

## Nelson's Theory of Propagation

David Dalton (K9WQ) on July 29, 2004  
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### John H. Nelson's theory of propagation:

#### Is there anything to it?

By David Dalton, K9WQ

In March 1951, John H. Nelson, an engineer for the RCA Communications Co. in New York, published an article in *RCA Review* describing a theory for predicting shortwave radio propagation over the North Atlantic. Nelson developed the theory by comparing planetary positions relative to the sun with logs of propagation conditions maintained at RCA's receiving station at Riverhead, Long Island.

The article said that certain configurations of the six inner planets correlated with degraded propagation conditions. Nelson was not dogmatic about his theory. Rather, in the article and in a followup article published in May 1952, he encouraged further study. Nelson believed that his theory was about 85 percent accurate in its predictions.

As far as I can determine from searching the Web, few or no studies have been done to test Nelson's theory. The theory appears to have been either neglected, or discounted based on studies that I am not aware of. Don C. Maier, a retired electrical engineer who met Nelson almost 50 years ago, had a copy of Nelson's 1951 article which was given to him by Nelson, and the article was republished, with Maier's comments, in the March/April 2000 issue of *Infinite Energy* magazine. Maier also encouraged further study and recognized that Nelson's theory might be of particular interest to hams.

The republished article in *Infinite Energy* was the first I had heard of Nelson, and I was intrigued by the article. Though I have no particular training in astronomy, I do have experience with computer programming and the processing of data sets. I realized that it would not be too difficult to calculate many years of planetary ephemeris and run the data through a program to check for the planetary configurations that Nelson correlated with degraded propagation.

**A synopsis of Nelson's theory:** Nelson believed that degraded radio propagation correlated with times (within a day or two) when the heliocentric relationship of two or more planets was 0, 90, 180, or 270 degrees. He also believed that configurations of 60 degrees and 120 degrees, especially between Jupiter and Saturn, correlated with the least disturbed propagation conditions. His data for 1950 and 1951, he said, averaged about 85 percent accurate in its predictions. This is only a summary of Nelson's theory; for full details one would need to consult his original articles.

**How I performed my calculations:** I used Elwood Charles Downey's program *Ephem*, version 4.28. This program is written in the C language, and the source code is available on the Internet. Using *Ephem* on a Unix (Sun Solaris) computer, I created a table of the hourly heliocentric longitude of the six inner planets from 1850 to 2010: Mercury, Venus, Earth, Mars, Jupiter, Saturn -- a very long table. I then wrote my own program, also in the C language, to read the table of heliocentric longitudes and calculate a rough "Nelson index" for each hour during this 160-year period. When any two planets were within 2.5 degrees of a 0, 90, 180, or 270 degree configuration, my index value rises. An exact 90-degree configuration of any two planets, for example, would register -2.5 on the index, and an 89-degree configuration would register -1.5. Configurations of multiple planet pairs are frequent and are summed in the index. The highest reading by far, -14.83, was on Aug. 28, 1868, which six planet pairs were in configuration. During the major storm of Oct. 18, 2003, the scale reads -9.71. Note that this scale value is arbitrary and that my program does not attempt to calculate for all the subtleties of Nelson's theory. I also calculated a separate "good propagation" index when Jupiter and Saturn were at or near 60 or 120 degrees.

Having calculated a rough Nelson index, I then tried to use sources on the Web to check some of the highest readings of the index against the actual conditions on those dates. This was difficult and not very scientific. The ARRL's propagation bulletins are available on the ARRL Web site back to 1995. These bulletins were very helpful and quickly showed some interesting correlations. For example:

Date	Nelson index	Event
Oct. 30, 2000	-6.52	Severe storm
Nov. 2, 1995	-7.28	Storm
June 6, 2001	-6.18	2 coronal mass ejections
Oct. 18, 2003	-9.71	Severe storm followed by radio blackout

To truly test Nelson's theory, much work would need to be done beyond what I have done. For example, a Nelson index could be matched with a K index, or any index of disturbed geomagnetic conditions, and tested statistically. In this article I have only attempted to draw attention to Nelson's theory and point out some interesting correlations that are easy to spot -- for example, that Nelson's model was flashing red during the major storm of October 2003. Though I have made every effort to check my calculations, it is of course possible that I have made errors.

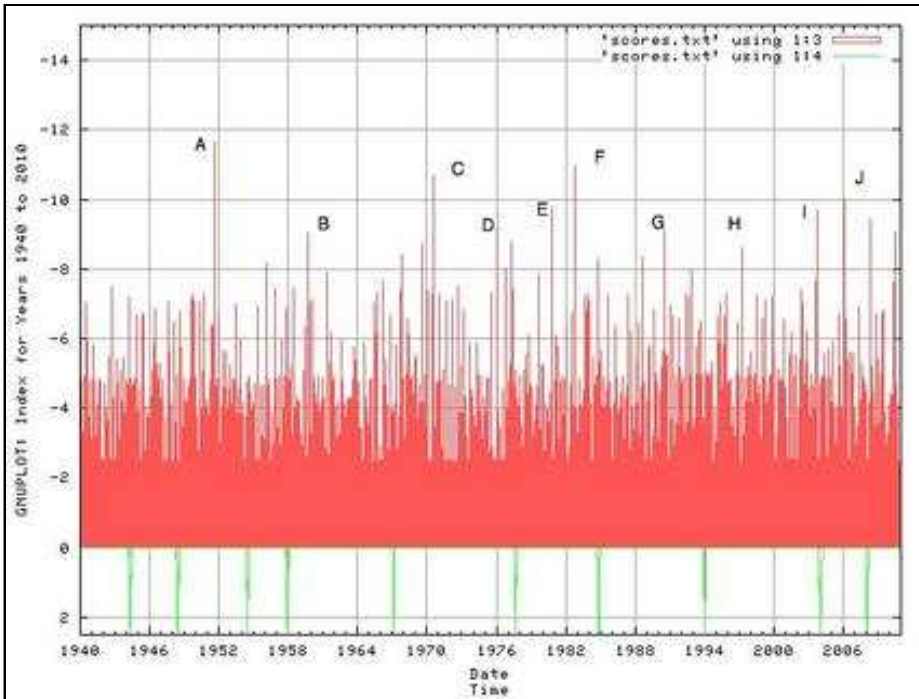
Others may have much better access than I to data on historical geomagnetic conditions. I would be happy to share such data as I have with anyone who is interested in doing more testing of a Nelson index against actual geomagnetic conditions. But, just for fun, I will include in this article several results of my calculations:

- A graphical plot of the index from 1940 to 2010, with dates of the highest readings.
- A graphical plot for the years 2003 and 2004, with dates of the highest readings.
- A graphical plot for July through September 2004, with dates of the highest readings.
- A graph of the solar system for Oct. 18, 2003, with a list of the heliocentric longitudes of the planets. This may help explain Nelson's theory.
- A table of the peak readings my program calculates for the years 1850 to 2010, in case others can compare the index with actual historical conditions.

If you search the Web for references to John H. Nelson as I did, you will find that certain astrologers and UFO enthusiasts took an interest in his theory. I'm not really sure why -- perhaps because it was seen as scientific evidence that planetary positions might affect conditions on earth. However, I don't think that we should dismiss Nelson's theory based on its interest to astrologers. Also, I personally would be skeptical of attempts to dismiss Nelson's theory based only on purely theoretical explanations of why it can't be. Rather, the real work would be in an objective analysis of a well-calculated "Nelson index" against actual propagation data.

I have only scratched the surface and found it intriguing.

Plot 1: The years 1940 to 2010 with peaks A-J

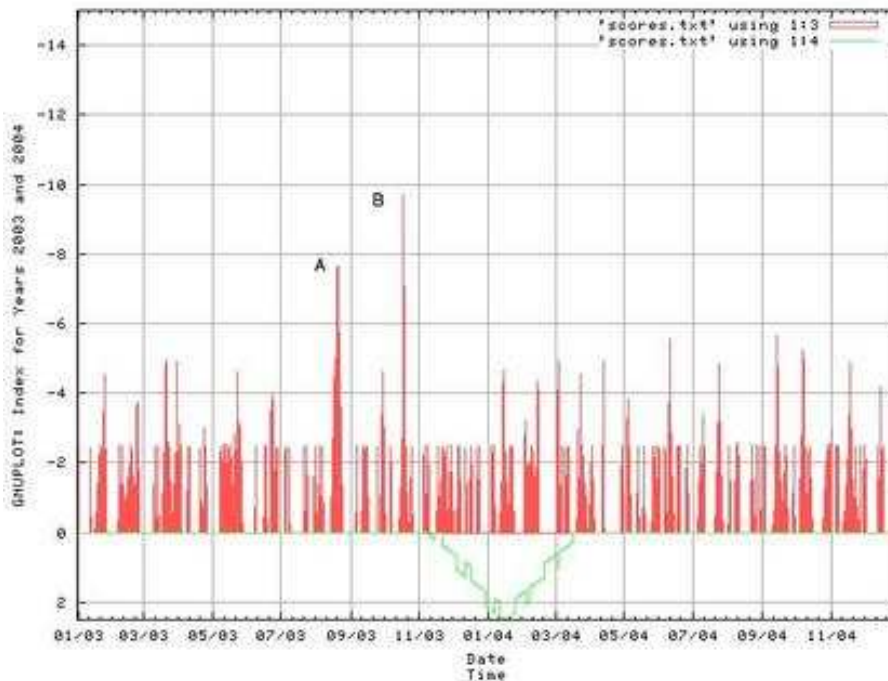


A = July 23, 1951	C = August 2, 1970	E = October 5, 1980	G = July 2, 1990	I = October 18, 2003
B = August 29, 1959	D = January 20, 1976	F = October 20, 1982	H = March 30, 1997	J = January 26, 2006

**Above:** A plot of Nelson configurations for the years 1940 to 2010. Scores worse than -8, indicating a high potential for geomagnetic disturbance, have been labeled A-J. Green lines at bottom of plot indicate positive configurations of Jupiter and Saturday, which according to Nelson's theory correlate with quiet geomagnetic conditions. The nearest "good" peaks are Jan. 26, 1994, Feb. 3, 2004, and Feb. 20, 2008.

