



NMSR Reports

The Newsletter of the
New Mexicans for Science and Reason

NMSR Reports, David E. Thomas, Editor, 1201 N. Avenida de Chamiso Pl., Socorro, NM 87801 © 2020

DECEMBER MEETING:

NEW MEXICANS FOR SCIENCE
AND REASON will hear

Ben Radford

on his new book, “**Big - If
True: Adventures in Oddity**”

=>December 9th,2020 7:00PM<=

=>Attend online!<=

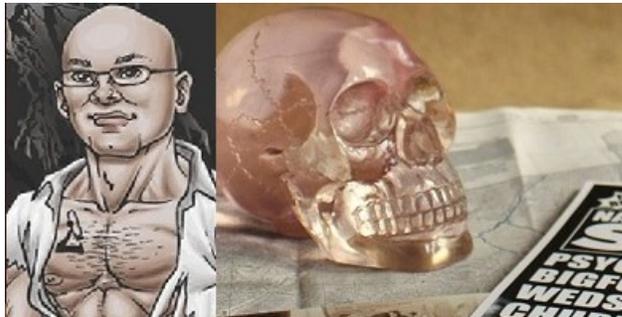
FUTURE MEETINGS ANNOUNCED!

Our December speaker is Ben Radford, a freelance science writer at Discovery News, and a Research Fellow and investigator at the Committee for Skeptical Inquiry. Ben will discuss his new book, "Big - If True: Adventures in Oddity.



This is a collection of Skeptical Inquirer magazine articles by Radford, a local folklorist and paranormal researcher. It's divided into four sections: Legends, Monsters, Ghosts, and Mysterious Powers and Places. The book draws on two decades of research and separates fact

from fiction. Big-If True examines dozens of mysteries, including Bigfoot, reincarnation, chupacabras, Icelandic elves, conspiracy theories, UFOs, miracles, the terrifying Goat-Man, crop circles, subliminal advertising, sea serpents, wandering trees, medical mysteries, and hypnotist thieves – plus a 1990 Elvis sighting.



Because of the ongoing Corona virus crisis, this meeting will be held online, and members can attend from their homes or offices. It will be hosted on Zoom. A Zoom Link will be sent out to all members and potential attendees before the meeting. To get added to the attendee list, simply email nmsrdave@swcp.com.

Tune in at **7:00 PM December 9th, 2020,**
On Line!



Future NMSR Meeting,
TBD. Keith Matzen of
Sandia National
Laboratories, on "High
Energy Density Science
with Pulsed Power --From
Fundamental Science to National Security
Applications" Location and Date **TBD**.

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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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
- **Alan Hale**
Southwest Institute for Space Research
- **Randy Thornhill**
Professor of Biology, UNM

Cyber-Cypher Clue: V = K, Z = G.

Bonus Puzzle Clue: Show $a+a^2+a^3+\dots \rightarrow a/(1-a)$ for $a < 1$. Also, try dividing $1/555\dots5$ by 180, and look for a pattern.

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 **ONLINE, Dec. 9th 7PM!**

Zoom Meeting info will be emailed out, ask nmsrdave@swcp.com for a copy.

PUZZLE TIME!

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

Cyber-Cypher: DECEMBER PUZZLE

(Submitted by Dave Thomas, quote courtesy Mike Arms)

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.

```
" P D N O N   B C   W H   X N N V   W H O   U L E
W H O   D H I O   X D N W   P E O L W W E   Y L E
W H P           N W P N O           I J H W           P D B C
G H I W P O E ,   B A   P D N   J N H J M N
M H C N   P D N B O   O H I Z D W N C C   L W U
C J B O B P   H A   U N A B L W G N . "   -
X L M P   X D B P Y L W
```

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

NOVEMBER CYPHER SOLUTION

"WHEN THE SEVERITY OF THE LAW IS TO BE SOFTENED, LET PITY, NOT BRIBES, BE THE MOTIVE." - SPANISH WRITER MIGUEL DE CERVANTES

Esteemed November Code Crackers: Terry Lauritsen*, Mike Arms*, and Austin Moede*!

*Secret Word: "UNBRIDLE SWAMP FOG"

SOCORRO STUMPER

Need more Secret Word Cryptograms?

New puzzles every week at

www.nmsr.org/SocorroStumper.htm



December Bonus: “A π and 5 Surprise”

Suggested by Ben Sparks / Numberphile

Consider a small number x that is 1 over n 5s; for example, if $n = 3$, the number x is $1/555$.

The December Bonus: Show that the sine of x , evaluated in *degrees*, is approximately $\sin_d(x) = \pi / 10^{2+n}$.

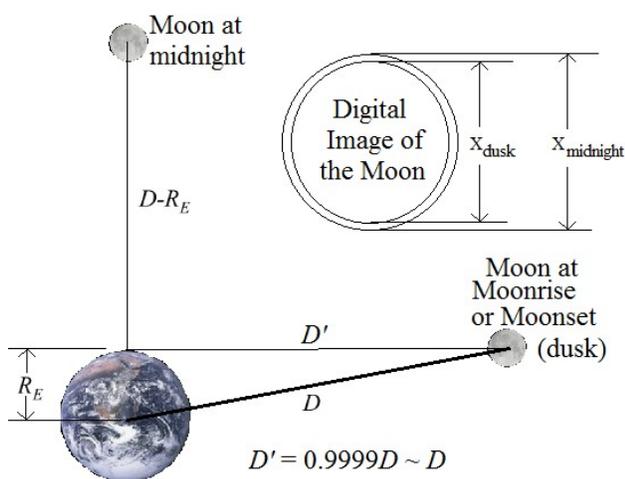
Extra Bonus: Show that the result becomes more accurate as n is increased:

$$[10^{2+n} \sin_d(x) - \pi] \rightarrow \pi / 10^n.$$

November Bonus Solution: “How Far the Moon”

Submitted by Dave Thomas

As this diagram shows, a person viewing the full moon at midnight sees the moon slightly *larger* than if it was viewed just after rising (dawn) or just before setting (dusk). This is because the moon over the horizon is about the radius of the earth farther from the viewer than is the overhead full moon at midnight.



