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# New Data Raise Further Doubt on Official View of August 21 Gas Attack in Syria

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President Barack Obama speaks to reporters about possible US action against Syria during a meeting with the leaders of Latvia, Estonia and Lithuania at the White House in Washington, August 30, 2013. Obama said he was considering a "limited" attack and Secretary of State John Kerry earlier declared there was "clear" and "compelling" evidence that the Syrian government had used poison gas against its citizens. (Photo: Christopher Gregory / The New York Times)

Eight months after an August 21 attack in the Damascus suburbs, the assumption that it was a Syrian government-sponsored attack continues to dominate discussion of the issue. But significant new information has become available that makes an attack by opposition forces far more plausible than appeared to be the case in the first weeks after the event.

Seymour Hersh's revelation in an early April article in the *London Review of Books*that the Defense Intelligence Agency (DIA) had collected intelligence on a Jabhat al-Nusra cell working on a sarin weapons capability was far from being definitive evidence of a plot by jihadist groups to mount a false-flag sarin attack.

But the totality of the new information has eliminated or cast doubt on the major arguments that were advanced by the Obama administration and others in the aftermath as to why the attack must have been carried out by the Syrian regime. The new information suggests a much less lethal attack with munitions that were less effective and perhaps even using much less sarin than was initially assumed.

**The "Smoking Guns" That Failed**

The debate over the August 21 attacks has focused primarily on a series of assertions about "smoking guns" that allegedly proved Syrian government guilt. The first – and best known – of those "smoking guns" was the generally accepted belief that the rockets said to have delivered the sarin must have originated in a government-controlled area. The United Nations investigating team's initial report, issued on September 16, gauged the angle of one rocket's impact in Zamalka and its arc without reporting explicitly on its launch point. But Human Rights Watch immediately showed that the trajectory led to the Syrian Army Republican Guard 106th Brigade's Base 9.6 km away. And it calculated that the UN report's bearings for two other impact points in Moamadiyah showed trajectories ending in the same Syrian army base.

Those calculations depended on the assumption that the ranges of the rockets in question were more than 9 kilometers. But within weeks, a rocket specialist blogger at the website

Who Attacked Ghouta, going by the name "Sasa Wawa," had concluded that the maximum range of the rockets that hit Zamalka was 2.5 kilometers. And former UN weapons inspector Richard Lloyd and weapons analyst Theodore A. Postol of MIT determined that the maximum range of the previously unknown rockets that landed in Zamalka would have been 2 kilometers or 1.2 miles. In his press conference on the release of the second UN investigation report in December, the head of the UN investigating team, Ake Sellstrom, agreed that the estimate of 2 kilometers "could be a fair guess" for the maximum range of the rockets.

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Blogger Eliot Higgins – better known as "Brown Moses" – who has achieved the status of favorite news media source on munitions issues in Syria, has argued in recent months that the rockets must have been fired from in or near the Jobar-Qaboun industrial zone, wedged in between Jobar and Qabun neighborhoods, which is between 2.2. and 2.5 km from the farthest impact points in Zamalka, over which he claimed the government had control. Still later, Higgins pinpointed an area near the cloverleaf east of that zone over which, he said, government had exercised control through a series of checkpoints.

But apart from the fact that those sites are all farther away from the impact sites than current research supports, the Higgins argument suffers from an additional problem: Charles Wood, a Perth, Australia-based forensic expert who has studied the military situation in that area at the time of the August 21 attack, told Inter Press Service (IPS) that, far from being government-controlled, the entire area in and around the industrial zone was actually thoroughly infiltrated by the rebels through tunnels they had built into the area. Based on videos posted by the rebels themselves, Wood said the rebels had fought off a government attack on a position in the area pinpointed by Higgins on August 21. He also pointed out that, three days later, the insurgents carried out a chemical IED attack against one of the government checkpoints very near the open field from which Higgins says the attack was launched.

The rocket found in Moadamiyah on the morning of August 21 was a BM-14 440 mm rocket manufactured in the Soviet Union in the 1960s. UN inspectors were taken to the scene where the BM-14 rocket hit and were told that it had killed everyone in an adjoining apartment. The BM-14 rocket was known to have a range of 9.8 km, so it was certainly capable of delivering an attack from the army base to Moadamiyah.

There is very serious question, however, whether that rocket actually held sarin. Of five swipes taken in the bedroom where an entire family was said to have perished in the attack, only one showed any trace of sarin or byproducts in the lab results from one of the labs, and none of them registered any trace of sarin or byproducts in the other laboratory's test results. There were traces of sarin found on various items, including metal fragments sampled outside the building near the impact point. But the UN report complains about the fact that evidence had been moved and that the site may have been "manipulated."