In all cases, configurations of the inner planets are frequent and brief because of their faster orbits around the sun. However, because of their great distance from the sun, configurations of Jupiter and Saturn are fewer and more sustained when they occur.

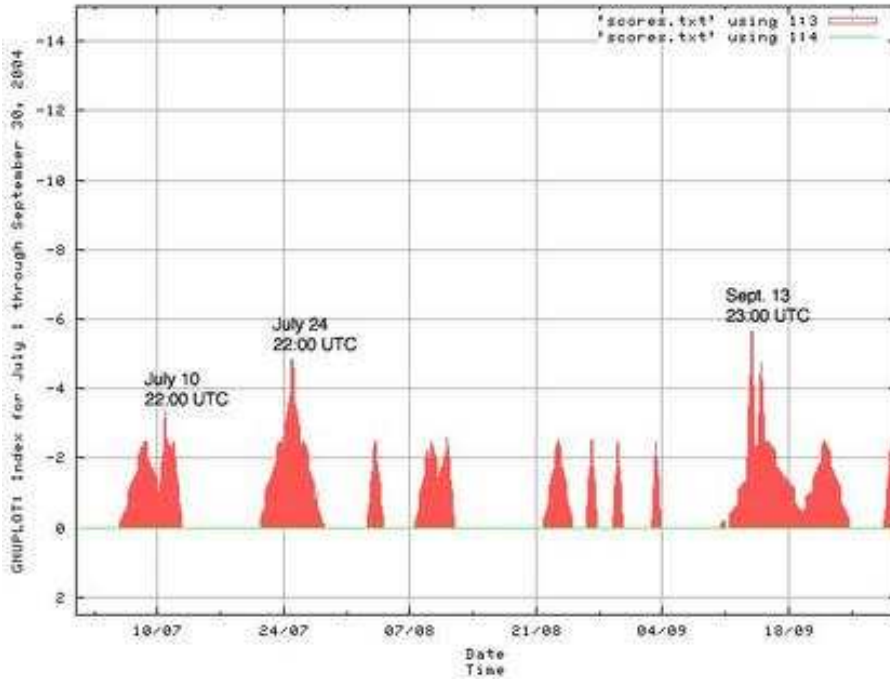
Plot 2: The years 2003 and 2004, with peaks A and B



A = August 20, 2003	B = October 18, 2003
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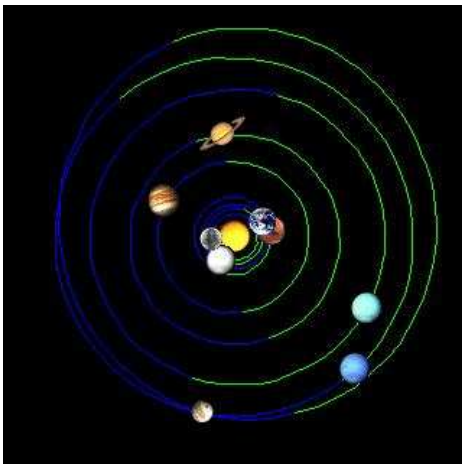
Above: The Nelson index predicts that 2004 is a less disturbed year than 2003 -- or at least there are no peaks in 2004 as high as Oct. 18, 2003. The green line at the bottom of the plot indicates a stabilizing configuration of Jupiter and Saturn peaking in January-February of 2004. At point A, on Aug. 19, 2003, there was a solar flare, followed by a strong coronal mass ejection. At point B, the storms of October 2003 are now famous -- a large sunspot appeared on Oct. 19, accompanied by large coronal mass ejections. There also was a radio blackout on Oct. 19.

Plot 3: July through September, 2004



The Nelson plot sees the period July through September, 2004, as relatively quiet, with only three peaks worse than -4 and one peak worse than -5.

The solar system, 7:00:00 UTC, Oct. 18, 2003



This chart (created at [www.fourmilab.ch](http://www.fourmilab.ch)) represents the location of the planets at 07:00:00 UTC on Oct. 18, 2003, a period of severe geomagnetic storms and a radio blackout. Mercury and Mars are very close to a 180-degree angle relative to the sun, and three planet pairs are close to 90-degree angles: Mercury-Saturn, Venus-Jupiter, and Mars-Saturn. My Nelson index reading at the time was -9.71.

The angles of interest, relative to the sun, at 07:00 UTC October 18, 2003 (heliocentric longitude):

- Mercury-Venus: 56.44
- Mercury-Earth: 162.27
- Mercury-Mars: 180.03**
- Mercury-Jupiter: 33.35
- Mercury-Saturn: 89.99**
- Venus-Earth: 218.71
- Venus-Mars: 236.47
- Venus-Jupiter: 89.79**
- Venus-Saturn: 146.43
- Earth-Mars: 17.76
- Earth-Jupiter: 128.92
- Earth-Saturn: 72.28
- Mars-Jupiter: 146.68
- Mars-Saturn: 90.04**
- Jupiter-Saturn: 56.64

**Highest readings of Nelson index for years 1850 to 2010:**

The chart shows the peaks of the highest readings of the Nelson index from 1850 to 2010. When the slower-moving outer planets are in configuration, a period of high index values will be prolonged. When the fast-moving inner planets are in configuration, high index values will be fleeting. The table does not reflect the duration, it shows only the peak. It would be very interesting to know whether there were geomagnetic events around Aug. 28, 1868, the day of the highest reading from 1850 to 2010.

**Nelson angles for 8/28/1868 13:00:00: Index value -14.8300**

Mercury-Venus: 153.16  
**Mercury-Earth: 179.98**  
**Mercury-Mars: 90.04**  
 Mercury-Jupiter: 149.27  
**Mercury-Saturn: 89.95**  
 Venus-Earth: 333.14  
 Venus-Mars: 63.12  
 Venus-Jupiter: 3.89  
 Venus-Saturn: 243.11  
**Earth-Mars: 270.02**  
 Earth-Jupiter: 329.25  
**Earth-Saturn: 90.03**  
 Mars-Jupiter: 59.23  
**Mars-Saturn: 179.99**  
 Jupiter-Saturn: 239.22

Date	Time UTC	Nelson Index
7/16/1851	6:00:00	-9.2701
9/29/1853	23:00:00	-8.0800
4/03/1864	12:00:00	-8.5200
4/03/1864	19:00:00	-11.940
9/26/1865	15:00:00	-9.5300
3/13/1867	10:00:00	-10.250
8/28/1868	13:00:00	-14.830
3/11/1870	11:00:00	-8.2499
12/09/1873	23:00:00	-10.200
8/09/1876	5:00:00	-10.280
12/04/1876	13:00:00	-9.1900
1/06/1880	12:00:00	-9.5900
4/22/1881	23:00:00	-11.080
9/22/1885	22:00:00	-11.560
6/12/1907	22:00:00	-9.3700
4/29/1911	14:00:00	-12.060
5/14/1912	19:00:00	-9.7201
6/17/1916	23:00:00	-8.7900
6/03/1920	5:00:00	-8.4401
5/13/1934	5:00:00	-9.2599
4/19/1936	14:00:00	-8.9501
7/22/1951	20:00:00	-11.640
7/23/1951	0:00:00	-11.640
1/29/1956	18:00:00	-8.1400
8/29/1959	2:00:00	-9.0401
11/16/1967	2:00:00	-8.4100
7/25/1969	21:00:00	-8.1501
8/01/1970	23:00:00	-8.7800
8/02/1970	10:00:00	-10.669
1/20/1976	19:00:00	-9.2100
5/11/1977	16:00:00	-8.8001
10/05/1980	5:00:00	-9.7700
10/20/1982	9:00:00	-10.980
10/10/1984	11:00:00	-8.2800
8/13/1988	18:00:00	-8.3500
7/02/1990	15:00:00	-9.1000
3/30/1997	19:00:00	-8.6300
6/15/2001	21:00:00	-6.1800
10/18/2003	7:00:00	-9.7100
1/26/2006	21:00:00	-10.010

6/07/2008	18:00:00	-9.3001
6/08/2008	3:00:00	-9.4300
6/09/2010	7:00:00	-9.0499

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K9WQ, San Francisco, July 4, 2004

#### References:

"Shortwave Radio Propagation Correlation with Planetary Positions", by John H. Nelson. Published in *RCA Review*, March 1951, Vol. XII, No. 1. Republished with comments by Don C. Maier, "Effects of Planetary Positions on Transatlantic Radio Propagation: A Fifty-Year-Old Discovery Revisited", *Infinite Energy* magazine <http://www.infinite-energy.com/index.html>, March/April 2000, Vol. 5, Issue 30. Scanned image of article available on the Web <http://www.enterprisemission.com/physics.html>

"Planetary Position Effect on Short-Wave Signal Quality," by J. H. Nelson, May 1952. Source of publication not known, but a scanned image of the article is available on the Web at <http://www.enterprisemission.com/physics.html>

Ephem 4.28: <http://ftp6.tw.freebsd.org/FreeBSD/pub/ports/i386/packages/astro/>

#### Nelson's references in 1951 and 1952 articles:

Huntington, E. 1923. *Earth and Sun*, Yale University Press, New Haven, Connecticut.

Clayton, H. H. 1943. *Solar Relations*, Clayton Weather Service, Canton, Massachusetts.

Sanford, F. 1936. *Influence of Planetary Configurations Upon the Frequency of Visible Sunspots*, Smithsonian Institution, Washington, D.C.

#### Member Comments:

**This article has expired. No more comments may be added.**

#### Nelson's theory of propagation

by [KC8VWM](#) on July 16, 2004

An article worthy of an engineering publication.

[Mail this to a friend!](#)

Bravo! Great work!

73

Charles - KC8VWM

#### RE: Nelson's theory of propagation

by [KA4KOE](#) on July 29, 2004

This seems to be a variation on the much touted "Jupiter Effect" a few years back that predicted all sorts of disasters due to alignments of the planets.

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The gravitational effects of the sun and moon are significant, ie our tides are primarily lunar in nature. We would have tides without the moon, but they would be solar in nature and much smaller in amplitude.

Given the great distances of the planets and the inverse square law for gravitational intensity, the effect of Jupiter, for instance is negligible.

As an amateur astronomer, I would advise caution.

#### RE: Nelson's theory of propagation

by [KB9YNB](#) on July 29, 2004

I respectfully disagree with KOE. This article makes a rather extensively researched case for \*some sort\* of correlation between planetary alignment and radio propagation.

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It's not making doomsday prophecies, or even forceful claims. It's saying: "Here is a trend with empirical data, and it acts predictably 85% of the time." It encourages further study.

Since it is already established that radio propagation on Earth is largely affected by the 11 year solar cycle, it would be interesting to determine if the "natural frequency" of planetary alignment is some harmonic of the solar cycle, or vice versa.

This would suggest that the relationship is coincidental, and not physical. Even so, it would not preclude the use of planetary alignment to predict radio propagation.(although it would be much simpler to use the already established 11 year solar cycle! :^)

What I didn't see in this article (maybe I missed it) was any weight given to particular alignments of specific planets. For instance, does any particular syzygy (my dad's favorite word...loosely used here. [www.dictionary.com](http://www.dictionary.com)) have more effect than another?

If certain alignments produced a greater effect, it would again suggest a physical relationship rather than a coincidental one.

ALL OF THAT BEING SAID.... thanks for posting your research. It is an interesting topic, and one that could be discussed and researched endlessly. Spotting trends is one of the most useful tools in scientific(or unscientific) research.

Keep up the good work!

KB9YNB

#### RE: Nelson's theory of propagation

by [W6TH](#) on July 29, 2004

[Mail this to a friend!](#)

Have we forgotten the D region ionization which is proportional to the height of the sun which is greatest at noon. Could this happen to remain longer in time and greater in absorption? Also recombination and attachment of electrons occurs later in time.

..

**RE: Nelson's theory of propagation**

by [W6TH](#) on July 29, 2004

[Mail this to a friend!](#)

I thought this would be of value to all.

The ionosphere is a region extending 80 to 350 km above the earth and has four layers - D, E, F1 and F2. Formation of the ionosphere occurs when extreme ultraviolet (EUV) light from the Sun causes electrons to be parted from the neutral atoms of the earth's atmosphere.

Free electrons as their name states are 'free' to move around and consequently hit the +ve ions. When this occurs they merge together to form a neutral atom again. This is called the process of recombination and is the major reason why electrons are lost in the higher parts of the ionosphere. In lower parts of the ionosphere electron loss is due to the process of attachment. Electrons attach themselves to neutral atoms to become -ve charged ions which also, like their +ve counterparts, have difficulty oscillating when hit by an incident radio wave.

..

**RE: Nelson's theory of propagation**

by [K4JSR](#) on July 29, 2004

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I refer to my 135' dipole as my propagation string.

1. If it is swaying, the wx is windy.
2. If it is wet, it is raining.
3. If there are bluish flashes about, I get away from it. Quickly! :0
4. If I work DX, then propagation is great.
5. If I can't even get into my neighbor's stereo, then propagation sucks.
6. If it is a hot day I go for the fan dipole.

Gee, all of you young newbie hams (Licensed less than 50 years) sure have to make things sound so complex! Chill out, have a beer. Relax! Just 'cuz the last guy you talked to seemed like he was from Mars, does not mean that he wasn't, by Jupiter! I think I'll go put my rig in my Saturn, pet Pluto, and leave y'all to scratch Uranus! (Watch out for Klingons!!)

By the way, I did enjoy the post!

73, Cal K4JSR  
Funny Farm, Ga.

**RE: Nelson's theory of propagation**

by [KC9GHA](#) on July 29, 2004

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"RE: Nelson's theory of propagation  
by W6TH on July 29, 2004

Have we forgotten the D region ionization which is proportional to the height of the sun which is greatest at noon. Could this happen to remain longer in time and greater in absorption? Also recombination and attachment of electrons occurs later in time. "

Interestingly, when the chart of dates is broken down, the most occurrences of the effect happen in June, July and August - the summer months, when the Sun is typically highest in the sky for the year.

Dave - KC9GHA

**RE: Nelson's theory of propagation**

by [DJ8GO](#) on July 29, 2004

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A "theory" is something that suggests a causal mechanism for an observed effect, and then may try to support the predictions with observational statistics. A correlation like it is described here is pretty much meaningless. Case in point, which is taught in pretty much every Statistics 101:

In Europe, where I'm from, little babies are brought by the stork. During the period from 1900 through 1935 there is a better than 90% correlation between the stork population in northern Germany and the birth rate. And this observation even has a model that tries to explain the underlying reason for the fluctuation of the birthrate, unlike the "theory" presented here. Unless you are a very young ham, however, you would probably have reason to doubt the assertion that was "proven" by the statistics.

**RE: Nelson's theory of propagation**

by [W6TH](#) on July 29, 2004

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DJ8GO on July 29, 2004

A "theory" is something that suggests a causal mechanism for an observed effect, and then may try to support the predictions with observational statistics.

=====  
Quite true.

Example:

160 meter ham band, contacts at sunrise, and contacts at sunset. Works well indeed, caused by recombination and attachment of ions and electrons.

Many times noticed on other ham bands, especially the higher bands like 20 through 10 meters.

My theory is the amount of gasses now available in our ionosphere to change atoms and +ve, -ve and the neutral electron have a great effect to make changes to propagation.

We will know for sure in the future and I am all eyes and ears.

..

**RE: Nelson's theory of propagation**

by [K9WQ](#) on July 29, 2004

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DJ8GO: Of course it's a theory. Roughly put, the theory is that certain configurations of the inner planets in relation to the sun have an effect on RF propagation on earth. I listed a number of references on this theory at the bottom of the article. The material was published between 1923 and 1943, and I'm sure it will be hard to find.

Since it's a theory it doesn't just look back and check for correlations. It also makes predictions for the future. I actually uploaded my article around July 4, but it was not activated until July 29. At the time I uploaded the article, the peak in the index on July 24 was a prediction based on theory. We did indeed have disturbed conditions at that time. I believe the geomagnetic storms peaked on July 25.

I have emphasized past correlations because -- ahem -- that's the only way to test the theory. I included in the article some future data -- a chart through the end of September 2004.

To my knowledge, Nelson didn't say anything about \*why\* certain configurations of the inner planets might affect geomagnetic conditions on earth. I don't know whether Huntington, Clayton, and Sanford did. Still, predictions can be made based on the theory without extending the theory that far, and that's what I've tried to do. Perhaps Nelson didn't feel qualified to try to fill in that part of the theory. I certainly am not qualified. Still, it is not difficult to imagine that the planets might have a sort of tidal effect on the surface of the sun, but I am only speculating. I have no idea.

What's the point of your anecdote about storks? Are you only trying to say that not all correlations are causally related? Fine. But yours is the sort of facile dismissal that I dreaded when I wrote the article.

I'm afraid you missed the point of my article. I'm only trying to draw attention to an interesting theory that has been neglected, and I'm hoping that others will take an interest in doing some science based on that theory. My resources are limited.

A rigorous, rather than a casual, test for correlation needs to be done. The obvious next step would be to put a Nelson index for a long period of time into SPSS with an actual K index or similar index and test for correlation. If there is good correlation, further study would be worthwhile. If there is no correlation, the theory would be nothing but a novelty and deserves to be forgotten.

I believe that more study needs to be done before we conclude that this is just storks.

David Dalton  
K9WQ

**RE: Nelson's theory of propagation**

by [DJ8GO](#) on July 29, 2004

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K9WQ:

the theory is that certain configurations of the inner planets in relation to the sun have an effect on RF propagation on earth. ...

To my knowledge, Nelson didn't say anything about \*why\* certain configurations of the inner planets might affect geomagnetic conditions on earth.

...

The obvious next step would be to put a Nelson index for a long period of time into SPSS with an actual K index or similar index and test for correlation. ...

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My point is that a theory would attempt an explanation, trying to give a testable answer to the "why" and "how" based on some scientific principle. Your speculation about tidal effects by planets on the sun would be such an attempt - however, the tidal effects that are easily calculated are so miniscule that the case is almost impossible to make. Without such a model no amount of computing power to detect further correlations elevates this above the observation of babies and storks (where we actually have plausible explanations), or astrological speculation that the constellation of the planets influences human fate.

**RE: Nelson's theory of propagation**

by [VA2DV](#) on July 29, 2004

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I found a book written by J.H.Nelson on Ebay 2 years ago ; " The Propagation Wizard's Handbook " I was wondering if it was the only ham to have read this stuff.  
Interesting article.

**RE: Nelson's theory of propagation**

by [NGAJR](#) on July 29, 2004

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I usually just turn on the radio and holler, if some one gives me an answer, propagation is good...

**RE: Nelson's theory of propagation**

by [W6TH](#) on July 29, 2004

[Mail this to a friend!](#)

Me too.

..

**RE: Nelson's theory of propagation**

by [KA4KOE](#) on July 29, 2004

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Thats why I said "use caution". I didn't say he was incorrect.

**Nelson's Theory of Propagation**

by [KG4GSC](#) on July 29, 2004

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Interesting.....one of those "see if the shoe fits" theories, which sometimes do hold water.

My personal propagation theory is as follows:

If I'm at work (no radio), propagation is good.

If the HoneyDo list is active, propagation is good.  
If I have to cut grass, propagation is excellent!  
Anniversaries?? Openings like you're never heard before!

And, if I'm in the shack? Band's closed, sorry!

Andrew  
N4ABA

**Nelson's Theory of Propagation**

by [K8LEA](#) on July 29, 2004  
Very interesting....

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I hold, too, that the planets are too far away to mean much, but in thinking about this, I wonder if the "solar wind" might not be affected by these alignments. That could influence our ionosphere, although I have no idea how much.

Definitely something to think about.

(Gotta go - working on a fan dipole for my HT....)

Stu K8LEA

**RE: Nelson's Theory of Propagation**

by [K17YY](#) on July 29, 2004

Very interesting article. It does deserve some further observation. Thank you for your diligent study.  
73, Kirk K17YY

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**RE: Nelson's Theory of Propagation**

by [KE4MOB](#) on July 29, 2004

"This article makes a rather extensively researched case for \*some sort\* of correlation between planetary alignment and radio propagation."

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I disagree. It really doesn't give enough information to draw a conclusion. For example, how many times have alignments occurred and there were no extraordinary propagation effects observed?

Remember, an infinite number of affirmative observations merely support a theory...but it takes only one valid contradictory observation to disprove the theory.

As an aside, I note the orbital period of Jupiter is 12 years. The solar cycle is 11 years...meaning that Jupiter pretty much is the same place in it's orbit at each corresponding point in the solar cycle. Hmmmm...

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 29, 2004

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I read Nelson's book about 15 years ago. Correlations between data sets (in this case, ionospheric reflectivity and planetary astrometry) are only the first step. Next, someone actually has to come up with a theory of why the correlation occurs and test the theory. Nelson didn't do it, and to my knowledge no one else has done it either.

I'm a professional astronomer by training, and I know some things about ionized plasmas, gravitation, and electromagnetic propagation. I just can't think of any reason why this effect should occur. Don't get me wrong. I don't know everything, but I certainly would not bet the house and the dog on Nelson being right.

What makes me most suspicious: In the book, Nelson starts with four Jupiter position angles -- 0, 90, 180, 270 degrees. He sees some correlations, but sometimes the correlations don't work. He then adds more and more angles (including 22.5 and 15 degree angles) and more and more planets (including Pluto), and as you would expect, the correlations continue to improve. THIS IS A REALLY BAD WAY TO DO SCIENCE!!!

All Nelson is doing is applying a large number of random model parameters (planet positions) to a large number of data sets (propagation results). The more model parameters, the better the fit. I CAN DO THIS FOR ANY TYPE OF DATA AND ANY TYPE OF MODEL PARAMETERS, AND EVENTUALLY GET GOOD CORRELATIONS WHEN THE NUMBER OF MODEL PARAMETERS BECOMES VERY LARGE!!!

Personally, I would not waste any more time on this...

73, Nick N3AIU

**Nelson's Theory of Propagation**

by [G0GQK](#) on July 29, 2004

At first I thought it was about Admiral Lord Nelson.

The man who put a telescope to his blind eye and said " I see no ships "

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**RE: Nelson's Theory of Propagation**

by [DJ8GO](#) on July 29, 2004

For any speculation about gravitational effects, especially variations in those effects caused by different constellations of the planets, it is helpful to visualize the actual dimensions of the solar system. Common sense alone shows how unlikely such effects would be:

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- if the sun were the typical size of a basketball (about 9.5" diameter)
- the closest planet, Mercury, is a spec of about 1/30" (0.34") at a distance of 33 feet from the sun
- the earth is a grain of sand less than 0.1" in diameter at a distance of about 90 feet
- the largest planet, Jupiter, is less than 1" in diameter at a distance of about 450 feet, circling the basketball every 12 years
- Saturn, the second largest, is less than 0.9" in diameter at a distance of about 820 feet, circling the basketball every 29 years
- The outer planets are all less than 0.4" in diameter and between 1/3 and 2/3 of a mile from the basketball

Although common sense is not always a good guide in scientific evaluation it is obvious in this case that any influence of the planets on the sun and on each other is probably negligible.

**RE: Nelson's Theory of Propagation**

by [K9WQ](#) on July 29, 2004

N3AIU: Greetings, Nick. Very interesting. Yours is just the sort of informed response that I was hoping for.

[Mail this to a friend!](#)

I have not seen Nelson's book. I have only seen the 1951 and 1952 articles. In the 1951 article Nelson claims an accuracy of 80 percent; in the 1952 article he claims an accuracy of 85 percent.

The 1951 and 1952 articles refer only to 0, 90, 180, and 270.

What year was Nelson's book published? It sounds as though he did go too far in trying to get to 100 percent. But still, a clean theory with 80 percent reliability, if true, would be a very good thing.

73,  
David Dalton  
K9WQ

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 29, 2004

[Mail this to a friend!](#)

K9WQ: Hello, David. You've probably guessed by now that I'm not one of Nelson's biggest fans. In spite of this fact, I'm glad that you made your post. Non-science people may read his stuff and take it to be true, and it's good to periodically debunk it (or at least say that it is highly unlikely).

Unfortunately, I do not have his book here in my office. It may be at my Colorado home (I will check tonight), but I suspect that it is at my vacation home, which means that I won't see it for ~ 4 months. What really angered me about the book, besides the mediocre data analysis, was a statement on the back cover. I do not remember the exact wording, but it was something like: ... what he has to say will affect us all ... MAKE ME GAG!!!

73, Nick N3AIU

**RE: Nelson's theory of propagation**

by [K8GT](#) on July 29, 2004

[Mail this to a friend!](#)

I also have a copy that I bought about 15 years ago and found it interesting. I think that some posts here are missing what Nelson meant. Planetary position does not have a direct effect on propagation on the Earth, but it affects the sun, in effect causing sunspots to release CMEs and flares, which then obviously affects the geomagnetic field surrounding the Earth complete with all its variables. While I agree with exercising caution, it is worthwhile studying the data for any correlation.

**RE: Nelson's Theory of Propagation**

by [K2WH](#) on July 29, 2004

[Mail this to a friend!](#)

Uhhh, isn't the author trying to describe the so called science of astrology? No sense trying to come up with a theory that will probably never be proved.

Remember, this is only a hobby.

