**The Greatest of cycles - Human implications?**

***Guesswork, with dark undercurrents of "Multiple Conflicting Hypothesis" and "Turbic Science"***

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Here is an [initial, random, scattered] \* [commentary, framework] of human-related "quasi-cycles", as background thoughts to the work of [Puetz, Prokoph, Borchardt, Mason 01Apr2014]. There is NO attempt to show if any of the [events, processes, themes] listed correlates to any aspect of the "Greatest of Cycles", although some obiously do fit to some degree.

Puetz, Prokoph, Borchardt, Mason 01Apr2014 "?Title", provide

Is their concept correct?

all theories are wrong

Better descriptor than nothing

failures of mainstream thinking

Cyclomania is a contagious mental disease, but is sometimes useful

Spatio part of spatio-temporal is missing - [obvious, serious] shortcoming

This document provides an [initial, random, scattered, incomplete]

It's quite possible that the model of Puetz etal may become a "gold standard" for rejecting many erroneous, and often fraudulent, mainstream scientific truths across history and human processes and events. That also applies to sciences such as [physics, astronomy, geology, archaeology]. This would not be surprising, as for generations :

* mythologists of the "Electric Universe" community arising from Velikovsky's work have been winning more battles than not, and are leaders in giving open minds a clearer picture of [physics, astronomy, geology, climate, etc].
* climate skeptics have been battling the stampede of essentially all "govenment and academic lemmings" for over 100 years, as they oscillate between scenarios of death by global cooling or global warming.
* outcasts are making [infinitessimal, mostly unfunded, important] progress in tackling the failures of the overwhelming scientific religions of fundamental theoretical physics such as [relativity, quantum mechanics, Maxwell's equations].
* this list never ends....

But success is in no way guaranteed. It's really hard to move a [big, stupid, dishonest] mass with infinite funding.

I use the term "quasi-cycle" as complex natural cycles tend to be non-stationary, meaning that they do not always adhere to a fixed pattern, and that is one of many excellent points on the reliabilitities and errors of analysis that Puetz etal bring out far better than the vast majority of scientists.

**Status as of ?date?:**

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# Foreword : Starting off on the wrong foot

The "I' of this document is a "collective I' representing Neil & Bill Howell, which makes it easier to write this intitial draft. Keep in mind that neith Neil nor Bill are "unified "I's", in that each of us often disagrees with his his own thinking.

As Neil is fond of saying : "...  *The whole world is crazy except thouand I. And sometimes I wonder about thee. ..."*

To which Bill adds *"... Which one of me? ..."*

The intent of this document was to simply list themes and references related to the possible fit of human effects (that is [events, processes]) to the Grand cycle" of Puetz etal. However, I felt it necessary to explain in more depth the sections on the "Great Killers" and the "The full course of History (>7.5 ky) : Rise and Fall of Civilisations", as these are not widely known. Future revisions to this document (if we ever get to it) should elaborate much more on the rest.

This document, and in particular its sub-themes of "Turbic thinking" and "Multiple Conflicting Hypothesis", will be upsetting to essentially all scientists. I probably don't have to suggest that the shouldn't waste their time reading it. To that I'll add, don't waste our time with reams of emotional outbreaks consisting largely of "Turbic thinking" .

To those guardedly interested in the theme, approach the material cautiously, as I make not claim of truth, but prefer to retain "wrong ideas" to being a robotic disciple of the great scientific religions (which, by the way, are automatically retained in the context of multiple conflicting hypothese, as are earliers great scientific religions no longer seen to be truths by the mainstream). Perhaps the best approach is to just focus on the particular sections and references of interest to you.

To the big thinkers who like to fight with ideas, and who have an interest in developing themes along the lines tof the ":Greatest of Cycles" of Puetz etal, or even lesser cycles or separate concepts, hopefully this document will provide context and references that may be of use. It does not provide [concept, math, phenomenological, model] confirmations that hte Greatest of Cycles applies to any of the themes herein, albeit the links are obvious in some cases.

The rest of this forewod provides quick descriptions of some underlying themes that permeat the document, but which are not related to the work of Puetz etal. I do this because theere are huge warnings that are important in considering the model itself, and criticisms that will inevitably arise. Most importantly, these are clear rallying cries not to give up on your ideas just becauser every scientist (government or academic) decries and despises them. They are for the most part intellectual robots, barely aware that their strongest [beliefs, theories, models] were once heresay as well, and they are rarely aware of the key failings of their beliefs, often at the [simplest, introductory] leverl, not that these are often well described at the origins of those beliefs, buried and repressed in the history of science and scientists.

## Controversial themes

It may seem counter-productive for me to place the most controversial subject and references at the start of this document, as it's bound to turn off most people who see it, in particular those who know of the themes and individuals involved, such as Velikovsky.

