



# NMSR Reports

The Newsletter of the  
New Mexicans for Science and Reason

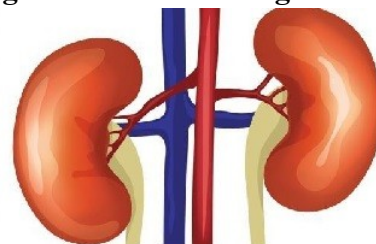
NMSR Reports, David E. Thomas, Editor, 801 Fitch Ave., Socorro, NM 87801 © 2019

**APRIL MEETING:**  
**NEW MEXICANS FOR SCIENCE  
 AND REASON will hear**  
**John Covan, on**  
**“Some Thoughts on Risk”**  
**7:00 PM April 10<sup>th</sup>, 2019**  
**==>CNM MAIN CAMPUS,**  
**Student Resource Center<==**  
**==>Room 204<==**  
**Bring a friend!**

John will talk about Risk: Stressors (environment, terrorism, etc.), Limitations (time, budget, technology, politics), Requirements (Must-do/must-not-do, etc.), Strategies (prevention, avoidance, recovery), Examples (A-10 Warthog, Fukushima Daiichi nuclear disaster, Hiking Roraima Tepui), and some useful References.

Join us at 7:00 PM April 10<sup>th</sup>, 2019, CNM MAIN CAMPUS, Student Resource Center, Room 204.

**May 8<sup>th</sup>, 2019 NMSR Meeting: Ben Radford on “Organ Theft Urban Legends”**



New Mexicans for Science and Reason will hear Benjamin Radford, managing editor of the *Skeptical Inquirer*, speaking on “Organ Theft Urban Legends.” Wednesday, May 8<sup>th</sup>, at 7:00 PM.

**Coming later this year:**  
**Anay Hightower on Fire Science**  
**Dr. Stewart Thompson on Fluoridation**

**FUTURE MEETINGS ANNOUNCED**  
**APRIL 10<sup>th</sup>, 2019 NMSR Meeting:**  
**John Covan, on “Some Thoughts on Risk”**

New Mexicans for Science and Reason will hear vice-president John Covan at its next meeting, 7 PM, April 10<sup>th</sup>, 2019, at the CNM Main Campus, STUDENT RESOURCE CENTER (SRC), room 204, right next to the Richard Barr Boardroom. Free and open to the public!



*On the Equinox, teams from Albuquerque and Saskatoon measured the size of Earth, Eratosthenes-style. Story, p. 4.*

## New Mexicans for Science & Reason (NMSR)

NMSR is a non-profit group with the goals of promoting science, the scientific method, rational thinking, and critical examination of dubious or extraordinary claims. NMSR meets at 7 PM on the second Wednesday of each month, in Albuquerque, New Mexico, at CNM's Student Resource Center, room 204 (@ Richard Barr Boardroom). NMSR Reports is its official newsletter.

### NMSR officers:

**Dave Thomas, President**

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**John Covan, Vice-President**

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**Kim Johnson, Industrial Physicist**

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**Marilyn Savitt-Kring, Science Mom**

Membership: \$25/year (hardcopy newsletter), or \$15/year (downloadable PDF), make your check payable to NMSR, send to treasurer (Debbie Thomas).

### NMSR Advisors:

- **Mark Boslough**,  
Physicist (Impacts, Climate Change,  
Global Warming). Sandia National Labs.
- **Kendrick Frazier**  
Editor, Skeptical Inquirer
- **John Geissman**  
Professor of Paleomagnetism, UNM
- **Alan Hale**  
Southwest Institute for Space Research
- **Randy Thornhill**  
Professor of Biology, UNM

Cyber-Cypher Clue: X=K, Y=V, Z=D.

Bonus Puzzle Clue: Use Combinatorics!

### **WANTED: READER ARTICLES & COMMENTARY**

Got something to share with NMSR members? Send it in! ATTN: Dave Thomas, Editor, NMSR Reports.

**REMEMBER**, our next NMSR meeting is at 7 PM on **WEDS., APRIL 10<sup>th</sup>, 2019**, at Student Resource Center, room 204 at CNM!

## PUZZLE TIME!

[Please send solutions to Dave Thomas at: nmsrdave@swcp.com, or at 801 Fitch Ave., Socorro NM 87801.]

