# Re: Plate Tectonics and Earth expansion

***Source:*** http://sci.tech−archive.net/Archive/sci.geo.geology/2007−12/msg00247.html

- *From*: don findlay <don@xxxxxxxxxxxx>
- *Date*: Sat, 22 Dec 2007 09:42:09 −0800 (PST)

Jonathan wrote:

> "don findlay" <don@xxxxxxxxxxxx> wrote in message
> news:88e35a07−4b5c−45a6−ae8b−1401e064b294@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
>
> > That the Earth is getting bigger is a *LOGICAL DEDUCTION* from the
> > geological facts.
>
> To me this subject of earth expansion is interesting because
> on the one hand it seems impossible to prove,
>
> but intuitively
> it seems plausible. I say that because it's established fact
> the entire universe is expanding. That is not in dispute.
> "They" say only space is expanding, and that gravity would
> rule locally and individual objects would not themselves expand.
>
> But is that notion correct? It seems counter−intuitive to me.
> And to back that up, one of the great cosmologists of our
> time, one of the founders of inflationary theory, has recently
> proposed an entirely new cosmology based on my hobby
> of complexity science.
> http://www.physics.princeton.edu/~steinh/
>
> And in it he proposes that the current second period of universal
> expansion is due to the increase in self repulsive matter or energy.
> Matter which doesn't attract, but repulses. You should know
> it's also established fact, but little known, not all matter attracts.
> Some forms repulse.

He has a very detailed model showing how the second, much slower period of universal expansion also began at about the same time as life evolved on earth, or about the same time the earth cooled...or about the same time the universe became matter dominated.

It he is correct, it could be that everything, not just space, expands over time due to the steadily increasing amounts of repulsive matter that results from a cooling universe. How much such an effect could change the size of the earth I haven't a clue. It may be negligible, but ya know, for anyone to say our science has these things all figured out is just plain sillyness.

All the truly meaningful discoveries are yet to happen.

Some quotes below from...

A Quintessential Introduction to Dark Energy
Paul J. Steinhardt
Department of Physics, Princeton University
http://www.physics.princeton.edu/~steinh/steinhardt.pdf

Introduction

"The discovery of dark energy is one of the most surprising and profound discoveries in the history of science. Consider some of its implications:

Most of the energy in the universe is not \matter." For its flrst 300 years, physics has focused on the properties of matter and radiation, including dark matter. Now we know that they represent less than 30% of the composition of the universe. The rest consists of something we know virtually nothing about.

Most of the energy in the universe is not gravitationally attractive. We are probably the last generation to have been taught that \gravity always attracts," a notion which has been presented as a basic fact of nature for hundreds of years. We are now aware that gravity can repel, as well.

The future (and perhaps the past) is determined by dark energy. Clearly, the immediate future of the universe will be governed by dark energy which, depending on its nature, will determine the rate of dilution and cooling of the matter and energy. But, perhaps dark energy plays a more profound role in the history of the universe, determining our distant past as well as our long−term future.

The only way to have a low mass density and a flat universe, as expected from the inflationary theory, is if an additional, nonluminous, \dark" energy component dominates the universe today.
The dark energy would have to resist gravitational collapse, or else it would already have been detected as part of the clustered energy in the halos of galaxies. But, as long as most of the energy of the universe resists gravitational collapse, it is impossible for structure to form in the universe.

***The dilemma can only be resolved if the hypothetical dark energy was negligible in the past and, then, only after galaxies and larger scale structure formed, became the dominant energy in the universe***

According to general relativity, the only type of energy with this property has negative pressure.

The fine−tuning and cosmic coincidence problems are vexing. They are often posed as a paradox:

Why should the acceleration begin just as humans evolve?

In desperation, some cosmologists and physicists have been led to give renewed attention to anthropic models (Weinberg 2000). But many continue to seek a dynamical explanation which does not require the fine−tuning of initial conditions or mass parameters and which is decidedly nonanthropic.
A dynamical approach would seem to demand some sort of quintessence solution since it would have to entail some interaction between the dark energy the matter−radiation background. fl

Today, the consensus model of our cosmic history is based on the big bang picture combined with inflationary cosmology. This model has been subjected to an extraordinary battery of cosmological tests in the past decade, ranging from measurements of the cosmic microwave background to detailed surveys of large scale structure. The original picture, based on the Einstein−de Sitter model (a flat universe with matter density equal to the critical density), failed many of the tests, but replacement of 70% of the dark matter with a gravitationally self−repulsive dark energy, produced a new consensus model in exquisite agreement with all cosmological tests. Hence, many cosmologists are prepared to declare our cosmic history a settled issue.

However, a second look suggests some cause for concern. The new consensus model now requires two periods of accelerated expansion: one in the early universe, corresponding to a rate in which the universe doubles in size every 10−35 seconds, and now a second, in which the doubling rate is flfty orders of magnitude less. Each period of acceleration requires its own energy source which must be flnely−tuned to satisfy observational constraints. The flrst acceleration

has a well−denfled purpose, to homogenize and flatten the universe.
The second was not predicted by either the big bang or inflationary
pictures and it plays no known role in the universe.

