

Queen's University Astronomy Club and the
 Royal Astronomical Society of Canada, Kingston Centre

NEWSLETTER

Next meeting: Tuesday, February 15, 1977
 8:00 pm in Ellis Hall Rm. 222

Paul Brown got some slides from the National Centre when he was there in January. We will show these, as well as have a presentation or two from club members.

Reminder: There are still a few T-shirts, and some Handbooks, also.

Dr. Kennedy J. O'Brien, member of the RASC and the International Union of Amateur Astronomers wants to make all of our members aware of the following:

The International Union of Amateur Astronomers will be holding its 4th World General Assembly in Dublin, Ireland in the last two weeks of August, 1978. Anyone wishing further information should write to the secretary of the organizing committee at

26 Cedarwood Pk
 Ballymun, Dublin 11 Ireland

Dr. O'Brien lives in St. John's, Newfoundland, and first contacted the Kingston Centre to get information from our (nonexistent) variable star observing group. Anyone interested in corresponding with him about that, can get his address from me (S. McD).

The Sky for (part of) February

	day	hour	min.	
Mon.	14			Mercury at aphelion
		17		Uranus stationary
Wed.	16	07		Mars 6° S. of Moon
		12		Mercury 7° S. of Moon
Thurs.	27	22	37	New Moon
Mon.	21	12		Venus 3° N. of Moon
Thurs.	24	17		Jupiter 2° N. of Moon
		22		Moon at apogee (404,350 km)
Fri.	25			Venus at perihelion
		21	50	First quarter
Sat.	26	04		Vesta stationary
Mon.	28	21		Venus at greatest brilliancy

THE FOLLOWING SHEET IS FROM IVARS
 PETERSON, THE LAST THREE PAGES ARE,
 OF COURSE, BY LED.

PHYSICS FOR FUN



NUMBER 18

"The power of instruction is seldom of much efficacy, except in those happy dispositions where it is almost superfluous."

-Gibbon

QUIZ: On Space

- In the recent Viking expedition to Mars - roughly 300 million kilometres away at the time - the flight was controlled from Earth only until the last half hour, when the lander descended from an orbit around Mars to the designated site on the surface. Why?
(a) The landing was on the side of Mars away from Earth and therefore could not be controlled from Earth.
(b) The lander was passing through Mars' atmosphere, which absorbs radio signals.
(c) The transit time of signals from Viking to Earth and back was greater than the landing time.
(d) The controllers at the Earth space center were exhausted by then.
- The energy we receive from the sun is produced primarily through the process of
(a) fission (b) fusion (c) oxidation (d) gravitational collapse
- A quasar is not
(a) an astronomical entity discovered within the last 25 years
(b) a quasi-stellar object
(c) a TV set
(d) a U.S. Air Force satellite.
- An astronomical object in the Bayeux tapestry - depicting the Norman conquest of England - and associated with Mark Twain is
(a) Halley's comet
(b) The Andromeda galaxy
(c) the Crab nebula
(d) the North Star
- At sunset, the sun appears red. The reason is:
(a) "red hot" is cooler than "white hot" and, at the end of the day, the sun's temperature goes down
(b) a psychological effect - the sun is low on the horizon and can be compared to buildings or fields, the colours of which make the sun appear red
(c) at sunset, the sun's light has more

atmosphere to traverse, atmosphere which scatters blue light more than red, leaving the red to give the sun its appearance
(d) there is less light at sunset and, with less light, the sun appears darker.