But to me, losing most of an audience before you get started is great for productivity. You are far more likely to be left with a suitable audience afterwards. Even more important is the possibility of piquing the interest of the extremely rare keen minds, who most often won't agree with me, but who often have [surprising, enlightening] \* [ideas, perspectives] that one cannot simply shop for in universities, the media, government labs and policy shops. I'm not one of those minds, but I've had the pleasure of running into a few, and relatively few of the few have any kind of reputation. These may be the types who actually come up with the great ideas, rather than scientists, for example, who are universally acknowledged for creation and invention of ideas that came from others. Solar-centric planetary orbitals (Copenicus versus Aristarchus of Samos - although Copernicus did refer to him the the next to final copy of his work?), Relativity (Einstein versus Lorentz-Poincare versus ?German high school teacher?), quantuum mechanics (Max Planc versus ?Boscovitch??, CNPS presentation?), plate tectonics (Weber versus ??), punctuated evolution (Stephen Jay Gould versus Immanuel Velikovsky - who he repeatedly stabbed in the back while stealing ideas [Charles Ginenthal 1990]), etc come to mind - so many stolen ideas that one could write books about them (actually, people have).

Furthermore, I am far more interested in chasing reality and crazy ideas, than in conforming to, and suffocating in, the morass of great mainstream scientific religions that dominate and that often stifle progress. I am willing to listen, and if an idea is obviously crazy and untrue, then with a little work I may discover that it is much more sound and "truth-like" than the mainstream scientific religions.

The overwhelming mainstream scientific consensus theories provide NO explanation of much of what has happend and how. Should such communities be dismissive of other communities who not only have plausible explanations, but who have consistently pointed out the hilarious failures of the mainstream? I guess the answer is yes, they should be dismissive. After all, they have the (mis-placed) funding, reputations, and confidence of the public, and that's all they need. Most of all, they can easily get away with trashing others.

So I certainly have no expectation that the work of [Puetz, Prokoph, Borchardt, Mason], or [Velikovsky, Talbot, Cardonna Cochrane, Thornhill] and many others will be accepted. Good, that keeps the air clear for us, although there isn't always a great warmth between "outsider" groups either.... and what would one expect, as therein lies the diversity of thought. I'd far rather see the richness and vigor of diversity than the pompous sterility of consensus.

## Ranting on : Lies, Damned Lies, and Scientists

Looking beyond the frustration and anger, (and my ranting), there are numerous reasons for maintaining the constant reminders of the "turbic thinking of scientists" throughout this document :

* This is an important theme on its own - more important, in my opinion, than ANY of the scientific theories. For example, while the theme of [Puetz, Prokoph, Borchardt, Mason] is the focus of this document, it is of much less importance than the "turbic thinking of scientists" theme.
* the theme and scientists of [Puetz, Prokoph, Borchardt, Mason] will likely be [criticized, ignored, attacked (including personal ad hominen attacks), impeded, cut off from funding] by actions and opinions ofthe mainstream scientific community. Others have suceeded in spite of the hugely unbalanced odds against them. How did they succeed?
* It touches ALL of science, not just the the theme of [Puetz, Prokoph, Borchardt, Mason]
* the negative consequences and costs to society are enormous, and perpetual.
* there is a need to find ways for society to reduce the negative impacts of science and scientists, ALL of whom arre turbic to some degree at least on some themes. I don't believe that there is really a cure for "being human", nor that science won't repeatedly collapse in on itself as it has through history (the obvious problems in modern science resemble those of the past, in spite of modern [education, funding, management] etc. Taking scientists down from their pedestel, and instilling in the public a healthy mistrust and awareness of the problem with scientists, would be a great start. There are plenty of the exampes that the public is already aware of (think helth, environment, politics, etc).

## Multiple Conflicting Hypothesis

# Introduction

What are the periodicities?

Leave to the side causation!!

# The greatest killers of [civilisations, societies]

Far beyond [climate change, the great plagues, genocide, war], there seem to be vestiges of massive natural (or religious, mythological, if those are your interests) events in history and pre-history, often consisting of a sequence of brutal kill-offs of local [tribes, nations, societies, civilisations]. My first awareness of these events beyond mention of biblical events during the time of Moses, was a series of [fascinating, well-researched, superior thinking] books by [Velikovsky 1950, 1955, 1952, 1978, 1977, 1982]. Velikovsky makes a very strong case for these events drawing from multi-disciplinary information, but to mainstream scientists there has always been a questions as to whether or not these events are real, what the timing was, and what kind of events are involved. But I think it's fair to say that while Velikovsky's work is still not accepted by mainstream science and archaeology, it's clear that he has won most of his battles, and a long series of modern books and films centered around historical catastrophes, together with biological parallels, suggest that Velikovsky is likely to win this battle hands down as well (albeit post-humously).

