



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 © 2022

OCTOBER MEETING:
NEW MEXICANS FOR SCIENCE AND REASON will hear
Robert Bartholomew on
“The Myth of Havana Syndrome”
=>October 12th, 2022 7:00PM<=
=>Attend online!<=
=>RESUME LIVE MEETINGS?<=
Vote at roundorflat.com/covid19

FUTURE MEETINGS ANNOUNCED!

October 12th, 2022 NMSR Meeting:
Robert Bartholomew on “The Myth of Havana Syndrome”

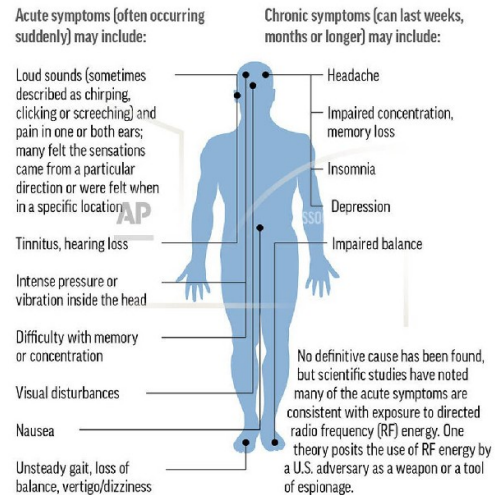


Robert Bartholomew is an American born medical sociologist, writer, journalist, and human rights advocate who is well-known for his books on social panics and outbreaks of mass hysteria throughout history. He has examined cases ranging from demonically possessed nuns during the Middle Ages to the Salem witch-hunts of 1692, to contemporary episodes involving twitching schoolgirls in LeRoy, New York to the students at a Massachusetts school who hiccupped for a year.

He will be joining us from New Zealand to discuss "How Bad Science, Bad Journalism and Bad Government Created the Myth of Havana Syndrome"

What is Havana syndrome?

The medical mystery named for the Cuban city where U.S. diplomats first experienced sudden, debilitating symptoms in 2016 has been reported by Americans serving in several other countries.



Source: National Academy of Sciences

AP

7:00 PM September 14th, 2022, on Zoom!

VOTE ON LIVE MEETINGS!

Are we ready to resume live meetings? A Live Poll has been developed at roundorflat.com/covid19. Please go to this address, enter your name, and email (optional), and your preference from the following options:



- Let's start meeting live, perhaps at CNM? (Copper Canyon not open evenings any more)
- Cases Still Climbing, Let's Stay on Zoom for now
- Other (please add suggestion in box provided)

You can also send snail mail with your preferences, to David E. Thomas, NMSR, 1201 N. Avenida de Chamiso Pl., Socorro, NM 87801.

Current Tally: Live 4, Zoom 8

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 a secure, undisclosed location. 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*,
Adjunct Professor, University of New Mexico.
- *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: U = Q.

Bonus Puzzle Clue: First, solve for the unknown ride times.

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 **October 12th at 7PM!** Meetings, Live or Zoom? Vote!



PUZZLE TIME!

[Please send solutions to Dave Thomas at: nmsrdave@swcp.com, or at 1201 N Avenida de Chamiso Pl., Socorro NM 87801.]

Cyber-Cypher: OCTOBER 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.

" H Q L M ' G G X H M Y G X O G G X J
 X H F G L P H I O W P J I L P Q
 J F G O A W H F X J F G X O G G X J
 V L E M Q J P F A J W H J Z J Q G X O G P O I J
 M J E G P O W H G B L P P O I J
 A W H M Q M J F F N O F P J U E H P J Q . " -
 Y J G O M D H A P L N M D O I Y F L M

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

SEPTEMBER CYPHER SOLUTION

"I LOVE DEADLINES. I LOVE THE WHOOSHING NOISE THEY MAKE AS THEY GO BY." - AUTHOR DOUGLAS ADAMS, IN THE SALMON OF DOUBT

Esteemed September Code Crackers: Mike Arms* and Austin Moede*!

