Who Placed a Cryptographic Algorithm of Intelligence Agency Complexity into the Ohio State Board of Election Voter Registration Database, and Why?

by

Jerome R. Corsi, Ph.D.

In a preliminary report submitted to the Ohio Secretary of State and the Ohio Attorney General on Monday, September 16, 2024, Andrew Paquette, Ph.D., has identified a complex cryptographic algorithm embedded in the voter identification numbers of three counties in the Ohio State Board of Elections voter registration that he believes were designed "for the purpose of covert data manipulation." In his 22-page heavily illustrated mathematical analysis, Paquette has found that an algorithmic scheme based on modular mathematics was employed, likely unbeknownst to Ohio State Board of Election officials, to determine the assignment of voter identification (ID) numbers in three Ohio counties: Franklin, Lucas, and Montgomery.

Paquette explained the principal question of his investigation in Ohio: "Do Ohio's voter rolls exhibit evidence of algorithmic manipulation for covert tagging or selective data obstruction? Paquette answered both questions in the affirmative. He stressed: "For this paper, the issue isn't whether 'algorithms' were used to assign or modify Ohio voter roll identification numbers. Literally, they were. The real issue is whether the algorithms used were unnecessarily complex, performed hidden or inexplicable tasks, or exhibit any unusual characteristics."

The "Modulus 8" Secret Algorithm Surreptitiously Embedded in the Ohio State Board of Election Voter Registration Database

Paquette discovered that a modular algorithm encryption scheme was embedded in the ID numbering in Franklin, Lucas, and Montgomery counties by first finding a pattern where ID numbers were incrementing unusually by "gaps" divisible by 8, such that the following ID assigned was +8 the previous, with gaps of 8, 16, and 24, such that ID number 27is incremented next to ID number 35 (+8 from 27), next to 43 (+8 from 35), next to 51 (+8 from 43), to 59 (+8 from 51). The arithmetic algorithm then assigns the following numbers in an offset from ID 59 to ID 65 (+6 from 59) before reverting to another sequence of +8 offsets. Originally, Paquette called the algorithm the "octagon" before realizing he was dealing with modular arithmetic—a realization that caused Paquette to relabel the algorithm "Modulus 8."

Modulus arithmetic, developed by Carl Friedrich Gauss in his 1801 book *Disquisitiones Arithmeticae*, is "a system for integers, where numbers "wrap around, when reaching a certain value, called the modulus." Modulus algorithms are commonly used by professional cryptographers, useful in creating renumbering schemes employing well-known codes such as the Ceasar cipher (a cipher Piquette has also separately identified as utilized in the cryptographic code embedded surreptitiously into the New York Board of Elections voter registration database).

In his continuing study of algorithms secretly embedded in what appears to be a large number of the state board of election official voter registration database, Paquette has identified what appear to be encryption schemes of intelligence agency complexity that resemble well-known

algorithmic ciphers known to those who mark cards to stack the deck in favor of the house. In classic card marking cryptography, the first step involves shuffling the deck of cards. The point is that marked cards cannot be inserted into a fresh deck delivered from the manufacturer. Manufacturer's cards come in boxes wrapped in cellophane, arranged from the highest card in the highest suit to the lowest card in the lowest suit. Marked cards inserted into a fresh deck from the manufacturer would be easily recognized as cards out of order. By shuffling the deck, the cards appear in random order—perfectly arranged to hide the placement of marked cards.

The natural order of assigning voter IDs involves making the voter ID number a function of the registration date. The chronological order would be sequenced by one for each subsequent voter registrant and each subsequent voter ID. In Franklin, Lucas, and Montgomery Counties in Ohio, "Modulus 8" assigns voter ID numbers without regard to registration date. In New York, Paquette discovered another numbering scheme involving 'repunits'—strings of '1' such as 1, 11, 111, 1,111, 11,111. This scheme allows for incrementing from one ID to the next using these repunit values. As a result, voter records not in chronological order of registration date can be inserted between voter records that are in chronological sequence. This reordering scheme is similar to shuffling the deck of cards in that "voter records" for "non-existent" voters can be inserted into the Ohio State Board of Election voter ID list without being obvious. The whole point of the algorithmic alteration of the Ohio State Board of Election voter ID list in Franklin, Lucas, and Montgomery Counties in Ohio is to get legitimate state voter ID numbers for "non-existent voters."