My father and I (the "two fools who rushed in" [Yaskell ?2013?]) stopped work on our crazy theory of the last 7.5 ky of history (the rise and fall of civilisations - see a later section) partly because these events just didn't seem to fit into our model, but also because our work on the model suggested that there was someting wrong between the timelines of [astronomy, geology, archaeology], and most peculiarly with astronomical time clocks (notably the planetary motions!).

Here is a tentative list of some of the great killers mostly taken from [Ginenthal 1990], who was inspired by [Velikovsky 1977 pages?-?]. :

Note that other calendars of historical events have been proposed, or maybe won't be proposed [Cardonna 2012??, personal communication EU Albuquerque]

Neither the [timeframes, events, consequences] fit convention, so they are conventionally wrong - just ask any historian. Fair enough, but are they significantly less wrong than convention? Feel free to ask any academic or government researcher, but don't expect or believe any answer. For this you must go far beyond and find the one-in-ten-thousand strong thinkers among researchers, and, often more important in ideas and numbers, the public.

From the perspective of Puetz and colleagues, this section is problematic as there is a lack of confidence in the dates, events, and the degree to which the series is complete, not to mention whether or not these events actually occurred. The way I see it, if indeed the events occurred, then the list is probably missing more events than it contains, especially before 3,000 BC. We should at least go back 10,000-12,000 years to the "Great NA mammalian extinction", and preferably we should cover 3 to five times that duration. Good luck finding the documentation and media reports from 60,000 years ago.

Lacking "first hand experimental data", the following sub-sections describe some of the lines of thinking that either :

* lend weight to the concepts of "great killers" in history, or
* lend weight to the idea that sometimes, if you want to be right, you had better not be in agreement with the overwhelming mainstream scientific consensus.

## Mythology, Religion

Although my guess is that many others before him must have talked to the theme, (perhaps Velikovsky, but I can't remember if it was his theme too) David Talbot put forward the argument that essentially all of the most ancient societies, reaching back to a time of great troubles, had very similar, and very specific stories and imagery in their mythologies, even though names and details varied greatly. Furthermore, these original mythologies all transformed over time with younger and younger societies, eventually getting to the point of the relatively young ancient Greeks, Romans and modern societies.

Another key point by Talbot, was that these mythological similarities were present even though geography precluded communication between the societies (for example MesoAmerica, Egypt, Australia). This "confirmation in details from independent and isolated sources" therefore increases the credibility of the reported events. That's not to say that there aren't any problems with interpretations and timing, just that it is unwise to off-handedly dismiss ancient mythologies.

For decades, Talbot was convinced that he was onto something from the perespective of mythology, but was unable to tie it ti science [?Talbot video - date timing?]. Eventually Talbot abandoned the theme, but then Ben Ged Low provided a "possible" physics support for mythological descriptions of planetary arrangements (grouped collinear orbits - quite similar to Lagrange points). With renewed energy, a few years later he hit the jackpot when independent Australian physicist Wal Thornhill visited for a month, convinced that parts of Talbot's mythology associated with catastrophic events in pre-history could be directly linked to high energy plasma physics.

In a fascinating video [Talbot ?year?] describes Wal Thornhill's insistence led to a meeting with high energy plasma physicist Anthony Peratt at Los Alamos National Laboratories, and what happened at the first meeting. I won't spoil the story by giving out details, but the end result was that Peratt was taken up by the idea and pursued a great deal of field work and analysis on the topic over the next decade or so [Peratt 2003,??,??? ]. In essence, some 63 types of ancient mythological petrographical images from before ?3000 BC?, and which are repeated across societies around the world, have exact analogues to high eneregy plasma physics. Thus was born a "theory of petroglyphs".

Is the "Electric Universe" (www.thunderbolts.info) community correct with its concepts of mythology, history, physics, astronomy? The question is the same as once posed for Velikovsky. In the latter case, over the years it is clear that Velikovsky was more often right, and mainstream dominant scientists wrong. Several major items were possibly the source of most antagonism towards Velikovsky, such as his belief that Venus sprouted from Jupiter in the times of great mythology, and was obsereved by humans. For anybody educated in moderen science, that's very hard to swallow, but then again, we were wrong about most of Velikovsky's points, so hedge your bets here if you are a little nervous. In the "Electric Universe" case, it is already clear multiple times that the physicists and astronomers, great and small, have been made fools of many times over, in a very one-sided process. A recent episode is the hilarious European Space Agency (ESA) Rosetta mission to comet -Gorbay? 67P. Talk about a litany of scientific ass-covering to protect the concept of comets being "dirty ice balls". Here I'm not saying definitively that they are wrong, although so far it appears that they are, its really an issue about being open and honest for the scientists and media. Even school kids can see that the science kings have no clothes. It may be harder for them to see that the media are one-sided cheerleaders instead of ...

I don't know what the truth is, nor whether the "Electric Universe" community is more often right than wrong, and I've never been much interested in mythology (although some of this stuff is fascinating), but I do know that community has members that go well beyond the "strong thinkers" level (one in ten thousand), so rare among government and academic scientists. Plus they are fun, creative, and tolerant of ideas (to a point).

But what about religion, as Velikovsky and others have used material from many of the great religions, including the Old Testament of Christianity (Jewish Bible)? I'll leave analysis to others, but one thing that is clear, many of these old texts have been proving to be more reliable than the opinions of our scientists on a whole lot of historical points, as distinct from the religions themselves. The nacients were able to pass detailed and complex verbal histories down through generations with amazing accuracy, which is a huge contrast to the party game of passing a message around a group sitting at a table, and seeing the grotesquely tranformed gibberish afterwards.

The science community was upset with Velikovsky, and rallied against him. Perhaps this is understandable, as his ideas were radical at the time, and some of his ideas (such as Venus sprouting from ?Jupiter or Saturn? in historical times) still seem ridiculous. Given the popularity of Velikovsky's ideas, the American Association for the Advancement of Science (AAAS) therefore rallied against him. But in looking back, Velikovsky is the clear winner for most of his points, and the AAAS and their "science media stars" [Peter Jay Gould, Isaac Asimov, Carl Sagan] showed extremes of "turbic" thinking and behaviours in their professional and ad haminen attacks as well docummented by [Ginenthal ?year?], Velikovsky - who hypothesised about about the clearly [irrational, unscientific] scientists [Velikovsky ?date? mankind in Amnesia], and Velikovsky's daughter {Velikovsky, ?first name? ?date?].

Since ~2010? I've had the strong impression that the mythologists and religious are dragging scientists, kicking and screaming, out of their morass of dysfunctional scientific religions and thinking. Maybe scientists have much to learn from others about science, managing their religious delusions, and going towards more effective post-scientific thinking and methods for complex systems.

## Atlantis, Great Floods, Glaciation cycles, and the stupidity of archaeologists and I

We do not have to refer to mythology or religion when discussing Atlantis or great floods, although it is again the mythologists who did what scientists should have done 100-150 years ago, and who are struggling to bring scientists back to reality. I shall use my own [blindness, stupidity] as an example.

For years, I had charts on my kitchen wall showing glaciation quasi-cycles (1 My [Howell ??], and 6 My [Howell ??] timespans), and sea level estimates (~670 My timespan [GSC ???]). Although I didn't post a graph of the Holocene sea level changes, the implications of the posted graphs was obvious. Worse :

* my father had done a series of painting on commission of the Great Flood story of the ?Qualicum? aboriginals on Vancouver Island, [Neil Howell ?website, year?], [video ?year?]
* I read many papers on the post-glacial flooding
* I had a chart (not on my kitchen wall - it was on some other wall) of flora recovery in North America following the last ice age. {GSC ?year?]
* From the mythology types - especially the "Electric Universe" community - I was aware that many ancient civilisations had their own version of the Atlantis story. [?EU reference?]
* I was aware that essentially all [scientists, archaeologists] have long thought that "Altantis-seekers" were fools.

But nothing clicked, ... Why?

Until ... In ?200?? Cleopatra's palace was found under ?35 feet? of sea water in Alexandria.

Then it immediately clicked! Where do you think most of the great "ancient" (here I restrict the term to pre-10 ky BC!) seaports are? And given that many of the world's great cities are seaports, perhaps many or most early cities, and possible all original great cities, would be under a great deal of water. Yes, Atlantis, or perhaps much earlier than Atlantis, whenever that was supposed to be.

Coming out of the geological ice-box periods (7 all told, if I remember correctly) changes of 300 to 600 meters (900 to 1200 feet!) is normal. Since we're still in an ice-box period now, with glaciers in Greenland and Antarctica where they "normally" shouldn't be, one might expect something less than 900 feet. Some estimates I've seen [?Reference?] put the change since the depths of the last ice age at ?100 feet?, which sound low to me, so 35 feet should not be a surprise at all. This is in line with knowledge and estimates of sea level rises since the end of the last ice age.

But then something hilarious became apparent. Professional archaeologists, who for the last ?150 years? should have been aware of post-glacial sea rise, could only explain the underwater location of her palace by invoking a catastophic seismic event (subsidence). They may be right, or it may a combination of a number of factors including wet soil subsidence of a heavy stone structure, or whatever. (I have no idea if the Egyptians built the palace on mud, and that probably is available information. I don't think Egyptian architects were that stupid, but it's totally easy to imagine that Cleopatra was).

The really revealing point is I found no suggestion in the news that rising sea levels might be an explanation.

What we have to understand is :

* archaeologists and myself - how could we possibly be so blind and stupid?
* how this 150-year failure of government and academic scientists is yet another warning about the perils of [abandoning , ignoring] not only mythology, but the possibility of the "great killers".

Perhaps we can expect

* a huge number of great ancient cities to be discovered between 100 and 600 feet below the surface of the sea
* the term "ancient" should be re-defined to include advanced societies before 10,000 BC

## Velikovsky and continental upheaval

## Robert Schoch and the great killers

Robert Schoch [Schoch ?date - book?] [Schoch /date?] brings a modern perspective to the "great killers, suggesting that mechanisms related to the "Electric Universe" perspective might have been their cause.

Schoch, a geologist, got into trouble earlier in his career for his analysis of the errosion around the Great Sphinx, coming to the conclusion that the Spinx could not have been built at the time suggested by the overwhelming, maintream "truth" of modern archaeology, but that it must have been constructed at least by 8,000 to 6,000 BC, a figure he now admits was too conservative, and that he should have given a much larger range starting 10 to 12,000 BP. Right or wrong was less an issue than the sheer non-conformance of his thinking, so the American Association for the Advancement of the Sciences help yet another "kangaroo court" (as it has been wont), to attack and exile Schoch, and thereby preserve the "immutable truth" of their beliefs. They had done the same against Velikovsky, as mentioned above.

## Ancient calendars

The table of "great killers" in that previous sub-section uses "corrected" archaeological dates, sometimes involving "known" history by ~1,500 years! As stated above, many other historical realignments have been proposed, but I won't get into that here.

What remains to be discussed are :

* the "Special C14 calibrations charts" for Eyptian archaeology - a rather stiunning story of anomolous data, attacks, and data adjustments to fit consensus thinking.
* simple ancient observations of the days in a lunar month and in a year, and how those varied and were noted with great fear.
* great scientific frauds associated with the imposition of the current mainstream scientific consensus on archaeology, calendars, etc. For example, it is surprising to see descriptions of ancient astronomers and priests as primitive fools who could not count the days in a lunar month, nor days in a year. Whether stupidity or religious fervor stands out the most in their analysis, I'm not sure.

I have merely listed the points above, with a reference for each as a starting point for reading.

Again, these are crucial warnings bout using modern dating and estimates for ancient times. As I see it, there is an extremely high chance that much of ancient history (especially Egyptian, but in general all) is given seriously wrong timetables by modern science.

That is obviously important for the model of Puetz etal, and is something that could lead to erroneous conclusions about the model of Puetz etal, and wated time and wrong results on their part.

## The 12 kyBP Great Mammalian Extinction in the Americas

?descripiton, references?

Our inability to relate the Great Mammalian extinction to human [events, mythology, religion] is perhaps a huge warning sign concerning the [reliability, perhaps credibility] of modern science and archaeology with respect to applying any kind of model of human [history, processes, events] to that timescale.

Conventional thinking, if I remember correctly, places the balme on significant climate changes, and perhaps a meteroite impact. So often meterorites are invoked for catastrophes, and for sure people have always (until modern times) looked at comets with foreboding. There is a strong mythological basis for this as well.

## From the perspective of Puetz and colleagues

This section relates to periodicities of human processes (mega-death) on the scale of something on the order of 2 to 10 ky, covering essentially all known written history (is Gobekli Tepe in Turkey an indication that "history" may be extended back to 10 ky, and that the phrase "ancient" should cover periods before then?).

* Is there enough information in the list to test with the 57 ky to 14 Gy model of Puetz etal? I suspect not, especially given my concerns over the quality of the data.
* Should the "great killers" still be considered, even with all the uncertainties, by analysis along the lines of [Puetz, Prokoph, Borchardt, Mason 2014]? That's up to the teams doing the analysis, but in my opinion it would be a shame to exclude the "great killers", albeit that may be necessary to comply with modern politically-correct science, or it may be prudent for the time being until other parts of the human timescale are addressed.

However, arising issues from this timescale ARE important to Puetz etal.

* Historical dating and calendars - There may be serious errors in dating related to planetary motions.
* Not only that, but the ?Standford team recently pointed out a sunspot-like variability in radioactive decay rates. Don't wait for mainstream consensus science to allow scientists to consider the implications. Check into this yourself, as it may :
	+ - * + save your concept or model from being thrown out for the wrong reasons, and your work may be important to correcting serious flaws in archaeology etc.
				+ save you from wasting huge time and resources because you were not aware of key challenges at the start of your research
				+ lead to to conclusions as bad as much of the mainstream science in this area.

