

## Lone voices special: God said, let the dry land appear

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Peter Aldhous

Few earth scientists believe that our planet was created some 10,000 years ago and maintain that the Biblical account of Noah's flood is the literal truth. To have published papers in *Nature* and *Science* while holding these views is almost unheard of. **John Baumgardner**, creationist and geophysical modeller, tells **Peter Aldhous** how his Christian faith has shaped an unusual scientific career.

**You've said that your primary goal as a scientist is "defence of God's word". Is this consistent with the scientific method?**

Most scientists try to make incremental contributions. There are a few who are strongly driven by their world view; Richard Dawkins is a pretty dramatic example. I would put myself in that same category, although I hope that I'm not as abrasive. If people can do it on the other side, why should I shrink back?

**What led you to geophysical modelling?**

My original training was in electrical engineering. Later, I had a Christian conversion. After four years working on laser optics in the air force I had three years with Campus Crusade for Christ. During that time I started doing lectures on the origins of the Earth as described in the Bible, and found myself doing a lot of background research. In 1978 I realised that the *Genesis* flood had to involve rapid large-scale tectonic change. So I started a PhD in geophysics at the University of California, Los Angeles.

**During your PhD you developed a computer model for the interior of the Earth that has been widely used. Tell us about that.**

It models convection in the Earth's mantle, treating it as a viscous fluid and partitioning it into a large number of cells. We model the flow of rock as the result of solid-state creep: the rock is solid, but it deforms and flows like a fluid. The Los Alamos National Laboratory, where I had developed the model, was impressed, and in 1983 made me an offer to work in its theoretical division.

**How does this work relate to the *Genesis* flood?**

My main interest is in modelling catastrophic plate tectonics. Laboratory experiments show that silicate minerals can weaken by a factor of a billion under relatively modest stress change. As a slab of rock descends into the mantle, there's deformation in the zone between the slab and the surrounding mantle. As the stress increases, the material becomes weaker, allowing the slab to fall more rapidly. This increases the stress, so you have positive feedback. This allows plate motions that are generally understood to require hundreds of millions of years to unfold to occur in a few weeks. It results in significant deformation in the height of the continents' surfaces, and the height of the ocean's bottom. Apparently, the continents were largely submerged. In roughly a year's time, we have almost a complete resurfacing of the planet. At the end, we have a wrecked, desolate planet that is struggling to recover.

**You have conceded one major problem, which is how the newly formed crust could cool so quickly.**

That is a problem. There would have been supersonic jets of steam, which I once thought might have carried heat into space. But I'm persuaded now that you can't cool the plates by that mechanism. Still, I believe that this accounts for the 40 days and 40 nights of rain: ocean water was carried up with these jets. Most of what I've described involves the present laws of physics, but there are a couple of issues where I believe there must have been some form of divine intervention. One has to do with accelerating nuclear decay rates, which can explain why radioisotope methods seem to give dates for some rocks of hundreds of millions of years. The second is a mechanism for cooling.

**For most scientists, this is hugely problematical. They cannot invoke divine intervention in this way.**

I don't deny that most people would come down on the side of the conventional view, right now. Until the case is strong enough, it's foolhardy of me to ask and insist that my peers buy into it. I personally have confidence that it's true. My close peers, at least, know my position and are interested in it. But most of them want to continue to be in good standing with their colleagues.

**You don't seem to worry much about peer approval.**

I was in college during the radical sixties. Even though I did not participate in protests, I think I came away with that kind of radical outlook. The Biblical Christian also sees himself as a kind of revolutionary. True Christians generally haven't enjoyed a lot of approval.

**Your papers in *Nature* and *Science* assume conventional geological timescales. How did you reconcile your authorship of these papers with your own views about the Earth's history?**

I admit that I struggled with that. Basically, my rationalisation is that there's nothing wrong with the underlying physics that I described. There were a few points where I had some editorial input and tried to tone down some of the language. My colleagues felt strongly, since it was my computer code, that I should be an author. So I allowed it to go through. I believe God has called me to participate in the scientific community, not to be a Lone Ranger.

**Tell me about your interactions with colleagues.**

At Los Alamos, I found that my colleagues gave me a lot of respect. Not that they agreed with me, but they respected me for explaining and defending my position. A story about my work in *US News & World Report* in 1997 made more people aware of where I stood. About two weeks after that article appeared, I attended a workshop with about a hundred geophysics colleagues. There were two senior faculty from Harvard. One of them commended me for making clear what I believe and why. The second would not even make eye contact. I heard from others that he was incensed that somebody like me would be given standing in the earth science community.

In general there are three views: some people are positive, some are negative, but most senior colleagues don't want to engage. But at the American Geophysical Union meeting about three years ago, the younger geophysicists were genuinely interested.

Yet the AGU has stated that "creationism is not science". There are ideological people who lobbied to get that in there. I have protested. To give free rein to these atheists to bash people of faith is simply not the way the AGU should conduct itself. All I can do is say this is not appropriate. But I derive great benefit from being a member of AGU.

**Profile**

John Baumgardner gained his PhD in geophysics from the University of California, Los Angeles, in 1983. He joined the Los Alamos National Laboratory in New Mexico the following year. Since retiring from the lab in 2004, he has worked at the Institute for Creation Research in Santee, California. From issue 2581 of New Scientist magazine, 09 December 2006, page 54-55