The next step criminals encoding a state board of election voter registration database accomplish is to hide these "non-existent voters" into the voter registration list with secret locations (Algorithm Location IDs) known only to the criminals. These "non-existent voters" can be activated to request mail-in ballots as needed. When the mail-in ballots are run through counting machines, the voter ID number on the outside page matches the legitimate voter ID number assigned to the "non-existent voter" such that the vote is certifiable because the ID numbers match, even though the voter is fictitious. In other words, the entire point of criminally encrypting a state board of elections voter registration list is to obtain legitimate state voter IDs for voters whose records the criminals have fabricated and hidden within the database.

That the "Modulus 8" algorithm is both complex, foreign to natural numbering and record sequence schemes, and applied with intelligent design to create "hidden attributes" Paquette makes clear in the following paragraph:

> Lucas County utilizes the Mod values differently. In Lucas, groups of numbers are organized by Mod. For instance, CID numbers 168 through 1,038,968 (n=8,784) are all Mod 0. The next 70,411 records are not grouped by Mod. After that, the next 13 groups (n=49,238) each use the same Mod, in this order: 5, 0, 4, 3, 5, 0, 3, 0, 1, 4, 6, 3, 0. In this way, Lucas County has effectively created a way to mark these records as distinct from others. This is called a hidden attribute. In this case, the hidden attribute is both the Mod value and the fact that the numbers are clustered into groups based on Mod.

Suspicious Voter Anomalies in the Ohio State Board of Election Voter Registration List

Secondarily, Paquette sought to learn "whether there is a sufficient number of suspicious records to make using such an algorithm worthwhile." Again, he answered in the affirmative. Paquette's study began with a version of the Ohio Voter rolls generated shortly after 10/29/2020; another version was downloaded on 8/22/2024 to analyze the most current data. The 2020 database contains 8,071,294 records. The 2024 database includes 7,995,785 records. The reduced number of records in the more recent database likely reflects Ohio's recent efforts to purge its rolls of inactive or disqualified voters.

Paquette noted that the 2020 and 2024 Ohio databases lack purged records. The 2024 database uses "Active" and "Confirmation" for status designations. Notably, in this context, the "confirmation" status doesn't equate to "purged" status in New York, as individuals with confirmation status can still vote. This situation complicates algorithm analysis, suggesting that ineligible records are entirely removed from the database rather than being marked as purged. Paquette commented that this methodology "is likely to create large gaps in the data that can impair discovery or understanding of algorithms used to assign voter ID numbers.'

He detailed the following irregularities in the Ohio State Board of Election voter registration database:

- **Clones:** 15,061 (2020 DB) and 15,720 (2024 DB)
  "This is the total number of records with matching first/last names and birthdates. Some will be coincidental matches of the same common name and birthdate, but these are typically very small in number. In a state of Ohio's size, we would conservatively expect no more than 500 such matches, representing 250 unique name/birthdate pairs.

  "The actual number of records identified as possible clones is much larger than the expectation for coincidence, leading to the likelihood that the majority are genuine cloned records. The number of unique name/birthdate pairs is about 7,500, which is enough to determine the outcome of close elections.

  "The query used to identify the Ohio records is identical to the query described in New York election law to identify potential duplicate registration applications. In New York, the query found almost 1.5 million cloned records. The difference between the numbers found in Ohio and New York can be partially explained by the lack of purged records in Ohio's system. Nearly one-third of all records in NY are purged, thus increasing the size of the pool of records available for search."

- **Fictitious registration date, 1/1/1900: 68,983** (January 1st registration dates, regardless of year is 221,210 records)
  "This date is a well-known stand-in for an unknown registration date. Several states admit that dates like these (January 1st in even-numbered years in the remote past) are false. This seems to deal with the problem of unknown dates, yet it introduces false information into the database and is not consistent with competent database administration. Records like these should be corrected or deleted. Data validation tools would prevent a registration with a date like this from being made.

"This false registration date can have a meaningful impact on election integrity because it is impossible to determine whether the voter was legally registered to vote at the time he cast votes in any prior election."