*References : (alpabetical order by last name)*

* Ev Cochrane
* Charles Ginenthal 1990 “???Stephen Jay Gould??? Carl Sagan and Immanuel Velikovsky” Ivy Press Books, New York 359pp
* Howell - www.billhowell.ca/Climate and sun/Howell - Glaciation models for the last 6 million years.pdf
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* Robert M. Schoch 2012 "Forgotten Civilization : The role of solar outbursts in our past and future" www.InnerTraditions.com 355pp ISBN 978-1-59477-497-3
* Wallace Thornhill, David Talbot 2002 “Thunderbolts of the Gods” Mikamar Publishing, Portland OR 2007 edition 122pp
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* Immanuel Velikovsky 1982 "Mankind in Amnesia" Paradigma Ltd edition 2010, original Doubleday & Co., New York, 186pp ISBN 978-1-906833-??-?

# The full course of History (>7.5 ky) : Rise and Fall of Civilisations

History itself is rarely described in terms of quasi-cycles, although periodicities in climate, flooding, and other important events have been widely analysed and covered. The assumption here is that one is not looking for any kind of exact model or solution to history, that there are a huge range of factors that determine (or not) is very complex and detailed course, and that by necessity thinking in this area must be somewhat "fuzzy".

As far as a "whole of history" analysis is concerned, here focussing on the "Rise and Fall of Civilisations", I do not remember studies from the past, although I feel that [Toynbee ?year? "A Study of History"] did refer to cycle analysis of history apart from Ibn Kaldun's concepts (which are discussed below).

Acknowledged as "the two fools who rushed in" [Yaskell ?year?] my father and I did a quasi-cyclical analysis of history [Howell^4 ?year?] based on Ivanka Charvatova's theory for grand solar minima and maxima, compared to atmospheric carbon 14 (C14) isotopic data as a proxy for solar activity. Brutally simple, the question was whether grand solar minima or maxima might correlate to periods of the rise and fall of civilisations. A large wall chart shows the results in some detail {Howell ?date?]. Although Yaskell did find a rough correlation based on simpler versions of this chart throughout the earlier chapters of his book [Yaskell ?date?]. From this and his earlier book [Soon, Yaskell ?date?], as well as the work of several others [references?], it is clear that grand solar events have a huge impact on society, our work came to a screaching halt because of two BIG challenges (as mentioned in an earlier section) :

1. Grand solar events showed no obvious relation to the "Big Killers" in history
2. There seemed to be serious discrepancies between calendars of [astronomy, geology, archaeology]. But without a solid basis for chronology, any cycle analysis is on very shaky ground, which is fine if one has not choice, but my choice was to look at astronomy and physics to see what might be wrong (surprise, surprise).

What can be said, is that there seems to be a very weak correlation between (Yaskell called this a "???", but I'm more cautious and see no value in chasing statistics at this stage).

## Velikovsky and Schoch

As these two authors were mentioned in the last section, I will limit comments to stating that SOME of the "great killers" (eg 800-95? BC, 1500 BC) occured recently, and are well described in mythology and religion. Both Velikovsky and Schoch comment on the relevance of this threat to modern civilisations, and Velikovsky goes far into a psycho-social analysis of an [apparent, enduring] blindness to these threats, in spite of the great warnings passed down by the ancients.

## Ibn ?Khaldun?, ?firstname? Gibbons, ?first name? Spencer, Arnold J. Toynbee

Arnold J Toynbee was far and away my favourite historian for most of my life, and I have come to appreciate Khaldun more recently as I had the time to read portions of his book. Both can be criticised for excessive "pushing of themes", but they both do go through material, (in Toynbee's case the 10 or so volumes of his "Study of History" that I read, has a GREAT deal of material - overwhelming is a better term). Even if their themes are completely wrong, the reader will come away rich in knowledge, and with a familiarity with themes to recond with. However, I don't remember him explicitly ruling out the possibility that CHALLENGES to civilisations might be cyclical, yet always different.

Toynbee, who cites Khaldun throughout his great works, was not a big fan of cycle analysis of history such as by [Khaldun ?year?], [Gibbons ?year?] and others.

A dominant theme of Khaldun is the concept of the 3-to-4 generational rise and decline of the greatness of a people, putting his work on a much shorter timeframe than Toynbee's , as well as being somewhat-cycle-based

Unlike [Toynbee, Khaldun, Tainter, Diamond], I have not read their boks on my shlves in detail, but from comments and a quick peerusal, I suggest there is value in someone's looking more closely to links to the "Greatest of Cycles".