### Cyber-Cypher: APRIL PUZZLE

(Submitted by Dave Thomas)

The following letters are a simple substitution cypher. If R stands for L, R will stand for L everywhere. Your Cyber-Cypher Clue: Clue? Oh, well - if you must, see p. 2.

```
" K N   C E P   K L E K   C D G M H D M   G C
F N I G D E F   G C   F G X M   C E P G H I
K L E K           E           B E G H K G H I           G C
B E G H K . "           -           C A B M O -
D N H Z A D K G Y G K P   B G N H M M O   F M N H
D N N B M O
```

### SUPER SECRET WORD!

However you prefer to do the cypher itself (above or below), simply duplicate those actions on the alphabetized row of cypher letters below. You'll build an answer key, and you'll also reveal - the Super Secret Word!

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

### MARCH CYPHER SOLUTION

"AN EXPERT IS A PERSON WHO HAS MADE ALL THE MISTAKES THAT CAN BE MADE IN A VERY NARROW FIELD." - DANISH PHYSICIST NIELS BOHR

Esteemed March Code Crackers: George Egert\*, Mike Arms\*, Terry Lauritsen\*, and Austin Moede\*.

\*Secret Word: "MACHINERY FLOPS"

## SOCORRO STUMPER

### Need more Secret Word Cryptograms?

New puzzles every week at  
[www.nmsr.org/SocorroStumper.htm](http://www.nmsr.org/SocorroStumper.htm)



## April Bonus: “Co-ed Debates”

Submitted by Dave Thomas

In the primary election, nine male and seven female candidates are running for president. Rather than have all 16 candidates try to debate at once, the League of Human Voters has decided to hold four debates, with just four candidates in each event. The debate panel foursomes are to be chosen randomly.

**The April Bonus:** How much more likely is a balanced panel (two male/two female) than an all-male panel? And how much more likely is an all-male panel than an all-female panel? (Ratio of probabilities for both.)

## March Bonus : “Running the Bases”

Submitted by Dave Thomas

**The March Bonus:** In what base is the equation  $2383 + 2473 + 2601 + 2680 = 11357$  valid?

And what is the sum, in Base 10?

**Answer:** Base 9, and the sum is 7585 in decimal.

**Congrats:** Earl Dombroski (NM), Mike Arms (NM), Allen Robnett (NM), Keith Gilbert (NM)

## MARCH 13<sup>th</sup>, 2019 NMSR Meeting: Creve Maples, Ph.D. on "Search for Atlantis?"

New Mexicans for Science and Reason heard Dr. Creve Maples at its February 13<sup>th</sup> meeting. Dr. Creve Maples has undergraduate degrees from MIT and a Ph.D. in Nuclear Science from the University of California, Berkeley. After completing NSF post Doctoral fellowship, he moved into the field of computing and, as head of Lawrence Berkeley Laboratory’s Advanced Computer Architecture Lab, carried out pioneering work in the fields of multi-processor computers, real-time computing and interactive multi-dimensional data visualization.

Creve has been studying the Atlantis legend, and has come up with a Sherlock Holmes-style presentation, titled “A Search for Atlantis through the Eyes of Sherlock Holmes: The Case of the Missing Civilization.” Holmes



and his assistant, Dr. Watson, both play a part in the presentation. Creve cited Holmes’ motto, “It is a capital mistake to theorize before one has data.”

What do we know about the legend of Atlantis? Most of it comes in two letters that Plato wrote. Plato, a student of Socrates (who was executed in 399 BC), talked about Atlantis in two dialogs circa 360 BC, Timaeus and Critias. It was hard for Plato to know the details of ancient Greek history because of the Greek’s Dark Ages period, from 1100-800 BC. No useful or written records in the Mediterranean



survived in this period. The Dark Ages were followed by the Archaic period (800-500 BC) and the Classical Period (550-330 BC). The only details that came through the Dark Ages were the big stories – myths, legends, names of heroes, and the like. In the Iliad, for example, there was a city named Troy, and a big war, but many of the details provided by Homer were “historical fiction” at best. There was a real Troy, though – it was rediscovered by Heinrich Schliemann in 1873, and dated to 1190 BC. Was the Iliad Fact or Fiction? Both, Maples said.