*Secret Word: "BUSTLING WORKDAY"

SOCORRO STUMPER

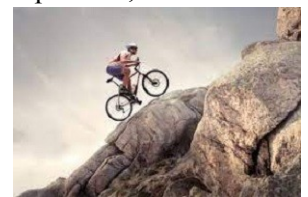
Need more Secret Word Cryptograms?

New puzzles every week at
www.nmsr.org/SocorroStumper.htm

October Bonus: "Uphill Both Ways"

Submitted by Dave Thomas

Jake was late for band practice, because he underestimated the time it would take to ride his bicycle uphill. The uphill trip from Jake's home to the practice house takes 12 minutes longer than the downhill trip back home. Jake's uphill speed is 6 mph, and his downhill speed is 10 mph.



The October Bonus: (A) How far is Jake's home from the practice house? (B) How many minutes would it take Jake to get to practice if the road was flat the whole way?

September Bonus Solution: “True, False, or Toggle”

Submitted by K. Sengupta

Andre, Bryce, and Cyrek know of a secret 2-digit number. It is known that one of them is a Truth teller, who always tells the *truth*; one of them is a Liar, who always speaks *falsely*; and one is an Alternator, who *alternates* between true and false statements,

Each one of them makes precisely 3 statements regarding the number as follows:

ANDRE:

- (1) One of the digits is 1.
- (2) The sum of the digits is 8.
- (3) Bryce's second statement is false.

BRYCE:

- (1) One of the digits is 3.
- (2) The difference of the digits is 4.
- (3) Precisely one of Cyrek's statement is true.

CYREK:

- (1) One of the digits is 6.
- (2) Andre's first statement is false.
- (3) The first digit is greater in magnitude.

The September Bonus: Determine the secret number from the above-mentioned clues. What are the types of the three men?

Answer: Secret Number: 37. Andre is the liar, Bryce is the truth-teller, and Cyrek is the Toggle.

Congrats to: Earl Dombroski (NM), Rocky S. Stone (NM), Mike Arms (NM), Harold H. Gaines (KS)

September 14th, 2022 NMSR Meeting: Prof. Kevin Folta on “Rounding Up Glyphosate Myths”

Kevin Folta is a professor of horticultural sciences and molecular biology at the University of Florida, and is a Fellow of the Committee for Skeptical Inquiry. He talked to NMSR about the controversies and myths surrounding the use of glyphosate for weed control.



Kevin thanked NMSR for prompting him to develop a talk about the controversy. In addition to describing what glyphosate is, and how it is used, Kevin also said he would discuss the role of the media in spreading anti-science myths.

Folta said he wants farmers in America and the world to be profitable, and wants them to have access to helpful agricultural tools, *and* accurate information about

their effects. He uses glyphosate on his own farm, and has researched its effects. He assured us he has never received compensation or research support from the Monsanto corporation.

Glyphosate is a non-selective herbicide, meaning it kills all plants. It was invented in the 1960's, put into use by 1974. It has a low toxicity to animals, but a high toxicity for plants. Specifically, glyphosate interferes with the EPSPS enzyme which plants need to generate some critical amino acids (tyrosine, phenylalanine, tryptophan) required for plant metabolism. Without these amino acids available to make vital proteins, the plant dies. Because animals and many bacteria do not utilize this pathway, glyphosate affects only plants.



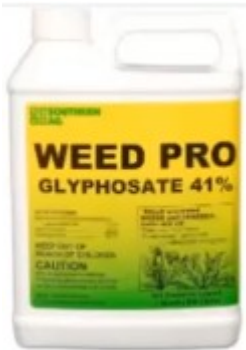
How much glyphosate would it take to harm someone? The LD50 dose (the “lethal dose” amount needed to kill half the recipients on average) is 5 grams per kilogram of body weight. An 80-kg man would have to ingest 400 grams – almost a *pound* – to have a 50-50 chance of dying. Suicide attempts by drinking glyphosate have all failed, Kevin said; the drinkers got sick, but didn't die. The EPA describes glyphosate as a Category IV substance, “practically non-toxic and non-irritating”. International regulators all agree that glyphosate is not carcinogenic or toxic to humans or animals.