- **Missing Registration Date: 70,235**
  "A missing registration date is material because it is impossible to determine whether the voter was qualified to vote in any given previous election. Missing a registration date makes the record incomplete, and incomplete records should not be processed.

  "Any off-the-shelf database program would prevent this type of entry by using data validation. It would also be able to highlight existing records that have date conflicts."

- **Registration spike in 2020**
  "It is normal for registration numbers to spike in presidential election years. However, some spikes are so large that they merit investigation. In Ohio state, there were 877,292 new registrations in 2020. This spike is 10.87% of all registrations for all years combined. The nine years comprised of 2012-2020 account for 50.84% of all registrations.

  "In 2020, 19.39% of all Cuyahoga County registrations were created. In the nine years from 2012-2020, 73.38% of all registrations were generated, which means that the preceding 111 years are responsible for less than 27% of Cuyahoga's total. This recent increase does not take into account deleted records over time, but these numbers remain large regardless.

  "These statistics are interesting though not illegal on their face. They may simply reflect that Cuyahoga had the most successful voter registration campaign in Ohio history. Or, as in New York, it may reflect the introduction of many false records in that year."

The Ohio Board of Election does not disclose any program that may exist to verify "voter registration harvesting" in Cuyahoga County or with regard to mail-in votes. What appears absent is an effort to conduct "field surveying" to send election officials into the field make sure that voters in Cuyahoga County (or anywhere else in Ohio) or concerning mail-in votes are actual persons, with legitimate addresses, i.e., that they are actual citizens of Ohio of voting age, or otherwise have a legal right to vote in Ohio. Given the extensive "vote harvesting" conducted in Cuyahoga County, there may have been no necessity to deploy "Modulus 8" if the goal were to get a large number of "non-existent persons" (i.e., including here persons with no legitimate right to vote) a legitimate Ohio voter ID issued by the Ohio State Board of Elections.

The point is that "non-existent voters" with legitimate Ohio state voter IDs (conferred by hiding "non-existent voters" into the Ohio State voter registration list through the use of the "Modulus 8" algorithm) or through "vote harvesting" of "non-existent persons" could be selected by the criminals encrypting the Ohio State Board of Elections voter registration list to get votes by "non-existent persons" certified sufficiently to be counted as legitimate votes, even in a recount.

Paquette concluded that the existence of the "Modulus 8" algorithm leads to the following findings:

- The existence of an unusual, unnecessarily complex voter ID system has been found in three populous Ohio counties
- The purpose of this system is questionable given its complexity and limited implementation
- A thorough investigation into the system's design, implementation, and current use is warranted
- The potential for this system to be used for voter data manipulation exists
- Weighed against other possibilities, a plausible explanation is that the algorithms used to create CID numbers in Franklin, Lucas, and Montgomery were designed for the purpose of covert data manipulation

Under the Help America Vote Act (2002) requirements, embedding a secret cryptographic algorithm into a state board of election voter registration database is prima facie evidence of criminal activity. For this reason, we have reported the existence of the "Modulus 8" algorithm to the Ohio Secretary of State and the Ohio Attorney General. We have no idea who placed the "Modulus 8" algorithm in the database or why. At this point, we are seeking discovery. We are concerned that a corrupted state board of election voter registration database cannot be used to certify an election, any more than a casino proven to be using marked cards at the "21" table cannot confirm any given person actually "lost" any given game of Blackjack.

Dr. Paquette has proven that similar cryptographic algorithms have been placed in other state boards of election databases. Ohio is not the only example in which the secret algorithms have been applied selectively, i.e., in some counties and not others. Many Ohio counties are rural, relatively small, and filled with disproportionate numbers of conservative voters, such that a sizeable mail-in vote for the Democrats in 2024 would be inherently suspicious.

Franklin County includes Columbus; Lucas County includes Toledo; Montgomery County includes Dayton; Cuyahoga County includes Cleveland, Ohio's largest city. The other major cities in Ohio include Akron, Canton, and Youngstown. Democratic voters in Ohio tend to be in the metropolitan areas of a largely rural, Republican state.

Please go to God'sFiveStones.com. This is the 501(c)3 we have created to educate voters on voter integrity issues to review complete information about algorithms being placed in the state board of election websites, and in particular, regarding Dr. Paquette's analysis of New York and Ohio.