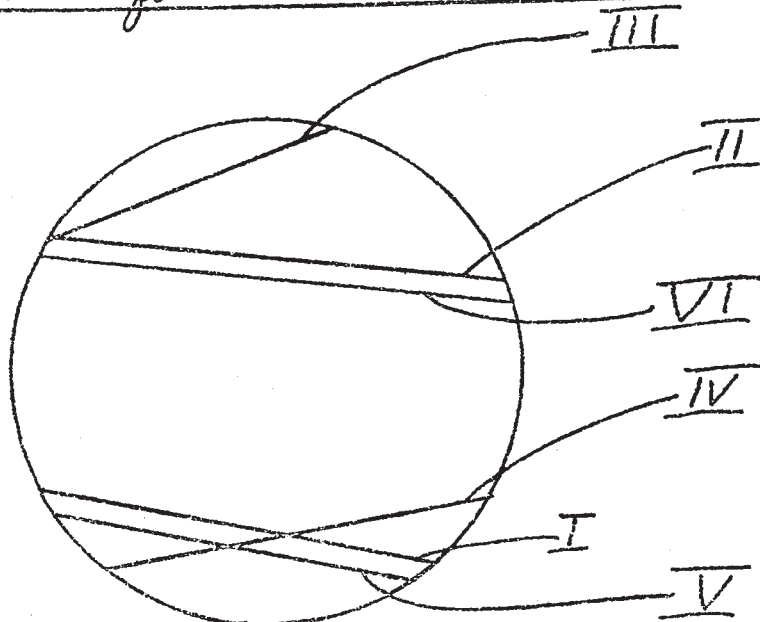
- The number of mythological figures who have both planets and chemical elements named directly after them is
(a) 2 (b) 3 (c) 4 (d) 10
- Which is not associated with astronomy or space?
(a) UHURU (b) Cygnus X-1 (c) Hercules X-1 (d) ETAON-RISHU
- Black holes
(a) have definitely been observed
(b) can never be detected
(c) are bodies from which no light escapes
(d) are gaps in the solar spectrum
- The substance that is most abundant in the universe is
(a) hydrogen (b) oxygen (c) nitrogen (d) alcohol
- Einstein's special theory of relativity, containing his famous formula for the equivalence of mass and energy, $E=mc^2$, has been confirmed in innumerable experiments. One of the few experiments that tested his general theory of relativity involved measuring
(a) the bending of a distant star's light ray that grazed the sun
(b) the decrease in the radii of the orbits of the planets with time
(c) the change in the period of revolution of certain comets
(d) the decrease in intensity of the sun's light with time
- The temperature at the surface of the sun is approximately
(a) 500 K (b) 5000 K (c) 500,000 K (d) 5,000,000 K
- The temperature at the center of the sun is believed to be about
(a) 10 thousand K (b) 10 million K (c) 10 billion K (d) 10 trillion K
- The longest period of revolution about the sun belongs to the planet
(a) Jupiter (b) Uranus (c) Pluto (d) Mercury

-from "The Sciences", Jan-Feb. 1977

Prize for first complete correct set of answers.

Transits Of Venus

At our second last meeting the topic: transits of Venus was mentioned but there was not ^{much} said on the topic. This is quite understandable because in the present century, as



we shall see later, it is not of great popular interest.

Venus passes in transit across the face of the sun only very rarely and in a strange cycle.

Just as in the case of solar eclipses occurring only at eclipse seasons, so there are transits of Venus possible only when the Venusian line of nodes cuts across the ecliptic and only when the earth happens to be passing very close to those points. This is possible only around June 7th and December 9th. For a transit, then,

"Recent" And "Near Future" Transits of Venus.

→ the above circle represents the solar disc and the lines represent certain transits of Venus, here are the dates on which they occur: (The planet's path is from left to right i.e. east to west.)

I - June 6, 1761

II - June 3, 1769

III - Dec. 9, 1874

IV - Dec. 6, 1882

V - June 8, 2004

VI - June 6, 2012

There will also be Venusian transits on: Dec. 11, 2117 and Dec. 8, 2125.

there must be an inferior conjunction near one of those dates. The length of time between inferior conjunctions is itself quite long (584 days), as compared with that of Mercury (116 days). Therefore, transits are very infrequent.

Usually, there is a 6-8 year period between transits followed by a 100-120 year period before the next one. The cycle then repeats, etc..

Two things should be noted from the accompanying diagram:

1. Consecutive Transits separated by the shorter period of time (Transits I and II, and then III and IV, etc.) form parallel lines in making their paths across the solar disc.

2. There is no Venusian transit in the present (the 20th) century of the Christian era.

The Compendium Of Esoteric Facts Column

This week in our column we ask you:

Did you know that:

A very deserving Canadian comet-discoverer was prevented from receiving credit for his discovery by another celestial phenomenon. Mr. Lewis V. Smith of Hedgewick, Alberta, discovered Comet 1939d on the evening of April 15, 1939 but a very bright display of the Northern Lights interrupted his telephone lines preventing his reporting it. He reported it by rural mail (bi-weekly, in those days in his area). The comet was called after its first three discoverers, and the third one, a Norwegian, had actually not discovered it until the evening of April 16, 1939.

"Cold Night" Contest Report

Response to the contest has been overwhelming to date. Our Contest Editor has decided that, instead of announcing a winner in this issue, he will print the best entries received so far, and will announce the winner in a later issue. The prize will be awarded at a future meeting of the R.A.S.C.-K.C. (Entry deadline: noon on the 7th of March)

Dear Contest Editor:

On the coldest night I have ever been out observing, it was so cold that Orion was wearing long underwear. Chris S.

Dear Chris:

If it ever happens again, do some fine focussing, find out what brand of intimate apparel it is, and let me know. It's not just because I'd want to wear it; I want to buy stocks in the company. If consumers ever hear how long your hero has been standing there wearing it, there will be no stopping them from buying.

Dear Contest Editor:

