



NMSR Reports

The Newsletter of the
New Mexicans for Science and Reason

NMSR Reports, David E. Thomas, Editor, 801 Fitch Ave., Socorro, NM 87801 © 2017

JUNE MEETING:

NEW MEXICANS FOR SCIENCE
AND REASON WILL HEAR

BEN RADFORD

On “Was the Orlando Gay
Club Shooting Homophobia?”

==>**CNM MAIN CAMPUS,**
Student Resource Center<==

7 PM June 14th

==>**Room 204**<==

Bring a friend!

FUTURE MEETINGS ANNOUNCED

JUNE 14th, 2017 NMSR Meeting:
**Ben Radford on “Was the Orlando
Gay Club Shooting Homophobia?”**



Ben Radford, managing editor at the Skeptical Inquirer, is one of our more prolific speakers. He’s taking on a rather different topic this time, come check it out! **7 PM Wednesday June 14th, CNM Main Campus, Student Resource Center, room 204**

(@ Richard Barr Boardroom).

No NMSR Meeting in July!

NMSR is on vacation in July, and there won’t be a meeting on the 2nd Wednesday.

August 9th, 2017 NMSR Meeting:

Dr. Hillard Kaplan will discuss a recent publication, “*Coronary atherosclerosis in indigenous South American Tsimane: a cross-sectional cohort study.*” How does lifestyle affect our hearts? This will be interesting!



You are cordially invited to CESE's 20th

Annual Meeting! Come hear dynamic speaker Dr. Frank Etscorn, inventor of the Nicotine Patch.

Saturday, June 24th, 1:30 PM, at the UNM Anthropology Lecture Hall. Short business meeting to follow. FREE!



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:

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Marilyn Savitt-Kring, Science Mom

Harry Murphy, Physicist, Medical Quackery

Membership: \$20/year, includes newsletter, make your check payable to NMSR, send to treasurer (Shelton).

Newsletter available in hard-copy and downloadable PDF.

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 = B.

Bonus Puzzle Clue: Don't underestimate this one's difficulty.

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 **WEDNESDAY, JUNE 14th, 2017,** 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: JUNE 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.

" U M F O T N M Z Y N M O O W H O
 N X H C H W H Y C J ' V B I P F
 O H D D P Y ' B Z O I M C D
 O N V P I . " - H L M B D T I N C
 D I P F B Y P Z O Y N Z H A Y
 O I M C D , C H Y P N Z C H I G W
 T N M I O W N T O W B F J P H I

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

MAY CYPHER SOLUTION

"I NEVER RAN INTO A TEACHER OR A COUNSELOR WHO TOLD ME THAT SCIENCE WAS FOR BOYS. A LOT OF MY FRIENDS DID." - ASTRONAUT SALLY RIDE

Esteemed May Code Crackers: Mike Arms*, Austin Moede*, Terry Lauritsen* and Nancy Shelton*.

*Secret Word: "SUBORDINACY FLEW"

Need more Secret Word Cryptograms?

SOCORRO STUMPER

New puzzles every week at

www.nmsr.org/SocorroStumper.htm

June Bonus: “Gold for \$100, Alex”

By Philip Kaplan, “Posers”

The June Bonus: Which is worth more, a carton full of \$5 gold pieces or an identical carton half full of \$10 gold pieces?

May Bonus: “Those Quirky Quarks”

Submitted by Dave Thomas

According to the Standard Model of physics, a proton is composed of 3 quarks (two ups and one down), with a positive charge of $2/3 + 2/3 - 1/3 = 3/3 = 1$. While a neutron is likewise made of 3 quarks (one up and two downs), it has a neutral charge of $2/3 - 1/3 - 1/3 = 0/3 = 0$.

The May Bonus: The combined masses of the three quarks of a proton or neutron constitute what percentage of the rest mass of that proton or neutron?

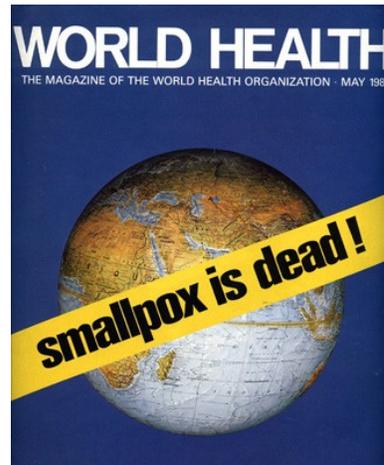
- (A) 1%
- (B) 50%
- (C) 97%
- (D) 110%

ANSWER: (A) Congrats: Rocky S. Stone (NM)! Rocky has made a sound file of the comparison, check it out at <http://www.nmsr.org/Scales.mp3>

May 10th, 2017 NMSR Meeting: Alan Zelicoff on “Discovery and analysis of a long-hidden Soviet biological weapons accident: Lessons for modern day bioterrorism and preparedness”



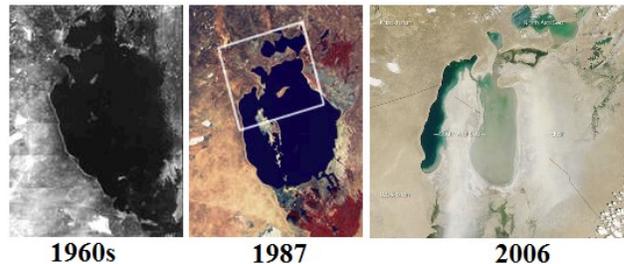
Alan began by saying he would be discussing evidence of a particularly worrisome biological weapons program. Back in the 1960s, both the Soviet Union and the United States were working on secret bioweapons programs. Bacterial anthrax was considered the “perfect” biological weapon organism; it is easy to make and store, is lethal in small amounts, and is generally untreatable. It is not passed on from person to person, unlike viral diseases like measles or smallpox. Smallpox has a small “Reproductive Ratio” ($R_0 = 5$ to 7), meaning that its victims are often bedridden or incapacitated, and not able to pass the disease on. Measles, in contrast, does not drop victims like smallpox ($R_0 = 12$ to 18). Zelicoff showed that the percentage of the population



that needs to be vaccinated for a given disease to be prevented by “herd immunity” is $1 - 1/R_0$. For Measles, the percentage is 83-94%, which is a large ratio that indicates susceptibility to outbreaks. Smallpox, on the other hand, has a percentage on the order of 80-85%, which is low enough

for the total eradication of smallpox in the global community. And the world did eradicate smallpox, almost completely (but not quite) by 1980.

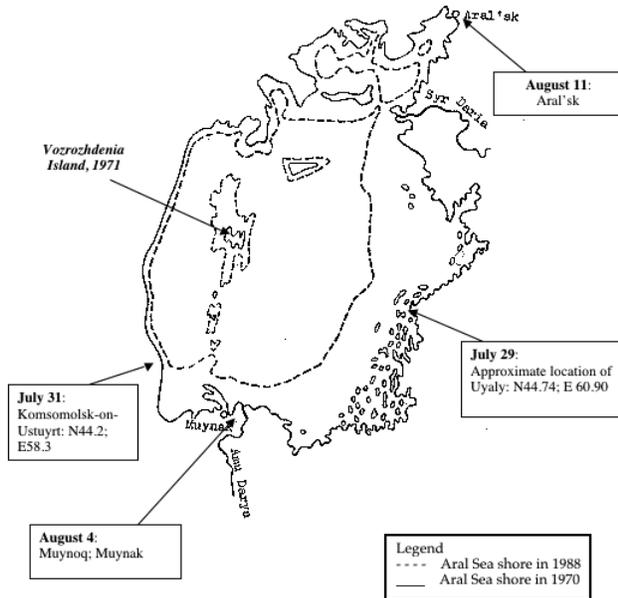
While the U.S. did destroy its smallpox strains (Zelicoff thinks we should have retained some to develop vaccines), it has become clear over the years that the Soviet Union was experimenting with smallpox bioweapons, even after the disease had been mostly eradicated. Alan related an alarming tale centered around the now-dried-out Aral Sea, once one of the world’s largest lakes. Because its sources were diverted for irrigation, the loss of the Aral Sea is regarded as one of the worst environmental disasters ever.



Before it dried up, however, scientists were studying the doomed lake in ships like the Lev Berg. On August 6th, 1971, a female scientist on the Lev Berg (Bayan Bisenova) developed a fever, while the ship was on the eastern side of the Aral Sea.

A week or so after she went home days later, her brother developed similar symptoms. A week or so after that, more victims appeared (including the brother’s teacher). Once it was realized that these people were suffering from smallpox, a large vaccination program was able to stop the outbreak, but not before 10 people had contracted the disease (three victims died). Zelicoff showed how reports obtained from the former USSR indicated that Aral’s Vozrozhdenia Island was a biological weapons testing site, and that they were testing

weaponized smallpox aerosols in the late summer of 1971. A ship some 40 km away sailed through the downwind plume, and a smallpox outbreak began. Alan is disappointed that the Russian government has never come clean about this.



Zelicoff also talked about vaccines in general, Jenner’s work with cowpox and smallpox, and so forth. If a worldwide epidemic of smallpox occurs, he said, we would be hard pressed to vaccinate everyone. If things get really dire, we can employ the old technique of “variolation”, in which tissues from a patient or a recently variolated individual are rubbed into



mild scratches on new people; a mild, yet protective infection, can be the result.

Zelicoff had a parting observation. If you look at the Aral Sea in Google Maps, you might find a picture titled “Ship waiting for water in Aral’sk.” That ship is the Lev Berg. (Cue Twilight Zone music).

NMSR thanks Alan Zelicoff for a riveting presentation.

Summer Skeptiverse Haiku! by Keith Thomas, June 2017

All sorts of nonsense Is nourished with cognitive Fudging and kludging.	Darwinists should watch For evolving features of Creationism.
Climatologists Can now use cloud computing To compute our clouds.	Classical doctors Might tie Trump’s style/To excess Blood and yellow bile.
What if they replace Conventional physics with Alternative facts?	From a single nut Can grow grand and astounding Conspiracy tales!

DUES - check the date on your mailing label. If it's time for you to renew, or to make a contribution, please send a check to NANCY SHELTON, NMSR Treasurer, 11617 Snowheights NE, Albuquerque, NM 87112
Name _____
Address _____
Membership \$20 per annum*
On the Net? Ask for the Paperless NMSR Reports! Send an email to nmsrdave@swcp.com "Dave Thomas"
**For Renewals that are above the \$20 annual amount, the excess will be applied to the NMSR budget. Thanks!*

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, Nancy Shelton, Debbie Thomas, Keith Thomas and all our Puzzlers!

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Ben Radford
Orlando &
Homophobia?
Weds. June 14
7 PM
CNM SRC
Room 204

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