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Professor Richard Nelson
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13th June 2017

Dear Professor Nelson,

BBC Horizon – Secrets of the Solar System

As the BBC Horizon production, Secrets of the Solar System, was repeated recently on BBC4, I was reminded of general observations that I think need to be emphasised in addition to the points I made in my email of 2015 attached.

I am greatly disappointed that so many physicists considering the universe have an almost religious belief in certain ideas such as the big bang and nebular hypothesis. So, as with starting from the view that everything in the Bible is literally true, in trying to make sense of new discoveries, nonsense results.

When we are trying to make sense of exoplanets, surely we should be questioning all aspects of current theory. I do think that starting with the assumption that nebular hypothesis has to be right is a serious block to something far more sensible than the chaotic mechanisms put forward in Secrets of the Solar System.

In particular, using Saturn to explain Jupiter ceasing to spiral in is not only hard to reconcile with all the patterns of exosystems, it makes very little sense of the order we see now in the plane and spacings of orbits. The Titius/Bode progression, although not perfect, is nevertheless, an order that points to something other than the early chaos now proposed.

If, however, we start from scratch, exoplanets suggest the possibility that gas giants are 'born' first, one by one from material ejected by stars and spiral out as the star loses mass. Later in the star's life, less material is ejected to explain the much smaller inner planets in our system, and the variety of exoplanet sizes. And the mechanism that makes complete sense of all we see in our solar system now is interdependent gravitational fields. All bodies lose mass in maintaining their gravitational field. But they can gain mass more quickly the closer they are to the Sun.

The small size of Mars is partly explained by greater mass losses than gains, and partly by the loss of the moon that had driven geological activity. The discovery of tridymite on Mars indicates that Mars once had tectonic activity that, as with the Earth, had allowed it to expand until its moon spiralled out and broke up.

The asteroid belt is thus a planet that broke up. The outer planets get smaller as they lose material (observed) from which rings and then moonlets form (observed). Moons are eventually lost to explain the Kuiper belt and beyond. Planets that form one by one and spiral out at an ever increasing rate explain the Titius/Bode progression. Moons that form one by one and spiral out explain the similar spacing of the larger moons after accretion.

Please note that the idea that planets form one by one and spiral out is not mine, but proposed by New Zealander David Hardy in the 1970s. It appealed to me immediately on hearing from David Hardy in 2006 because I realised that combined with my theory of interdependent gravitational fields, it could explain all we knew then about the solar system.

This allowed me to make several predictions in my first NPA paper of 2006, which have since been confirmed or look likely to be confirmed. Please email me with any queries.

Yours sincerely,

Robert F. Beck