In article <VNci2B7w165w@inqmind.bison.mb.ca>, victor@inqmind.bison.mb.ca (Victor Laking) writes:

> Does anyone have any info on the apparent sightings of Vulcan?

> All that I know is that there were apparently two sightings at
> drastically different times of a small planet that was inside Mercury's
> orbit. Beyond that, I have no other info.

The sightings were apparently spurious. There is no planet inside of the orbit of Mercury.

The idea of Vulcan came from the differences between Mercury's observed perihelion precession and the value it should have had according to Newtonian physics. Leverrier made an extensive set of observations and calculations during the mid 19th century, and Simon Newcombe later improved on the observations and re-calculated using Leverrier's system of equations. Now Leverrier was one of the co-discoverers of Neptune and since he had predicted its existence based on anomalies in the orbit of Uranus his inclination was to believe the same sort of thing was afoot with Mercury.

But alas, 'twere not so. Mercury's perihelion precesses at the rate it does because the space where it resides near the sun is significantly curved due to the sun's mass. This explanation had to wait until 1915 and Albert Einstein's synthesis of his earlier theory of the electrodynamics of moving bodies (commonly called Special Relativity) with Reimanian geometry. The result was the General Theory of Relativity, and one of it's most noteworthy strengths is that it accounts for the precession of Mercury's perihelion almost exactly. (Exactly if you use Newcomb's numbers rather than Leverrier's.)

Of course not everybody believes Einstein, and that's fine. But subsequent efforts to find any planets closer to the sun than Mercury using radar have been fruitless.

-Bill Gawne

"Forgive him, he is a barbarian, who thinks the customs of his tribe are the laws of the universe." - G. J. Caesar