K2WH

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 29, 2004

[Mail this to a friend!](#)

K8GT: Two stars orbiting closely definitely affect one another (I used to perform scientific observations on these beasts). But, there is absolutely no proof that planets in our solar system affect the Sun, apart from very minute and negligible gravitational tugs and tides, which are dwarfed by internal Solar processes. From what I can see, the correlation between Jupiter's 12 year orbit and the 11.7 year sunspot cycle is just a coincidence - - Jupiter is just not massive enough. Like I said before, someone has to come up with a viable theory and prove it. I'm not holding my breath, though.

K2WH: Thanks for saying the "A" word. As a professional astronomer, I'm forbidden to do so.

**RE: Nelson's Theory of Propagation**

by [K3AN](#) on July 29, 2004

[Mail this to a friend!](#)

I showed this post to my astrologer and she said the greatest correlation would be for those born under the sign of Scorpio. On the other hand, she said those born under the sign of Libra would likely see an inverse correlation. However, all bets were off when either Jupiter or Saturn were in Gemini, or the Moon was within two days of first or last quarter.

**RE: Nelson's Theory of Propagation**

by [K9WQ](#) on July 29, 2004

[Mail this to a friend!](#)

Gentlemen, gentlemen, gentlemen. Merely to fling the a-word is no argument and is not very good intellectual hygiene.

Nelson's theory is empirically testable.

Perhaps Nick, N3AIU, who is an astronomer, might suggest what kind of empirical test he would find convincing.

David Dalton  
K9WQ

**RE: Nelson's Theory of Propagation**

by [KA4KOE](#) on July 29, 2004

[Mail this to a friend!](#)

I was born under the signs at the intersection of walk and don't walk.

**Nelson's Theory of Propagation**

by [W1XZ](#) on July 29, 2004

[Mail this to a friend!](#)

For further information see New York Post every morning. Venus is in retrograde, Jupiter is aligned with Mars, it is the dawning of the age of Aquarius, and the bands suck.

73's and see you down the log, W1XZ

**RE: Nelson's Theory of Propagation**

by [W8JI](#) on July 29, 2004

[Mail this to a friend!](#)

by [K3AN](#) on July 29, 2004 [Mail this to a friend!](#)

I showed this post to my astrologer and she said the greatest correlation would be for those born under the sign of Scorpio.>>>

I agree with the theory that the planets control propagation. After all, their position also controls our personalities.

I think this even explains why the rules of nine work so well, from which everything in the universe except Fractals and E-H antennas can be directly traced.

**Nelson's Theory of Propagation**

by [KD5SFK](#) on July 29, 2004

[Mail this to a friend!](#)

Interesting theory. Far be it from me to say whether Mr. Nelson is on to something, or on something ;) I've definitely observed HF propagation to be lousy when it is supposed to be good, and good when it is supposed to be lousy.

To me, the most frustrating thing about HF propagation, especially on 10 meters, is that everyone assumes it is not open when in fact it is. I don't know how many times I've tuned through 10 meters and heard nothing but static. I've even called CQ until I'm blue in the face, only to tune down to the CW portion to hear two truckers in Georgia illegally using the band. Now if I can hear the truckers in GA, then the band is "open" but no one is on because everyone thinks it is closed. After that, just for grins, tune to 27.185 and just see if 11 meters is open--probably is.

Or better yet, tune through 10 meters when it is not "supposed" to be open until you hear a nice rare DX island calling CQ DX. You'll hear a pileup of stateside stations returning his call, many of them S9. Ok, so the band is open. After you work the DX, tune up or down 5 khz and call CQ. I guarantee you'll get nothing but static. Why? Because the people working the DX station saw him on the DX cluster, worked him, then tuned to another band. Yet if I can hear the pileup, then there is obviously stateside propagation.

KD5SFK

#### **Nelson's Theory of Propagation**

by [N3AIU](#) on July 29, 2004

[Mail this to a friend!](#)

Sometimes I think that I was born under the sign of the fan dipole (grin).

K9WQ, David: Nelson has already done the empirical work -- seeing a possible correlation between planet locations and propagation. The other part of the story is a theory, which he does not have. I'm suspicious of this effect because 1) the correlation seems to improve significantly with an increasing number of arbitrary model parameters; and 2) I can't think of a theory that can reproduce the results. If someone can think of a theory, then additional tests can be devised (different from Nelson's planetary correlations). This is probably not the answer you wanted, David, but I can't do any better right now. That's how you can tell that you're talking to a scientist instead of a shyster.

A related aside: In the April 1988 issue of QST (for those of you who are not boycotting the ARRL), I wrote a little blurb in response to a question about correlations between the full moon and enhanced propagation (I nicknamed it "radio werewolves"). I can put forward a possible theory for this enhancement: lunar tides on the ionosphere. The moon produces approximately 1-foot tides on the solid earth, so I have no trouble entertaining the idea that the moon can significantly affect the shape of ionosphere. In principle, a group of persons can devise tests for this effect, but it would be very difficult because there are many other forces that act upon the ionosphere (solar activity, gamma-ray sprites from thunderstorms, etc.). I could see such tests lasting for decades, since the solar cycle is 12 years long.

73, Nick N3AIU

#### **RE: Nelson's Theory of Propagation**

by [W8JI](#) on July 29, 2004

[Mail this to a friend!](#)

I mainly work DX. We discussed the moon on the 160 reflector, and I went through my logs.

Excluding contests, full moon days averaged the same number of DX contacts as any other day of the month. Virtually all of my really long DX was on days without a full moon. I worked 200 countries in two years on 160 at the solar maximum. Only about 4% of that was worked on nights with a full moon.

However, 0% was worked on nights when I was on Internet like this. My conclusion is when I log onto Internet and get into stupid threads, propagation decreases.

73 Tom

#### **Nelson's Theory of Propagation**

by [N3AIU](#) on July 29, 2004

[Mail this to a friend!](#)

W8JI: Why is this a stupid thread? Because you say so? K9WQ read some articles, posted some questions, and got a good dialogue going from a diverse group of hams. Some hams are curious. Some hams are have too much education for their own damned good (I confess). Sounds like a good thread to me. Granted, I'd rather be discussing this topic on 20m CW, but the bands have been lousy lately because of solar storms (presumably not caused by the moon, hihi).

#### **RE: Nelson's Theory of Propagation**

by [KF4V GX](#) on July 29, 2004

[Mail this to a friend!](#)

Still in the interest of the Hobby, this is interesting.

The Theory of it all is fascinating ! Would be a worth while effort to find out .

#### **RE: Nelson's Theory of Propagation**

by [K4JSR](#) on July 30, 2004

[Mail this to a friend!](#)

I won't use the "A" word, but I do know for a fact that propagation in the "Age of Aquarius" was always most precarious! Even on a hot day and using a fan dipole!

I know something else. If you chill and consume a sufficient number of 807's, or a few 4-400-A's (Foster's 807s! :p), your speech will start to slur and some folk will think you are DX! One more 807 and you won't care! :-D

Better yet, while under the influence of the juice of the Barley, breathe in some helium and tell everyone you have found the long, lost sideband! Dare them to tune to your frequency! Who says ham radio can't be fun?

73, Cal K4JSR  
12 Step, Ga.

#### **Nelson's Theory of Propagation**

by [N3AIU](#) on July 30, 2004

[Mail this to a friend!](#)

K4JSR: I'm drinkin' a brewskie right now to drown out all of the voices in my head. If they were DX, I'd try to work 'em instead. 73 ES GN, Nick N3AIU

#### **RE: Nelson's Theory of Propagation**

by [KA4KOE](#) on July 30, 2004

[Mail this to a friend!](#)

Yeah, I'll second what Cal says...but my poison of choice is Guinness.

Remember one time I was sleepwalking in my teens and turned on the radio. Had a slurring conversation as I was later told by a friend.

Philip  
Hopeulikit, Georgia  
(real place, look it up)

**RE: Nelson's Theory of Propagation**  
by [W3DCG](#) on July 30, 2004  
Fascinating.

[Mail this to a friend!](#)

I've never heard of Nelson's Theory, before now.  
I have been studying The Dance of the Wu Li Masters, though. And have stayed in a Holiday Inn Express.

I have tried what have been referred to as Solunar tables for deciding when to go fishing. Oddly, the predicted peaks happened to coincide with when the fish were going absolutely bug nuts. I didn't catch one that night, of a super peak, but the hills were alive with activity, the sound of crickets and critters deafening. The biggest snake I've ever seen (not on TV or in pictures) was crossing the road as the peak began, and the lake (Lake Cachuma in California) was literally boiling with activity. Fish leaping feet, into the air for bugs, the water being thrashed, actually making small waves that would break on shore with sound.

I have run bio-rhythm charts, vs. my own history, and that of friends. In one case, we partied all night, got about 2 hours of sleep, studied none, were late to our SATs, administered 27 miles away in a town called Bandon. Hung over. We sped there in a 65 convertible Mustang (Summer of 1984), top down. Hungry. Thirsty. Our scores were significantly higher than the first time we took the tests. And the first time, we studied, prepared, tried for a good night's rest, arrived early, etc. Our Bio-rhythm charts seemed to predict our outcome, running the dates and times for those two events, our SAT tests, in the past.

