

OBITUARY

**Thomas C. Van Flandern
(1940–2009)**



Courage. That was the feeling when I first read some of Tom’s work. It was clear that his position as planetary dynamics expert at the U.S. Naval Observatory enabled him to test theories of planetary birth and evolution. But you can imagine the lack of enthusiasm from fellow experts upon hearing that planets in orbits neighboring our own had simply exploded in the past (Van Flandern, 1999).

Mars was the touchiest proposition. When *JSE* and Tom’s *Meta Research Bulletin* exercised their function to scientifically examine the data, Tom was right in the lead. “The data” were kicked off by images of “The Face on Mars” and soon spread to pyramids, tubes, etc. Touchy because, I think, the implication was that Mars had a civilization that could have been wiped out when the main planet exploded. Whether any civilization on earth had been slowed by genocide on tribal scales is another interesting speculation.

I never discussed this with Tom, but the diligence with which he established the exploding planet hypothesis and the attention that he expended, with others, on artifacts on Mars certainly left something in the air. Each person must make their own estimate, mine is that the individual probability on both of these hypotheses is significant. Later, after attention had diminished a little, I saw him through the little cutout corner of the screen of the TV in the Institute hallway. There was Tom, addressing the Washington National Press Club, and streaming it to a wider TV audience—a group of hardened reporters who were used to cornering canny politicians. Tom was quietly showing pictures of pyramids, the “face on Mars,” and similar artifacts.

In contrast, I was at a conference later where three “suits” showed up from JPL/NASA promoting well funded space research contracts. They held up copies of a widely circulated tabloid newspaper with the face of Mars on the front and accompanied it with a slashing attack on crackpots, astrology, and untrustworthy journalism.

The pure and important astronomical connections with Van Flandern are perhaps more interesting and illustrative of how rigorous research in one discipline can affect fundamentals in another. One such result came from the speed of gravity calculations that Tom made on the effect on the earth’s orbit around the sun. By computing the speed of the graviton needed to keep the earth from deviating measurably from its presently observed ellipse, a minimum speed of 3×10^{20} cm/sec is obtained (see “Pushing Gravity”). This is a beautiful result in that events that measure to be instantaneous can still obey the physics of cause and effect. Moreover, in that high speed world, there is practically unlimited room for information exchange.

Another nice illustration of Van Flandern’s style is the Letter to the *Meta Research Bulletin* that said he was wrong to say the effect of pushing gravity is reflection off matter. In fact, in dialogue with the Letter writer, Tom agrees it is only the absorbed graviton that causes the effect. I had not even thought of this aspect when, in fact, it has profound consequences from the terrestrial to the extragalactic. Curiously, the application to the planets gives me, and those working along this line, the cause for the expanding earth. At the same time, all planets are absorbing gravitons, which in the case of those with rocky crusts, explains the otherwise unlikely exploding planets. That was support for expanding earth and bad for general relativity.

Although I was pleased to feel that Tom and I were going along in the same direction, we never had time to talk over all of the details and goals. The large issues seem to take care of themselves. For example, at one point, Tom was urging me to write a paper with him based on six different aspects of observational disproofs of Big Bang cosmology. By the time we were through, the number had increased to about 12 (Arp & Van Flandern, The case against the Big Bang, *Phys. Lett. A*, 164, 263–273, 1992)! A few weeks before the “Crisis in

Cosmology 2,” which he organized in September 2008, he said to me, “That really should be 100!” We just looked each other and laughed. We needed Tom. He will be hard to replace.

HALTON ARP
Max-Planck-Astrophysik
85741 Garching
Germany
arp@MPA-Garching.MPG.DE

Reference

Van Flandern, T. (1999). *Dark Matter, Missing Planets and New Comets*. North Atlantic Books.