## Joseph Tainter and Jarrad Diamond

I am a fan of NEITHER Tainter's "Collapse of Complex Society", nor Jarrod Diamond's work, although there is certainly good, thought-provoking information and analysis in all of these books.

I do suspect that the "Greatest of Cycles" of Puetz etal may eventually marginalise the analysis in these works, leaving perhaps a residual that will be of secondary interest. With respect to the work of [Tainter, Diamond], compared to Puetz etal :

* The main difference of is the [phenomenology, causual] concepts they put forward
* Both [Tainter, Diamond] do have data not presently covered by Puetz etal.

## From the perspective of Puetz and colleagues

From the perspective of Puetz etal, the same challenge of anomolous chronology as with the "Big Killers" applies to the full course of history, so the same caveats apply :

*"... However, arising issues from this timescale ARE important to Puetz etal.*

* *Historical dating and calendars - There may be serious errors in dating related to planetary motions.*
* *Not only that, but the ?Standford team recently pointed out a sunspot-like variability in radioactive decay rates. Don't wait for mainstream consensus science to allow scientists to consider the implications. Check into this yourself, as it may :*
	+ - * + *save your concept or model from being thrown out for the wrong reasons, and your work may be important to correcting serious flaws in archaeology etc.*
				+ *save you from wasting huge time and resources because you were not aware of key challenges at the start of your research*
				+ *lead to to conclusions as bad as much of the mainstream science in this area. ..."*

Beyond that, it should also be clear that the definitions for the date at which a civilisation rises or falls are very fuzzy indeed. This challenge will likely be a problem for other human processes as well.

A special issue is that 2,400 year C14 data (cycles) prior to that covered in our study, look VERY differnet from the 7.5 ky period that was covered by {Howell^4 ?date?]. Perhaps that is not surprising given the possible effects of glaciation, but it does raise the question about "modelling when your ruler is changing so much".

References :

* Donna Howell, Neil Howell, Irene Howell, Bill Howell May07 "Mega-Life, Mega-Death, and the invisible hand of the Sun: Towards a quasi-predictive model for the rise and fall of civilisations" unpublished and incomplete, 73pp http://www.BillHowell.ca/Civilisations and sun/Howell - Mega-Life, Mega-Death and the Sun, the rise and fall of civilisations.pdf
* Willie W-H Soon, S.H. Yaskell 2003 "The Maunder Minimum and the variable sun-earth connection" World Scientific Publ, Signapore, 278pp
* Steven H. Yaskell 2013 “Grand phases on the sun: The case for a mechanism responsible for extended solar minima and maxima” Trafford Publishing www.trafford.com, 195pp ISBN 978-1-4669-6301-6

# Human-related periodicities <1.5 ky

At this point, I have run out of time, so I will keep this and subsequent sections very short, providing only titles, and in some cases quick comments and references.

Readers may find a slideshow of 'human periodicities <1.5 ky" to be helpful as a follow-up to the quick [sub-headings, coments, references] below.

## Pandemics

Starting with a "Letter to the editor" by [Mathias, Tapping, Surkan ?date?] that showed a possible correlation between influenza pandemics since 1730 and the sunspot cycle, it seemed to me that [bubonic plague, malaria, cholera, but not smallpox] might also have the same signature [Howell ?date? - Toastmasters presentation], [Howell ?date? document], [Howell ?date? AB potatoe growers]. Furthermore, there is also the question of to what degree the "Grand solar episodes" might also correlate.

However, the available and quality of the data over several hundered to thousands of years isn't great (that I've seen), and there should also be reservations as to whether individual studies have done the analysis correctly (which is NOT the same as whether they used consensus statistical approaches!). It is easy to generate "artifacts" with analysis.

References :

http://www.billhowell.ca/Pandemics, health, and the Sun/\_Pandemics, health, and the sun.html

## Genocides

I have intentionally separated genocides from war, in spite of their frequent coincidence, as a means of avoiding the error of hiding and de-emphasizing genocides, as I was surprised to learn, somewhat tenuously, that genocides rivalled war deaths in WWII (there is a big problem of classification here, and time periods). Furthermore, I am very interested in the as-yet undeveloped theme that the primary driver of eugenics and genocide since at least the late 1800's has been socialism.

References :

[Director/writer, ?year? Soviet story]

[Stalin book]

[Mao book]

[Howell still in development - Icebreaker unchained]

## War and human conflict

We had considered war briefly in our work [Howell ?date? history], arguing over the extended periods of war and conquest were wars of [desperation, affluence, religion], it wasn't until the publication of [Hsiang etal ?date?] that our interest really picked up.