Why is it useful? Weeds are a massive problem for farmers, and it's hard to control them with tilling. In the 1990s, scientists developed genetic engineering techniques that allowed them to replace the metabolic pathway affected by glyphosate with a different pathway, allowing the engineered plant to easily withstand glyphosates. This allowed farmers to easily control fields with the engineered crops, and was a great boon to economical farming. Glyphosate is always applied early in the season, allowing the crop to grow rapidly and out-compete weeds thereafter, without continual spraying required. It was a great innovation, and farmers loved it. Among the herbicide-tolerant crops developed are corn, canola, soybeans, sugar beets, alfalfa and cotton. The first four are used for oils and sugars, but not for direct eating. And, the refined products contain NO DNA. There are no glyphosate-resistant versions of popular edibles like apples and grapes, so scare stories about carcinogens in those foods are not based in any form of reality.

Besides helping farmers to combat weeds efficiently, use of glyphosate-resistant crops enables low-till/no-till farming, which helps to conserve topsoil, keeps CO₂ in the soil, and does not physically disrupt soil. There are some documented negative ecological effects; for example, aquatic environments can be adversely

affected, and local plant diversity can be adversely affected by using herbicides to clear fence lines and such. The effects are understood, and can be mitigated appropriately.

The commercial product Roundup contains glyphosate plus a surfactant. Far more economical solutions are available in bulk, such as Weed Pro (41% glyphosate). Glyphosate is present in 750 products, of which Roundup is one. The lawsuits are targeting only



Roundup; if the substance is so bad, why don't its critics go after the other 749 manufacturers?

Unlike DDT, glyphosate, if ingested, moves through the human body, and does not accumulate in organs or tissues. It can be detected in urine with very sensitive tests. In Europe half the population has glyphosate levels of about 1 Part Per Billion (PPB); in the U.S., 80% of people show a

maximum of 2 to 3 PPB. This is a minute amount, Kevin said; one PPB is like one second in 31 years. These are far below harmful levels, and it's encouraging to know science is cable of verifying such insignificant amounts. In the field, glyphosate is applied early in the season, before there is any "food" on the plants. While wheat is not a GMO plant, glyphosate can be used safely in the drying stages, which accounts for reports of "contaminated wheat."

In the last ten years, opponents of GMO have been unable to show how "bad" it is, and have adopted glyphosate as a proxy for GMO. Because it is used with certain GMO crops, and because it kills things, being a herbicide, glyphosate is represented by anti-science pundits as THE reason to oppose GMO.

The International Agency for Research on Cancer

(IARC), a branch of WHO, put out a flawed report in 2015 concluding that glyphosate is a "Class 2A Possible Carcinogen", despite a lack of evidence for this claim. However, a huge study by the Agricultural Health Study group since 1993 found no association between glyphosate and cancer. Ten years ago, a paper by G.E. Seralini and others, "Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize," showed shocking photographs of mice that been exposed to glyphosate, and had horrible tumors. What the paper omitted was that these mice were a special breed that always develops tumors, and that the "control group" left out of the paper showed similarly gruesome lesions. The paper has since been retracted by Elsevier.

A fascinating discussion followed on how this topic has been misrepresented in the media, and what we as science-supporting citizens can do about it. NMSR thanks Kevin Folta for an excellent presentation.



As usual, **videos of this and past meetings are available at** <http://www.nmsr.org/meetings.htm>.

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, and all of our Puzzlers!

October Meeting
Havana Syndrome
Weds 12th 7PM
Online/Zoom

September
Meeting - Folta
on Glyphosates

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