It is interesting how often the mad "science" of Astrology seems to predict things such as personality traits. And, Astrology can get extremely complicated- although computers have helped to lessen the computational burden, I have often sat in pure wonderment, and become so very curious about the programmer of software that actually produces predictive results that coincide very closely to outcomes. What, based upon the season, alignment of planets, moons- heavenly bodies. I know for sure more times than I can remember, undeniable alignment- being the direct result of- heavenly body!

I know not much- but the more I study anything, any field, any phenomena, any theory, the more I realize how little I know, and how little humans know, about our universe, our planet, and relationships.

There is so much that science can not explain. The more human kind learns the more there is to learn. Humanity tends to continue striving. It seems based on statistical evidence, humans will never stop striving. Part of the nature of this universe.

What I do know, is- like W8JI, here I am, and I've let about 3 or 4 CQ's go unanswered, because I've been sucked into this thread vortex.

However, here people are being exposed to the notion, that dynamics of planetary positions somehow coincide with RF propagation on Earth. It is in mind, now.  
I appreciate this very much.

I'm not one to readily dismiss far-out theories, even when most of the information published or available for review would seem to "prove" or "disprove" validity.

Anyway, one simple statement that doesn't seem to want to dissipate from my thought, is the theory, idea, fact(?), proven by measurement(?), that what causes an antenna to radiate has more to do with charge acceleration than anything else. Something I picked up from these sort of threads, right here!

Gotta bail, maybe I can get in one QSO before bed!

**RE: Nelson's Theory of Propagation**  
by [W8JI](#) on July 30, 2004

[Mail this to a friend!](#)

Now wait a minute, I didn't say this was a stupid thread. You must have read at a time when your biorhythms were at null.

I said I work 0 DX when I get on the Internet in stupid threads. That's entirely different than saying this is a stupid thread.

There can be something to Astrology, Numerology. and other new age sciences if we just look for patterns. I have no doubt the planets affect our personalities and our lives.

For example, I just worked VK3ZL on 160 meters at 1116Z.  $1+1+1+7=8$  According to my numerology tables, 8 is a complex number with many bad attributes. Sure enough his signal was weaker at 1116Z than at 1050Z (my sunrise) when he was 579 ( $5+7+9=21$ , another good number).

Watching the second hand, his signal would start to peak at numbers like 2 (the number of Love)reaching the maximum strength at 1111:11Z which is the number of mercy and if you break it down a number full of love.

The last I heard Bob as he faded into the noise was at 1129:29Z and 29 is the bad Karma number. What that translates to is  $11=$ mercy  $29=$ bad karma  $29=$ bad karma At that time his signal was RST 329, which if you add across it is also a bad number, 24.

I honestly think we can predict propagation based on numerology. Why else would those numbers match the band fades?

3's and 8's and all those Good Numbers to ya!  
Tom

**RE: Nelson's theory of propagation**  
by [NORF](#) on July 30, 2004  
Grow up people.

[Mail this to a friend!](#)

Every time someone starts an interesting thread, the silly comments and negative remarks just about bury the good stuff.

Some of you guys act like grade school children.

This was a serious thread by someone with some scientific training, talking about an interesting idea from the past that deserves further consideration.

It looks like it would be a great thesis topic for a grad student in a variety of fields.

Legitimate contrary opinions are the stuff of scientific discussion, and certainly are welcome. Goofy comments, potshots, personal attacks should be kept to yourselves.

No wonder ham radio gets a bad reputation as a bunch of backward kooks.

No wonder ham radio has trouble attracting the young scientists and engineers.

Pretty soon no one is going to bother posting anything serious on here.

**Nelson's Theory of Propagation**

by [N5XM](#) on July 30, 2004

[Mail this to a friend!](#)

I think it's a fascinating idea. There is more going on in the solar system than mere gravity. You might try putting "zero-point physics" into Google and checking it out. I love the Scientific Method, but it doesn't seem to deal with things based upon unknown principles very well. Isn't it a bit arrogant for us to think we've discovered all that's to be discovered? We might not know what something is, but we don't know what it isn't, either.

Einstein thought quantum physics was ridiculous. It is now considered a given among Physicists. Consider quarks. Many of them are absolutely irrational in their behaviour, at least to mechanistic thinkers. The speed of light speed limit is defended to the hilt, so then how do sub-atomic particles exist that not only have negative mass, but travel faster than the speed of light? What about action at a distance? In many ways, Science talks out of both sides of its mouth at the same time. It says, "you can't", then it says, "this does".

If you've read or heard zero-point Physics discussed, you understand the point is that a spinning body in the ether of space, moving through that space (which has its own electric potential) can produce its own energy, much like a spinning generator. This is very different than mere gravity. As an example, there was a Space Shuttle a few years ago doing some kind of experiment where a very long cable with something on the end was reeled out, and from the Earth you could see the cable glowing as the Shuttle tracked itself across the night sky. Sorta sounds remarkably like a gigantic circuit, a very simple one compared to the complex circuit that MIGHT exist at the level of the Solar System. Like I said above...we don't know what it is, but we don't know what it isn't, either.

I don't remember who said this, but it is one of my favorite quotes. "Reality is not only stranger than we think, it is stranger than we can imagine". I think we are making a big mistake if we throw things out because we think they violate the traditional wisdom. Nelson's idea might be absolute BS, but it isn't impossible that he was on to something.

**RE: Nelson's Theory of Propagation**

by [W3DCG](#) on July 30, 2004

[Mail this to a friend!](#)

I think it wholly possible Nelson was on to something. Seriously.

Yes, the Quark. Quantum physics. Particle and Wave dynamics contradicting. Uncertainty. Certainty. And the now rather old book, The Dance of the Wu Li Masters.

Easy read, even people like me can understand.

I'll take the 3's and the 8's, adds up to one of my favorite numbers! But the day I work a ZL on 160m, I'll fall backwards in chair.

So-

73, and Elevens to all.

**Nelson's Theory of Propagation**

by [K0RFD](#) on July 30, 2004

[Mail this to a friend!](#)

I think that one of the best things that is going to come out of the Log of the World database is an excellent set of data on propagation. It will take a long time, more than just a single sunspot cycle, but eventually there will be a good "snapshot" of propagation paths, distances, times, etc. on which we can run time series, multiple regression and correlation, etc. Once there's good data, if we want to try and correlate it with planetary positions, phases of the moon, the emergence of Cicadas, or anything else, we won't need to armwave anymore.

In the meantime, turning on the radio is still the best indicator of propagation.

**Nelson's Theory of Propagation**

by [K0RGR](#) on July 30, 2004

[Mail this to a friend!](#)

I think that there are many things in the universe that we cannot logically explain. At least until they are properly explained, we relegate those to one of two categories : 'GOD' or 'drivel' depending on our personal beliefs. Some believe that if it can't be explained, it does not exist.

I would never argue against the statement that the position of the planets somehow inspires GOD to wipe out our HF propagation with solar flares, if there is no scientific explanation, and it can be clearly shown that the position of the planets does actually have some impact. If the observations prove to be a basis for highly accurate predictions, then it would be hard to argue that the phenomenon does not exist.

I think the author is asking for others to contribute to a confirmation of his observations. If those can't be confirmed in a way that rules out mere coincidence, then there is no reason to formulate a theory, GOD is off the hook, and Nelson's observations are 'drivel'.

Long time readers of eham.net have seen me open two discussions on my late father's observations of HF radio phenomena that he believed were earthquake precursors. I received many negative, and sometimes derisive answers. But I also received a number of responses that documented very similar observations, including some from working scientists, and a NASA paper documenting the observation of 'ripples' in the ionosphere hours before earthquakes, which could form the basis for a theory of how the radio effects are caused.

Perhaps, as the original author suggested, someone can provide the data needed to do further work on his observations.

**RE: Nelson's Theory of Propagation**

by [K4JSR](#) on July 30, 2004

[Mail this to a friend!](#)

Well Tom, JI. I guess we've been told! At least I now know that if I want a humorless QSO that I can always set my beam heading N0RF! Meanwhile, I am headed to the nearest KORGR store for some pretzels and Foster's. (Sorry Philip, as you know I am already "STOUT!")(Oh my Guinness! Another pun!)

I had to switch to Foster's as they had the only can large enough make an 80 meter Beer Can Vertical. After I complete that project I am going to get N6AJR to help me with a Fan Beer Can Vertical.

N3AIU, I think these people are all jealous because they know that those voices will only talk to us!

All you "serious" people out there probably believe everything you read on the internet. See! You are already foaming at the mouth and jerking your knees around waiting to finish reading my rant so you can show us all your indignation! Go for it. The next space on this thread is yours!

73, Cal K4JSR

Rabble Rouse, Ga.

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 30, 2004

[Mail this to a friend!](#)

W8JI: My apologies. I read too much into your statement. Not very good scientific procedure on my part (grin). I've heard VKs on 160m a bunch of times with my 80m horizontal loop (it's real quiet compared to the antennas that my buddies have). Too bad the VKs can't hear me on 160m!