Hsiang etal came to the surprising (and contested) conclusion that human conflict from ?1955-2005? had a strong imprint of El Nino. Furthermore, this was largely due to conflict in developing nations with a high El Nino climate impact, whereas for developing nations with a lower El Nino impact there wasn't a strong correlation. As elsewhere in this document, "causality" and strong confirmation of correlation isn't the interest - we are simply trying to produce a [random, scattered] list of [events, processes] that might merit further investigation.

But for the short <1.5 ky, there are many well-known longer periodicities. For example, taking climate periodicities, established long before modern scientists went wonky with CO2, the sunspot half and full cycles (~ 11.2 and 22 years respectively and approximately), the series of periodicities from 50-100 years, including the Pacific Decadal Oscillation,

Our [initial, incomplete, inadequate] Fourier-type spectra analysis of wars that were taken from prointed texts is shown in [Howell, ?date?]. But that work was far from adequate, and as with the 7.5 ky study of the rise and fall of civilisations, problems of ancient calendars, modern astronomy, and other priorites resulted in our shelving the theme

References :

[Hsiang etal]

[Howell, Howell]

## Floods, fires, pestulence, famine

This whole area has so much information, we'll limit content of this inital, incomplete draft to some of the themes and a sparse, random sampling of references that we have looked at.

Nile river - [South Africans] [Velikovsky]

This is a beautiful paper, reminiscent of Ivanka Charvatova's work, which was a guide to our hypothesis for the rise & fall of civilisations over 7.5 ky.

Canadian forest fires

Great Fires - of Chicago, Ottawa's Lebreton flats, FireFighter manual etc

## Language

I leave this sub-section empty, as I am curious if there might be something here, but I have not looked into it yet. Gary Marcus's books "?genetics" and "Kludge", are key thought-provokers here (Steven Pinkers "Language Instinct" as well.

I really wonder if the detailed knowledge of a large number of languages over a long history, might lead to interesting comments on the signal analysis of major vevolutionary changes to langage, and whether this might also somehow relate to societal competitiveness overall (kind of a social IQ).

# Individual physical and mental health

## Heart attacks

I first saw this in a paper by an American scientist from the ?1960's or 1970's?, which I can no longer find. As I remember, he was given a very hard time for suggesting that, with respect to isechaemic heart failures (which I will simplistically call "heart attacks here, not knowing any better), the biggest factors were :

1. the diurnal cycle (day / night) - I can personally sympathise with this, not from knowledge or having studied heart attacks, but just a gut feeling.
2. the sunspot cycle

Of course, this result is hardly useful to the medical profession, who can't do anything about these factors (or can they?), and I have no idea if the whole analysis was well done or not. Again, it was just a flag when I saw it.

## Accidents - traffic, industrial

## Crime

## Extreme violence

Family-cides

## Schizophrenia, Manic-Depressive

## Fairy Tales and the full moon

werewolves exist

## Astrology and Astronomy

Definitely not my subject - but I used to being wrong. Became separate subjects only 300 years ago - had always been intertwined in the past.

# Markets : From Kondriatieff super-cycles to Harry S. Dent Jr.

## Historical : Egyptian, Mayan,

Mayan 52 year cycle

## Kondriatieff

## Elliot wave theory

Never been a fan, but this has both historical context, and have a very vague resmblance to the "Greatest of Cycles".

## Allan Greenspan & creative destruction

# Accidents : Industrial, traffic

##

# Parallels in Biological quasi-cycles

# Parallels in Climate

# Fractals - [simple, multi-, spatio-temporal] and fractional order calculus

## Puetz etal, fractals - Successful descriptors rather than known truths

## Early fractal examples : sunspots, Canadian Lynx, Mackey-Glass

## Benoit Mandelbrot "The misbehavior of markets"

- Multi-fractals

- Nile river? & South African team

market behaviour

- constant wealth distributions across [history, geography, society] - regardless of [religious, politicial,economic] \* [beliefs, structure, processes]

## Critical shortcoming - the spatio- part of spatio-temporal

## Sierenpinski triangles and Johannes Kepler's tetrahedra

Structural physics - Hohenberger's use of Sierenpinski triangles

# Beyond the edge of chaos - even more power

# Comparison of Borchardt's fractal theory to other concepts

# All theories are wrong

## Lies, Damned Lies, and Scientists

## Lucio Russo's "Forgotten Revolution"

## Science fashions, become science cults, become science religions

## All theories are wrong, but some are useful

## To which I add : Successful theories eventually become the major impediment to advancing our understanding

## Thomas Khun, Carl Popper

# Multiple Conflicting Hypothesis

# MindCode and Migrations

# Cross-theme charts by periodicity

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