The recent proposal of a \cyclic" universe presents a whole new outlook
on cosmic history in which dark energy plays a central role
(Steinhardt & Turok, 2002a, 2002b). in this model, the conventional cosmic
history is turned topsy−turvy. The big bang is not the beginning
of time. Rather, it is a bridge to a pre−existing contracting era.
The Universe undergoes a sequence of cycles in which it contracts
in a big crunch and re−emerges in an expanding big bang, with trillions
of years of evolution in between. The \big bang" is moderated. The
temperature and density of the universe do not become inflnite at
any point in the cycle; indeed, they never exceed a flnite bound
(about a trillion trillion degrees). No inflation has taken place
since the (last) bang. The current homogeneity and
flatness were created by events that occurred before the most
recent big bang,and the seeds for galaxy formation
were created by instabilities arising as the Universe was
collapsing towards a big crunch, prior to our big bang.
In this picture, dark energy is moved to center stage and is
part of the engine that drives

Should we believe, as most cosmologists suggest,
that this is the last missing piece of the puzzle and
our understanding of the universe is virtually complete?
Or have we just uncovered a deep dark secret that that
will revolutionize our whole view of the universe and
our place in it? I must confess to my own prejudice that the
latter seems more likely."

Thanks for that, Jonathan. But I'm putting this up again because it seems to me everybody's getting hold of the wrong end of the stick here, in trying to read Earth Expansion as a *process*, when it isn't. It doesn't get as far as that. It's an observation. And I'll say it again: you don't need a theory of gravity to know that the Earth is round. Similarly we don't need a theory of gravity to know (from geological studies) that that roundness has changed over geological time − anymore than we need one to understand the *Observation* of stratigraphic superposition.

−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−

EARTH EXPANSION AND PLATE TECTONICS − the semantic difference

From a semantic viewpoint Earth expansion and Plate Tectonics differ

profoundly. Earth expansion is a conclusion which follows from a logical deduction from the geological facts. It is not a theory of process. It is a conclusion. It doesn't get as far as 'theory': at the present time there *is* no theory how expansion can happen.

So, ...theory; ..set it aside.

Plate Tectonics on the other hand is entirely a theory of process. Basically Plate Tectonics recognises the logic of expansion but cannot accept it because of the conundrum of process such a conclusion presents − there is no known way whereby expansion to the degree observed can happen. It therefore rejects the prima facie obvious conclusion (that the Earth has got bigger) and looks for an explanation within processes that are already known. However to do this it first has to make the assumption that the Earth has remained essentially the same size since its inception, i.e., that the Earth's oceanic crust is being destroyed at the same rate as it is being created. The problem with this however is that when the parts of the theory are examined, each part contradicts another; nothing hangs together in any logical way; Plate Tectonics has to keep shifting its goalposts to accommodate the contradictions and conundrums. Plate Tectonics represents this quicksand of shifting ground, this lack of cohesion as a mark of 'flexibility' of its theory, an opportunity for further 'research', and therefore as a commendable aspect of the theory.

Thus is coherent logical deduction (Earth Expansion) versed against contradictory theoretical process based on an assumption (Plate Tectonics), and one which, when versed against logical conclusions (even those within the framework of its own initial position) can be shown to be logically false. In short Plate Tectonics would prefer to invent a fiction in order to stay within the boundaries of known science rather than use rational logic to consolidate a foundation from which what is not already known may be explored. In this respect it is no different from ancient religions.

The semantic difference leads through Earth Expansion (a rational conclusion) to a geological foundation for such questions as 'How does mass come into being?', .. 'How does the fabricated atom then relate to crytallisation and mineral paragenesis?', ...'How is spin implicated? and, 'How do massive bodies manage to exert force over such great distances?' − all as closely related questions.

Plate Tectonics on the other hand provides no platform for advance, ..but under the touted banner of being the best thing since sliced bread merely generates a kalaiedoscope of internal puzzles which offer no way forward. It is 'The Well at The World's End' of geological theory. But with its conclusion − "the Earth cannot be getting bigger" being its initial assumption, it is merely junk science.

From the solid ground of a logical conclusion one naturally moves

forward to a theory of process in any field. In the case of Earth Expansion however there is none, not for the want of trying, but simply from the fact that we do not yet possess all the necessary building blocks, and therefore should be cautious of trying. But that neither negates the logic nor the geological conclusion. However to build a theory of process (Plate Tectonics) around an assumption − and particularly one that simple logic demonstrates to be false at every turn − is simply dopey at best, and at worst anti−science. No theory of mechanism is required to justify the observation that the Earth is round. Likewise no theory of mechanism is required to justify the observation that this roundness is getting bigger on the scale of geological time. And it is a nonsense for many reasons to point to satellite measurements in a window of two decades in more than two hundred million years as proof that expansion cannot be happening <link next>.

−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−−

Plate Tectonics is a *THEORY OF PROCESS* often contradictory of the facts
http://users.indigo.net.au/don/nonsense/subcrux.html
The two therefore cannot be assessed on the same grounds − one a logical deduction/ conclusion tantamount to fact, the other simply speculation and inference which shoots itself in the foot at every turn..

In both the essential controlling element is gravity − the simple elementary principle of flotation in Plate Tectonics is contrasted (very likely) with the more esoteric and as yet unknown concepts of how masses manage to exert force at a distance, and how spin from the atomic to the galactic scale is incorporated into that picture.

It is unbelievably stupid to think that the different levels of intellectual speculation may be approached at the same level − one apparent and examined (and proved) for more than two thousand years (Archimedes (287 − 212 B.C.) the other which everyone admits we still know nothing about today despite the best efforts of 'teams' of well−funded scientists for decades, and our knowledge of the universe (but which everyone agrees would be good to know)

Why don't we just get on with the job of finding that one out?

(Getting on with the job.) (You lot − Go fuck your selves.)

"Teams" are only interested in securing next year's grants; this year's science is only as relevant as next year's funds. Consensus,

or making it appear that you're ahead of it, is the name of the game. Being outside it? ..is professional hari kiri.

(If you ain't innit, you won't winnit.)

.