N0RF: You are correct, some of us have been acting like children. Come to think of it, scientists often act like children. It keeps us curious (good thing) and immature (bad thing) at the same time. I will make an effort to change for the better, at least on the internet (grin) ...

N5XM, K0RGR: I agree that there are many things that remain unexplained. That's what makes the universe so fascinating. There are also things in the universe most scientists accept as true even though they are counterintuitive (for example, quantum mechanics). Granted, Einstein was skeptical about the quantum mechanics of Heisenberg and Schroedinger. But, Einstein couldn't totally dismiss it because he won the Nobel Prize in 1905 for the photoelectric effect, where he described how "quanta" (we now call them "light particles" and "photons") interact with atoms. As a matter of fact, photons have been nicely integrated into the quantum framework accepted today. If Einstein were alive today, I'm sure that he would be more receptive to quantum mechanics because it has been proven in many different and sometimes counterintuitive ways. For example, there is the "entangled states effect", where the states of two particles are linked together even across large distances. As a matter of fact, I'd bet that Einstein would be trying to combine quantum mechanics with cosmology ... Fun stuff.

K0RFD: You've made an excellent comment about LoTW. All we have to do is get on the air and keep sending in the results. In a few decades, there will be a wealth of great data for scientists to ponder. My only concern is that only hard-core DXers are contributing to it right now, which could perhaps skew the data. I hope that it will become more widespread in the future, from big guns to little pistols.

As long as we do not fully understand the universe, ANYTHING is possible. Also, when we fully understand the universe, ANYTHING is possible. I like statements like that. But, just because something is possible doesn't make it likely or even plausible.

Nelson has observations but no theory. I'm sure that smart people have thought about this effect and come up empty. Could that change in the future? Sure. Like I said, ANYTHING is possible. I'm just not willing to believe it unless we have a decent explanation. For me, the correlations are suggestive, but they are not enough, especially in light of the comments I made in recent postings. And let's not put astrology (gack! I said the "A" word!) in the same league with quantum mechanics or even Nelson's work. It's been investigated time and time again and found to be total crap (at least Nelson's theory has some correlations, even if they are flawed). Let's not get into a flame war about this, it's way off topic.

Unfortunately, I have to get back to work. Have a good day. 73, Nick N3AIU

**Nelson's Theory of Propagation**

by [AL2I](#) on July 30, 2004

[Mail this to a friend!](#)

A thought-provoking and humorous thread has spawned from this article. Although I am a pretty hard skeptic, I like to keep my mind ready to play a little. Since Earth propagation overwhelmingly correlates with solar conditions, the proper and best means to test this theory might be to go back through recorded solar observation data and look for intersections with planetary position data.

Either the planets perturb the sun in ways that we do not yet understand, or the sun has influenced the planetary orbits, or both have some similar mathematical characteristic that makes them seemed linked, or finally, there is no correlation, but rather, another excellent example of how NOT to do science...

The comments about changing chemicals in our atmosphere resulting in changes in propagation are highly astute. Has there been any propagation study of the effects of one of the so called "ozone holes" on certain paths? I don't see how chemical changes in the ionosphere ... "without" effecting propagation.

73,  
Dave McGraw

**RE: Nelson's theory of propagation**

by [W8JI](#) on July 30, 2004

[Mail this to a friend!](#)

by N0RF on July 30, 2004 [Mail this to a friend!](#)

Grow up people. Every time someone starts an interesting thread, the silly comments and negative remarks just about bury the good stuff.>>

I hope you are not casting doubt on numerology. My wife would be upset with you. She was delighted when I borrowed her book to investigate the relationship between numbers and propagation!

My post points out even using data that has nothing to do with propagation, I can find a match if I go deep enough. If at 1117Z I don't find a match to conditions, I simply add the numbers differently or add more numbers until it fits the results I have.

This is what Nelson did. When he had poor alignment of data and results, he added more data until he matched things. I did the same thing, and can make an argument propagation is linked to Numerology.

Astrologers do the same. With enough broad sweeping generalities some people are convinced (as some are with Numerology) that the data is meaningful.

Let me give a few specific examples where random events fall in sync because we (without thinking) look for a match.

I always notice the turn signal in my truck matches the turn signals of the vehicle in front of me. Why? Because when it doesn't match, it doesn't capture my attention! It falls out of sync, it quickly matches. If not from my truck to what is in front of me, then it matches something else around me.

Another?

The radio beats to the wipers (or is it the other way around). There are even songs that allude to this effect.

This is why good science requires we look at everything possible including why an effect would occur.

Hope this helps.  
Tom

**RE: Nelson's Theory of Propagation**

by [W6TH](#) on July 30, 2004

[Mail this to a friend!](#)

Yes and my last few words.

You cannot destroy matter, but to change it into another form. What happens to a atom by combining the atom with another mixture of gasses?

Chemical changes by gasses in the ionosphere do occur and do effect propagation.

What known gasses are manufactured by the burning of the sun? What fuels keep the sun burning.

As the sun rules the day, so the moon governs the night and communications continues both day and night.

Excuse me, but my theory and yet to be proven.

∴ May help to find out where we came from.

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 30, 2004

[Mail this to a friend!](#)

W8JI: Hi Tom. You have succinctly stated what I've been blathering on and on about: if you keep adding more and more model parameters to a dataset, you can create correlations between almost anything. Many thanks. Astrologers (gack! I said that word again!) do not necessarily do this (although they certainly could). I think that they tend to keep their predictions so vague that they can fit almost any circumstance.

73, Nick N3AIU

**RE: Nelson's theory of propagation**

by [K9WQ](#) on July 30, 2004

[Mail this to a friend!](#)

W8JI wrote: "This is what Nelson did. When he had poor alignment of data and results, he added more data until he matched things. I did the same thing, and can make an argument propagation is linked to Numerology."

Nick, N3AIU, who has seen Nelson's book, does say that Nelson started adding more angles to try to get better correlation.

However, as I pointed out earlier, his 1951 and 1952 articles make use only of 0, 90, 180, 270, and Nelson claimed a correlation of 80 to 85 percent with only those four angles. Those are the only angles I used to compute the indexes for this article.

May I point out that the rush to dismiss that I've seen in many postings on this thread is extremely unscientific. Frankly I am interested in only one thing here: is there a "Nelson effect" and is there a meaningful degree of correlation, or is there not? That question will be decided by empirical data, and a theory is secondary.

Frankly, modern physics is often guilty of what Nelson has been accused of here: piling on math and tweaking constants to try to make sense of things. To quote John Maddox in the December 1999 Scientific American: "The central problem in fundamental physics is that quantum mechanics and Einstein's theory of gravitation are incompatible with each other." As Jeffery D. Kooistra and no doubt others have pointed out, maybe physics' frustration in achieving unification is because our basic theories are not yet self-consistent.

In other words, there's much we don't know, and current theory remains imperfect.

David Dalton  
K9WQ

**RE: Nelson's theory of propagation**

by [K4JSR](#) on July 30, 2004

[Mail this to a friend!](#)

"In other words, there's much we don't know, and current theory remains imperfect.

David Dalton  
K9WQ "

David, I agree with you, in theory! ;)

73, Cal K4JSR  
Fevered Mind, Ga.

PS. I still enjoyed the post and the subsequent thread. I guess we can all go back to THREAD ALERT YELLOW and calm down now. :D

**Nelson's Theory of Propagation**

by [N3AIU](#) on July 30, 2004

[Mail this to a friend!](#)

I have several more comments:

1) In the real world, we hear things like, "there is an 80-85% chance of rain today", and we act accordingly without giving it a second thought. In the scientific world, however, an 80-85% chance of anything (including a correlation between two phenomena) is a mediocre correlation at best. Others would say that it sucks big time. In the biz, we call an 85% correlation a 1.6-sigma result (that's approximate; I won't go into the gory details of Gaussian statistics here). Most scientists won't consider anything less than a 3-sigma result, which corresponds to a ~ 99.7% correlation. Other scientists go further and won't accept anything less than a 5-sigma result, which is even closer to 100% probability!

2) The fact that four parameters give 80-85% correlation tells me that Nelson's model is unsatisfactory. The fact that he (nor anyone else) has come up with an explanation for the effect bothers me. Yes, yes, I know about the tyrannical scientific mainstream that keeps good ideas like cold fusion from becoming a reality (grin). Believe it or not, the scientific mainstream is correct most of the time because they only accept 3-sigma results. The fact that Nelson adds more model parameters without scientific justification to improve the correlation raises all kinds of flags for me as well.

3) Don't tell theoreticians that "theory is secondary". You will get a real argument, and I'm inclined to agree with them. Without theory, our scientific world would consist of a jumble of non-understandable and unrelatable empirical data from which we get limited use. It is our understanding of theory that allows us to progress in science and technology. Theory is the framework upon which our progress in science is built. Boy, does that sound corny (grin). By accepting this framework view of science, we also accept that it can all come crashing down when new data is obtained, although that would probably take a 10-sigma result (grin).