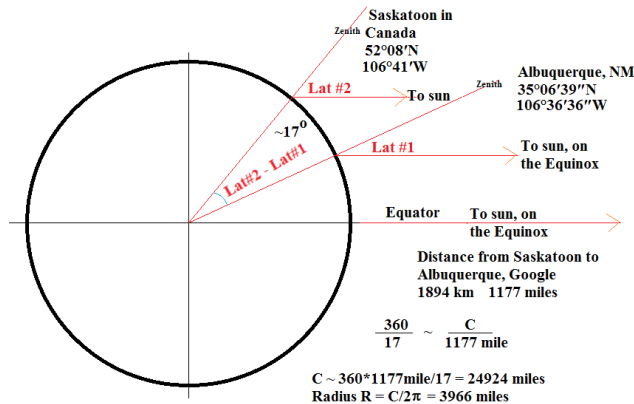
How could Plato have learned of Atlantis? Creve thinks that Solon, who visited Egypt for 10 years, learned about it from the Egyptians, who maintained records during the Greeks’ Dark Ages. And it was the Egyptians who provided the gist of the story of Atlantis – a great war between two civilizations, one of them Greek, with a definite victor, and then a natural disaster, which destroyed both civilizations. Was there a Greek civilization in the Mediterranean circa 1500-1350 BC? And what was the “Atlantean” civilization it fought with?

Creve’s research has led him to some real possibilities for explaining the legend of Atlantis. The “Greek” civilization in the story was not the Cycladic people (too early), nor the

Minoans (not Greek). The Mycenaeans, from 1600-1200 BC, are a good candidate: they were there at the right time, and had a mainland civilization, writing, a navy, and so forth. The Minoans are the actual source for Atlantis, Creve thinks. And there was a natural disaster – when the great volcano Thera erupted, the huge tsunami waves it created wiped out much of the Minoan civilization (Crete), but not completely. The Mycenaeans proceeded to attack and defeat the weakened Minoans, thus matching some of the details of Plato’s story.

NMSR thanks Creve Maples for a fascinating presentation.

**Eratosthenes Re-do**



On March 22<sup>nd</sup>, 2019, an Eratosthenes-style measurement was done at two universities, UNM in Albuquerque, and due north 1895 km, USASK (University of Saskatchewan at Saskatoon). By measuring the height of a stick, and the length of its shadow at solar noon on (or near, anyway) the spring Equinox (noon was

about 1:15 in both cities), each team found the elevation of the Sun, which is the complementary angle of the local latitude. The UNM team found latitude was 33.9 degrees, while the USASK team, measuring at the very same time, found their latitude was 51.1 degrees. The difference in latitudes (51.1-33.9 = 17.2 degrees) is to 360 degrees, as the known separation of the two cities (1895 km) is to the Circumference of the Earth. The circumference works out to 39663 km, with a corresponding radius of 6312 km, about 60 km short of the actual (6371 km), or about 1% off. Not bad for sticks and rulers!

**Equinox Skeptiverse Haiku!–by Keith Thomas**

Could some contagions Spread as fast as a viral Anti-vax rumor?	Don't be unaware Of those obfuscatory Double negatives!
In Central Asia, Great journeys often begin With a single steppe.	Mechanical cranks Are far more significant Than crank scientists.
Energy experts Might sight signs of excessive White House entropy.	The Roswell series – TV veers from Breaking Bad To badly broken!

DUES check the date on your mailing label. If it's time for you to renew, or to make a contribution, please make your check payable to NMSR, and send it to Debbie Thomas, NMSR Treasurer, 3205 Alcazar NE, Albuquerque., NM 87110  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Membership \$25 per annum (hard copy newsletter), or \$15 per annum (online newsletter).

**The NMSR e-mail list is fun! It's an e-mail list with news announcements of interest to NMSR members, discussions about news of the times, and more. To join, send a request to [nmsrdave@swcp.com](mailto:nmsrdave@swcp.com).**

Thanks to: John Covan, Eddy Jacobs, Debbie Thomas, Keith Thomas, and all our Puzzlers!


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IN THIS ISSUE:  
 Future Meetings  
 Announced  
 New Puzzles!  
 March Meeting - Atlantis  
 Eratosthenes Redo  
 Skeptiverse Haiku

John Covan  
 on  
 RISK  
 Weds. April 10  
 7:00 PM