The November Bonus: Two images of the full moon (one taken at midnight, one at dusk) have been obtained from a digital camera, with the exact same focal length and zoom settings.

If the diameter of the digital image of the full moon at midnight is 2536 pixels, and that of the moon at dusk is 40 pixels smaller, what is the distance to the moon, as a multiple of the radius of the Earth, R_E ? How does this compare to the actual value? (There is some inaccuracy in measuring diameters from the photos). [*Based on a true story.*]

Answer: Let $K = 2536/2496 \sim 1.016$, then $D \sim K/(K-1)R_E = \text{Earth-Moon distance} \sim 63.4 \text{ Earth radii}$, within 5% of actual [60.3 Earth radii].

Congrats: Earl Dombroski (NM), Keith Gilbert (NM)!

November 11th, 2020 NMSR Meeting: Nicholas Lamar Soutter will hold forth on “The Election, the Future of Science, and More!”

Our November 11th, 2020 meeting featured Nicholas Lamar Soutter. Nick is a writer and philosopher, and lives in Worcester, Massachusetts. His novel, The Water Thief, was awarded a Kirkus Star in 2012. Nick lives in the Boston area with his wife and two daughters. He is also host of YouTube news and commentary channel "[In Time](#)".



Nick talked for a bit about Massachusetts, its liberal leanings, and its “masshole” drivers’ reluctance to merge. Nick’s whole family got infected with coronavirus in the spring. His daughters recovered in “15 minutes”, his wife in a few days, but Nick’s case laid him up for a couple of weeks. He is hopeful that President-elect Biden will handle the pandemic much better than did President Trump. The refusal of many Trump supporters to accept the results of the election came up; the head of the GSA has blocked any transition activity. The Electoral College, “faithless electors,” and the influence of state governors on electors were discussed. Secretary of State Pompeo’s statement on the present administration’s “transition to a second term” was mentioned. Was Pompeo being sarcastic during his statement? We watched it via YouTube, and Nick got the impression that Pompeo thought it would eventually resolve in Trump’s favor.

Nick said that Trump’s blatant attempt to reverse the election is scary, so much so that even V.P. Pence, with his creationist leanings (“he’s the demonic Ned Flanders”), would be preferable. While Pence might try to establish a religious caliphate, at least he appears to respect the rule of law, the legitimacy of the electoral process, “playing by the rules.” He said Trump’s recent sacking of Pentagon brass is very worrisome.

Nick thinks Pence will certify Biden, even if Trump wants him to do otherwise. Some attendees expressed reservations about giving Pence so much credit, citing the fall of the Republican Senate into a cult of power. Re the right-wing stacking of the Supreme Court, Nick said that he wished Obama had announced that Republican refusal to even give Merrick Garland a hearing was in effect consent – “*qui tacet consentire videtur*” – and declared Garland to be seated on the court.

Gerry Alldredge talked about the founders’ thoughts on the electoral college, and present gerrymandering for congressional advantages. He asked whether voting for electors by name, just as for senators and representatives, would be a more reasonable way of deciding the election than the current system of slates of electors, requiring legislative and/or gubernatorial approval. Such a system would have resulted in a clear Biden win, even with the losses of some Democratic house seats. Nick mentioned the proposal for requiring the states to pledge their electors to vote with the national popular vote, as a path for eliminating the electoral college without a constitutional amendment. Nick mentioned a Belgian election with voting irregularities, where a hand recount found a discrepancy of exactly 4,096 votes – 2 to the 12th

power. It turned out that a cosmic ray had flipped a single bit in a computer, changing the electronic count by a power of 2.

NMSR thanks Nick Soutter for a stirring discussion. Additionally, we send condolences to Nick re the unexpected passing of his father, Nicholas Benedict Soutter, on November 22nd.

Videos of past meetings are available at <http://www.nmsr.org/meetings.htm>.

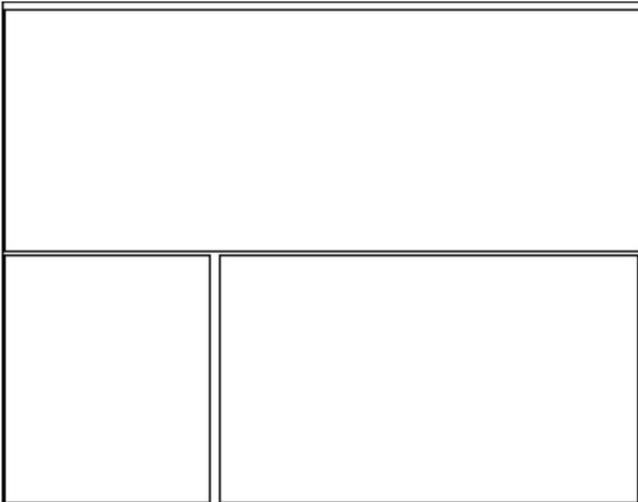
December Skeptiverse Haiku! by Keith Thomas

Today’s top rumors Are frequently falsified By tomorrow’s facts.	When, in autumn’s skies, Will next be seen/Another Blue Moon Halloween?
Your local Santa – Just a basic imposter, Or bio-tech clone?	Did your horoscope Hold forewarnings of the scope Of this year’s horrors?
Might a survey say Folks feel we have too many Pre-election polls?	December solstice. Time for our dangerous fall To come to an end!

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.

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



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December Meeting
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Online/Zoom