4) I am in no hurry to dismiss anything. I have stated my objections to Nelson's theory (mediocre correlation, no plausible theoretical basis). I believe that my objections are sound in terms of the scientific method and my own experience as a scientist. If Nelson's theory is right, more theory and observation is required. I sure that I appear biased when I say, "don't bet the house and the dog that Nelson is right, so don't bother checking on it further". That's because I am biased! But, I give sound reasons for my bias. At the same time, I accept the possibility that I could be wrong, even though I think that it is unlikely.

73, Nick N3AIU

**RE: Nelson's Theory of Propagation**

by [K2WH](#) on July 30, 2004

[Mail this to a friend!](#)

As the great Steven Hawking said in his book when referring to the known universe.....

"Why is there something when there could just as well have been nothing"?

Remember and ponder that question..... because there are forces beyond our imagining that are propelled at us at unimaginable angles and velocities that will eventually destroy all matter in the universe. And then we will know the mind of GOD!

K2WH

**RE: Nelson's Theory of Propagation**

by [K4JSR](#) on July 30, 2004

[Mail this to a friend!](#)

We may know the mind of God, but we will never comprehend it.

I still have trouble figuring who is and who is not a DUDE!

Rick, do you mean that when you hear a weather forecast that you grab your umbrella that is shaped like a bell curve?

73, Cal K4JSR  
Wise Acre, Ga.

**RE: Nelson's Theory of Propagation**

by [W4EWJ](#) on July 30, 2004

[Mail this to a friend!](#)

The RCA receiving sta on L.I. was able to hear a fly fart 10k miles away... one of the great sites during WW2 for HF DF of German subs in the N. Atl. It was manned by experts in HF comms and the propagation records they collected over the years were unequaled even by Bell Labs. Probably nothing to equal it since...a few Chirp Sounder sites spread around the world are pretty accurate for a few users of the HF spectrum but I doubt they equal the practical and studied observations of real world requirements by RCA World Comm.

Gone but not forgotten.

Great article and most of the comments

EWj

**Nelson's Theory of Propagation**

by [KW4N](#) on July 31, 2004

[Mail this to a friend!](#)

Dave: I would encourage you to continue your work on this theory. The fact that you used only four parameters to achieve an 85% correlation is sufficient basis. (Richard Feynman would give his hind teeth for something like this) Be prepared to be accused of data mining though if you increase the number of parameters and your correlation rises.

If someone can give me a scientific theory based on four (or four hundred) parameters providing 85% correlation on what we think the stock market will do versus what it really does, then "In the real world I would act accordingly."

I recall a senior EE student while at M.I.T. that did some thesis work on this very subject; you may want to contact the university for a copy; try 1964/1965 time period.

73's, Dave

**RE: Nelson's Theory of Propagation**

by [K9WQ](#) on July 31, 2004

[Mail this to a friend!](#)

KW4N: Thank you for the information, Dave. For the record, I cannot claim 85 percent correlation; I can only say that Nelson made that claim in his articles.

I assume that poor Nelson had to work with data manually extracted from the "American Ephemeris and Nautical Almanac" published by the Naval Observatory to get his heliocentric longitudes. These days that kind of calculation is easy to do with a computer. From W4EWJ's comments, it sounds as though Nelson had excellent data on propagation, though.

What I want to do next is to get large set of indicators -- say, Kp data -- (downloadable from the NOAA back to 1932, I think) and put it into SPSS with my Nelson index. I am no statistician, but I do have some training and experience with SPSS, and I should be able to see how well the data correlates. So far I've only manually examined some of the dramatic high spots in the Nelson index.

One of the reasons I posted the article here was to try to find out whether someone has already done empirical testing and whether I might be just wasting my time. Apparently no one has done it. It will take a fair amount of work to align two large data sets and get it into SPSS, but I'll do it.

I'm afraid some people here have misunderstood me when I've said that theory is secondary. All I mean by that is that I first want to know whether there is or isn't convincing evidence of an actual phenomenon. If there is such evidence, then there will be plenty of time to contemplate the theory. Lack of a theory is no argument for not bothering to examine the evidence.

I'll post again in the future after I crunch more numbers. It may take a while...

73,  
David Dalton  
K9WQ

**Nelson's Theory of Propagation**

by [HF2PWA](#) on July 31, 2004

[Mail this to a friend!](#)

Neilsons stats had a variance of much greater than the mean.

Also Jupiter and two of it's moons IO and Europa radiates 30,000X more background radiation than any OTHER PLANET.

KOE, seems to know what he is talking about.

Neilson was just a square earth personality!

### **Nelson's Theory of Propagation**

by [W5MEJ](#) on July 31, 2004

[Mail this to a friend!](#)

Interesting article, and I applaud your efforts. Sounds like you put in quite an effort gathering and compiling the planetary alignment data.

As you mentioned, though, much more solar activity data would need to be gathered and compared to come up with any meaningful correlation.

Scientists working with NASA admit that even with all the information they have now, they are not sure what causes solar flares, sunspots, and the like. Of course any good scientist realizes that they may not be right - history has proven that many times. The favorite theory these days, though, is that solar activity stems from magnetic activity on the star itself, and cycles as the magnetic field of the star reverses. Most seem to put little stock in the effect of outside gravitational forces, so I think that Nelson's theory has been discarded long ago.

It is interesting that after searching the web a little bit, the only info I could find supporting Nelson's theory was from the "pseudo science" and astrology sites. I know the web is not an overly reliable source of data, but there is a lot of info out there! Seems like someone would have published a serious paper somewhere supporting this if there were any scientists supporting it these days.

73  
Chuck

### **Nelson's Theory of Propagation**

by [N3AIU](#) on August 2, 2004

[Mail this to a friend!](#)

Gentlepersons,

Activity on this thread appears to be waning, but I'll make one last set of comments based on thoughts I had over the weekend, just in case anyone is still listening.

The photometric sunspot cycle (the one hams care about) lasts about 11.7 years (different from the magnetic sunspot cycle, which is about twice that length). Jupiter orbits the sun approximately once every 12 years. If I plot Jupiter's orbit versus solar activity, I will get a very high correlation, perhaps even better than 80-85%, over many sunspot cycles.

Does this correlation mean that there is a real physical relationship between solar activity and Jupiter? Absolutely not! It's just one heck of a coincidence. I can make this statement because

- 1) our Sun has been studied to death by numerous different techniques, including very precise solar seismology (which tells us what's inside the Sun, just like seismology of the earth tells us about its structure). As unbelievable as it sounds, these observations have confirmed that the theory of how our Sun works (developed almost 50 years ago!) needed only minor tweaks. That still amazes me. We know that the Sun can make a sunspot cycle all on its own without the help of Jupiter.
- 2) Astronomers (including me) have studied other solar-type stars at all stages of their evolution. They all have spot cycles, with younger stars have shorter and much more active starspot cycles than our Sun. With these statistics, we get further proof that we understand how our Sun works and evolves. Again, Jupiter is not required.
- 3) Astronomers (including me again) have studied young solar type stars, and we have good evidence that the planets in our solar system formed from collapsing dust clouds. The part of the dust cloud that formed Jupiter in our solar system happened to form where it will orbit the Sun every twelve years.
- 4) The gravitational tide exerted by Jupiter on the Sun is negligible compared to the other processes going on inside the Sun. I've studied binary star systems where the two stars are so massive and so close to each other (sometimes they are almost touching) that they distort each other to the point where they look like eggs instead of spheres. For these types of binary systems, the stars definitely affect one another. They are in a completely different league compared to Jupiter and the Sun.

Having said all of this, let's assume that Dave (K9WQ) still wants to investigate a possible relationship between the solar cycle and planets. If he just continues to study Nelson's correlations and if the correlations still hold at the 80% level, he still hasn't proven any relationship. Given physics as we understand it, it will just be a coincidence (just like the coincidence between Jupiter's orbit and the solar cycle). Is the coincidence useful for hams? If you're happy with 80%, I guess that the answer is yes. I'm not happy with it (I want 100%), which I guess makes me a hard-nosed SOB. I think that I can do better than 80% by just studying solar weather reports from WWV, etc.

If you want to prove theoretically that Nelson's theory is valid, the only way to do it is to sit down and say: "OK, if Nelson's theory is valid, what other ramifications would we expect to see?" That's where my head begins to hurt. To make Nelson's theory work, the only things that I can think of are bizarre and not necessary to explain the rest of the universe as we understand it right now (faster than light travel, tangled quantum states from complicated objects over 500 million miles of space, etc.). If these bizarre things were correct, our universe would be even more interesting than we already think it is (grin).

Great thread. Let's do it again sometime.

73, Nick N3AIU

### **Nelson's Theory of Propagation**

by [KN4LF](#) on August 6, 2004

[Mail this to a friend!](#)

I spent 31+ years in space and atmospheric weather forecasting and consulting. The theory is nonsense, junk science, much like better propagation during full moon and global warming for that matter.

73,  
Thomas Giella, KN4LF  
Plant City, FL, USA  
KN4LF Daily Solar Space Weather & Geomagnetic Data Archive: <http://www.kn4lf.com/kn4lf5.htm>