

Armchair Astronomy No.3 - The Drama of the Solar System

Heavens Above! Astronomy from your Armchair. (© R Bee 2007)

The Drama of the Solar System

Up until the use of large telescopes in the 1700s and 1800s, the solar system as then known WAS the Universe. Since then, we've discovered that it is only about one thirty trillionth of the size of the observable universe. But, it is OURS! Recent discoveries of over 200 extra-solar planetary systems suggest there may be alien beings harbouring similar feelings about THEIR solar systems.

The Moon and the seven other planets of our solar system, if you don't count Earth and the recently demoted Pluto, have been the inspiration of many poems and works of speculative fiction. There are the classics such as: Voyage to the Moon (Cyrano de Bergerac); Round the Moon (Jules Verne); War of the Worlds (H.G. Wells); Under the Moons of Mars (Edgar Rice Burroughs); The Martian Chronicles (Ray Bradbury); Out of the Silent Planet (C.S. Lewis); and 2001 a Space Odyssey (Arthur C. Clarke) to name but a few.

These, with the exception of the latter, endowed the planets with romantic environments bearing no resemblance at all to the harsh realities on these worlds. Science can be such a damper to creative fiction.

Mercury, the closest to our Sun, is a barren crater-ridden rock resembling our Moon. Named after the fleet-footed messenger of the gods, its surface temperature ranges from 400°C to -180°C.

The next closest, Venus, after the Goddess of Love, is in size a near match to Earth. There the similarity ends. Its surface conditions make Mercury seem like a picnic. A surface temperature of 470°C, hot enough to melt lead, surface pressure of 90 Earth atmospheres and a continuous rain of sulphuric acid hardly matches C.S. Lewis' vision of blue rolling seas and undulating hills of green grass. Venus is a living hell. Dante would be delighted. But poets waxed in blissful ignorance:

*"For a breeze of morning moves,
And the planet of Love is on high,
Beginning to faint in the light that she loves
On a bed of daffodil sky..."*

- From Maud, Alfred Lord Tennyson

Mars is about half Earth's diameter and the subject of more science fiction books and films than all the other planets rolled together. It's hard not to like Mars, it seems so Earth-like. Alright, in the middle of the Mojave Desert but without the heat. With one third Earth's gravity, it can get quite warm in summer (up to -29°C) though a tad cold in winter (down to -100°C). The atmosphere doesn't contain much oxygen and its surface air pressure is about the same experienced 35 km above our Earth. Very thin! Still, it is the nearest thing to Earth the solar system has to offer. Current rovers on Mars have provided exquisite details to scientists about water (not a lot) and life (highly unlikely) yet there is always hope for some new discovery. Yes, we love Red Mars.

*"Together we sat in the summer night,
(An August night with a wealth of stars)
And we marked where it gleamed so redly bright,
The Planet Mars." -Albert Bigelow Paine*

The gas giants Jupiter and Saturn dwarf the inner planets, including Earth. Jupiter is one tenth the diameter of the Sun and 11 times the Earth's diameter. Saturn is only slightly smaller but its rings system has a diameter of 270,000 km. They are beautiful planets through a telescope. As John Keats wrote:

*"Then felt I like some watcher of the skies
when a new planet swims into his ken."*

Saturn and its rings, of course, has always invoked awe and inspired poets:

*"And 'while the world runs round and round,' I said,
'Reign thou apart, a quiet king,
Still as, while Saturn whirls his steadfast shade
Sleeps on his luminous ring."*

- From The Palace of Art, Alfred Lord Tennyson.

The smaller and more remote gas giants Uranus and Neptune have missed out on the poetic strains, though I suspect the former has appeared in many a bawdy limerick.

And comets... those fleeting but spectacular harbingers from the stars? While the inspiration of a plethora of poems, I'll leave you with a pithy quote from an astronomer, David Levy:

"Comets are like cats – they have tails and do precisely what they want."