENTH MAGNITUDE.

AS APRIL APPROACHES SO DOES THE REALM OF GALAXIES IN VIRGO. AT THE MEETING I WILL DISCUSS HOW TO OBSERVE THESE GALAXIES, MANY OF WHICH ARE MESSIER OBJECTS AND EASY TO LOCATE.

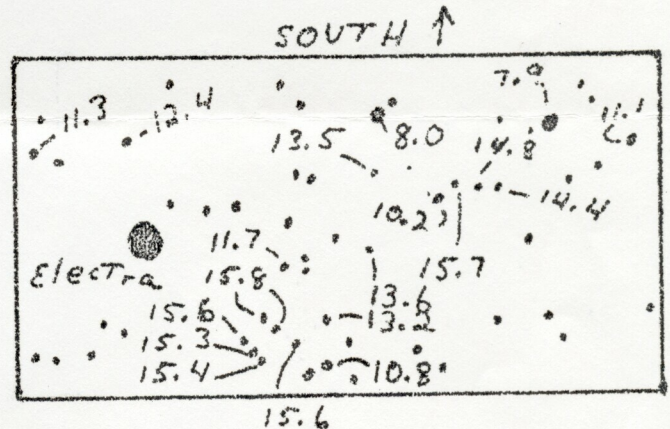
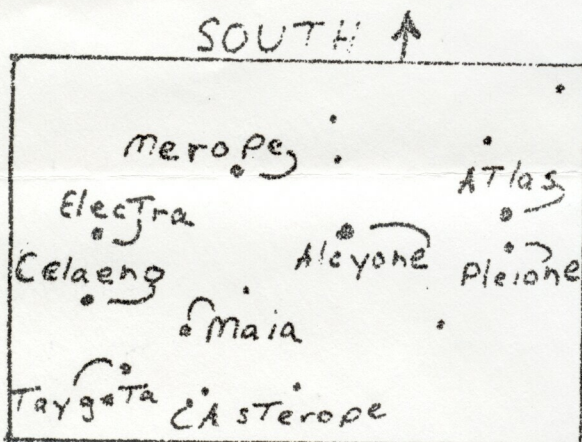
BRIAN RUGG
OBSERVING CHAIRMAN

LIMITING MAGNITUDES WITH YOUR TELESCOPE

BRIAN RUGG AND MY SELF NOTICED TWO ARTICLES ON THIS SUBJECT IN SKY AND TELESCOPE, ONE IN THE FEB. 72 ISSUE AND ANOTHER IN THE JUNE 73 ISSUE, AND DECIDED TO FIND OUT WHAT THE FAINTEST STELLAR MAGNITUDE THAT WE COULD SEE IN OUR RV-6S. IT WOULD BE A GOOD PROJECT FOR THE CLUB MEMBERS TO WORK ON, AS MOST OF US DO NOT KNOW HOW MUCH OUR TELESCOPES ARE CAPABLE OF SHOWING.

HERE ARE SOME CHARTS AND OBSERVING HINTS TO AID YOU IN DETERMINING A LIMITING MAG. FOR YOUR SCOPE.

Note - See Page 131 in Feb 1972
Sky & Tele



IF YOU HAVE NOT NOTICED THE CHARTS ABOVE SHOW THE PLEIADES. YOU CAN USE THE ABOVE CHARTS TO DETERMINE THE L.M. FOR YOUR SCOPE. IN THE RIGHT HAND CHART MAGNITUDES ARE GIVEN TO ONE TENTH MAG, SO THAT GOOD ACCURACY CAN BE OBTAINED. WHEN MAKING OBSERVATIONS ELECTRA SHOULD BE KEPT OUT OF THE FIELD AS IT'S LIGHT WILL DROWN OUT THE FAINT STARS YOU ARE TRYING TO SEE. IT IS A NECESSITY TO USE AVERTED VISION TO SEE THE FAINTEST POSSIBLE MAG. AVERTED VISION MEANS THAT YOU DO NOT LOOK DIRECTLY AT THE OBJECT YOU WISH TO SEE BUT SLIGHTLY OFF TO ONE SIDE, AS THE EYE IS MORE SENSITIVE TO LIGHT IN THESE AREAS! IT IS ALSO WELL KNOWN THAT INCREASING THE MAGNIFICATION OF A TELESCOPE [WITHIN REASONABLE LIMITS] TENDS TO MAKE FAINTER STARS VISIBLE BY DARKENING THE SKY BACKGROUND. FOR THIS REASON YOU SHOULD TRY SEVERAL DIFFERENT POWERS TO FIND A OPTIMUM FOR YOUR SCOPE. SMALL SCOPES ARE NOT AFFECTED VERY MUCH BY ATMOSPHERIC TURBULENCE, BUT LARGE APERTURES MAY BE RELATIVELY LESS EFFICIENT IN SHOWING FAINT STARS THAN LIGHT-GATHERING AREA WOULD IMPLY. THE IMAGE SWELLING EFFECTS OF BAD SEEING WOULD DIMINISH THE SURFACE BRIGHTNESS WHICH THE EYE SEES, SO TRY THIS EXPERIMENT ON SEVERAL DIFFERENT NIGHTS.

WHAT IS THE FAINTEST STAR THAT YOU CAN SEE STEADILY? WHAT IS THE FAINTEST STAR THAT CAN JUST BE GLIMPSED OCCASIONALLY? TRY THIS TEST AND BRING YOUR CONCLUSIONS TO THE APRIL MEETING AND WE WILL DISCUSS THE RESULTS.

HERE IS THE CURRENT MEMBERSHIP LIST. IF YOUR NAME IS MIS-
 SPELLED OR YOUR ADDRESS IS WRONG DROP ME A LINE WITH THE COR-
 RECTION OR GIVE ME A CALL. JOHN DRUCE

1-STEVEN ANDERSEN	NEB MESLYEAN PLAINSMAN HALL R-206	68504
2-DONN EAKER	2616 NO. 59TH ST CITY	68507
3-WALTER BAUMANN	RT. 1 BOX 52 ROCA NEB	68430
4-BRAD FINDER	415 LYNCREST DR. CITY	68510
5-REX DRINTON	1315 PLUM ST. CITY	68502
6-JOHN DRUCE	5001 BELLHAVEN DR. CITY	68516
7-FELIX CAVOSIE	4116 G ST. CITY	68510
8-S. CHIVUKULA	601 MULDER DR. CITY	68510
9-DR. JOHN CLOTHIER	355 SO. COTNER CITY	68510
10-MONTE COLE	800 ELDON DR. CITY	68510
11-RUSS COPPLE	ALVO NEB.	68304
12-DAN COWELL	1212 LAKE ST. CITY	68502
13-GEOFF CROOKS	2816 NO. 63RD CITY	68507
14-DAVID DAIKER	3225 HOLDREGE ST CITY	68503
15-ALLEN DAUBENDICK	1821 JACKSON BEATRICE NEB	68310
16-JACK DUNN	2620 JAMESON NORTH*2 CITY	68512
17-ROBERT EBERLY	850 STUART BLDG. CITY	68503
18-ROLLAN ELLIS	RT. 1 BOX 152 ROCA NEB.	68430
19-MIKE ENGLE	5512 RIST CITY	68504
20-DR. CHARLES ERICKSON	7120 OXFORD RD. CITY	68520
21-HARLAN FRANEY	1734 SO COTNER CITY	68506
22-NORMAN FRERICHS	1623 LINCOLN BEATRICE NEB	68310
23-CLARK FULLER	2811 S ST CITY	68503
24-RICHARD GEOGLEIN	6821 KEARNEY CITY	68507
25-JOE HAMERSKY	3748 SO 40 TH ST CITY	68506
26-DICK HARTLEY	320 WEDGEWOOD CITY	68510
27-RICHARD HEIN JR.	335 NW 19 TH ST CITY	68528
28-DUANE HUTCHINSON	3445 TOUZALIN AVE CITY	68507
29-JOHN JOHNSON	566 NAPLES ST APT 114 CHULA VISTA CA 92011	
30-RICK JOHNSON	1860 PAMNEE ST CITY	68502
31-WARNER KLAMMER	1646 N COLUMBIA SEWARD NEB	68434
32-DAVID KNISELY	HARPER HALL UNIV OF NEB CITY	68506
33-KEN KOPTA	1544 CRESTLINE DR CITY	68506
34-DAVID KUBICEK	6927 LEXINGTON ST CITY	68505
35-STEVEN LAU	3701 SO 44 TH ST CITY	68506
36-JEFF MALLOTT	2731 ANDERSON DR CITY	68506
37-DR. ROBERT MANTHEY	WARDS OPTICAL DEPT GATEWAY CITY	68510-05
38-DR. CAROLL MOORE	1140 NO 79 TH CITY	68505
39-EARL MOSER	WICKMAN NEB	68372
40-JIM NICOLAI	240 WEDGEWOOD CITY	68510
41-BILL NOEL	1646 DAVID DR CITY	68504
42-PHILO PRELL	4425 RANDOLPH CITY	68510
43-MARK PRETZER	RT 4 BEATRICE NEB	68310
44-DRUCE REEVES	609 CATHER HALL UNIV OF NEB	68506
45-CARROLL REINERT	4731 HILLSIDE CITY	68506
46-VIRGINIA RELLER	1906 D ST CITY	68502
47-CURTIS ROELLE	2612 SO 30 TH ST COLUMBUS NEB	68601
48-JAMES ROGERS	8211 CHERRYWOOD CITY	68510
49-STEVE ROPER	5731 GLADE ST CITY	68506
50-BRIAN RUGG	3468 WOODS AVE CITY	68510
51-PHIL RUSSHETTI	1520 OAK LANE WAVERLY NEB	682???
52-JOHN SAY	305 HARPER HALL UNIV OF NEB	68506
53-MILDRED SEACREST	GATEWAY MANOR 56TH AND R ST CITY	68505
54-ROGER SEVERNS	3717 SO 18 TH ST CITY	68502

*Pincoy
2001
10/14*

*CAVOSIE
CANNON*



*5331
Ervin*

32-DAVID KRISLEY	HARPER HALL UNIV OF MED CITY	68506
33-KEN KOPTA	1544 CRESTLINE DR CITY	68506
34-DAVID KUDICEK	6927 LEXINGTON ST CITY	68505
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52-JOHN SAY	305 HARPER HALL UNIV OF MED	68508
53-MILDRED SEACREST	GATEWAY MANOR 56TH AND R ST CITY	68505
54-ROGER SEVERNS	3717 SO 18 TH ST CITY	68502
55-TOM SCHLEICH	1810 ST JAMES RD CITY	68520
56-JOHN SCHRODER	3760 SO 40TH ST CITY	68506
57-JIM SCHAFFER	CALVERT PLACE CITY	68506
58-MERTON SPRENGEL	4522 HILLSIDE ST CITY	68506
59-LARRY STEPP	409 SO 14TH ST CITY 533/Erwin	?????
60-FREDERICK STUART	3720 SO 40TH ST CITY	?????
61-LEE THOMAS	1825 NO 63RD ST CITY	68505
62-JESS WILLIAMS	7844 SO SYCAMORE DR CITY	68520
63-ED WOERNER	4911 LOWELL ST CITY	68506
64-GEORGE WOK	2515 SO 39TH ST CITY	68506