A second "smoking gun" was the discovery of traces of a form of hexamine (hexamethylenetetramine) that can be used as a stabilizer in sarin production, in some of the samples taken at rocket impact sites. UK-based chemical weapons analyst Dan Kaszeta noticed that the official Syrian declaration of chemical weapons listed 80 tons of hexamine

and concluded that that combination of facts indicated government culpability. The head of the UN investigating team, Ake Sellstrom of Sweden, referred to the form of hexamine as being in Syria's "formula" and as "their acid scavenger" in a portion of the interview with Gwyn Winfield, the editor of CBRNe World that was not published in the February 2014 issue due to lack of space, according to Kaszeta. (CBRN stands for chemical, biological, radiological and nuclear defense.)

But further research revealed that hexamine is also used to make explosives, and a form of hexamine was found on a swipe taken from the central tube of one of the rockets – the location of the explosive in the rockets. Mark Bishop, who teaches chemistry at Monterey Peninsula College, Monterey, California and is the author of a college textbook on the subject, told Truthout he believes the presence of hexamethylenetetramine most likely means that it was an impurity formed in the making of the explosive.

The incriminating 80 tons of hexamine declared by the Syrian government to the Organization for the Prohibition of Chemical Weapons (OPCW) also turned out to have an another explanation: It is also used as a stabilizer for the form of mustard gas found in the Syrian chemical weapons arsenal.

**The rockets would not have been difficult to duplicate.**

The main argument that the attack had to be launched by the Syrian government was that the government alone possessed the 330 mm rockets with a long barrel and tail fins called "Volcanos" that were found at the sites of the attack and had used such weapons before August 21. That was misleading, however: The rockets that government forces had used, from late 2012 on, had been configured for high explosives, and none of the alleged chemical attacks involved that type of rocket.

The question is whether the rebels could have copied the type of rocket that had been used by the Syrian army over the previous year and made adjustments for chemical use. Certainly, the rebels had access to the remnants of the rockets configured for high explosives and white phosphorous payloads, as well as videos showing the intact rockets.

The rockets would not have been difficult to duplicate, according to Postol and Lloyd, based on both their own personal experience and video evidence. Postol recalled in an interview with Truthout that he had personally constructed comparable devices in his own machine shop as a graduate student. Lloyd pointed out in a separate interview that videos show that the insurgents had "production lines" for rockets. "I have pictures showing 40 to 60 rockets stacked in a row, with people working on the tail assemblies," he said.

**Who Had the Capability to Make Sarin?**

After Seymour Hersh reported April 6 that DIA analysts had compiled a highly classified five-page "talking points" brief for Deputy Director David Shed in June 2013, outlining the intelligence indicating that Al Nusra had a Sarin production cell, the possibility of an opposition sarin program could not longer be dismissed out of hand.

The intelligence paper, from which Hersh was able to quote extensively, referred to intelligence reports from various agencies that Turkey- and Saudi-based "chemical facilitators" were attempting to obtain the "precursors" for sarin in quantities of tens of

kilograms, prompting speculation about plans for “large-scale production” in Syria. It cited the reported plan of al Nustra’s “emir for military manufacturing for two associates to ‘perfect a process for making sarin, then go to Syria to train others to begin large-scale production at an unidentified lab in Syria.'”

**The argument for Syrian government culpability has not been that the rebels could not make sarin, but that they would never be able to make enough of it.**

The spokesperson for the US Director of National Intelligence, James Clapper, issued what appeared to be a denial of the DIA document but was not. “No such paper was ever requested or produced by intelligence community analysts,” the spokesperson said. But Hersh had not suggested that the paper had been “requested” or “produced” by “community analysts” – a term reserved for intelligence assessments arrived by a process coordinated by the office of the DNI.

A former intelligence official told Truthout he recalls papers such as the one described by Hersh being issued by DIA. “They were called talking points papers,” he said. Such papers were used to brief not only the top officials of the agency, but the chairman of the Joint Chiefs of Staff, he said. “This one would have gone to Chairman [General Martin] Dempsey.”

The argument for Syrian government culpability has not been that the rebels could not make sarin, but that they would never be able to make enough of it. In a *Foreign Policy* magazine article by Higgins, Kaszeta compared the sarin requirements of the August 21 attack with the sarin program of the Japanese terrorist group Aum Ashinryko, which attacked the Tokyo subway system with sarin in 1995. “Even if the Aug. 21 attack is limited to the eight volcano rockets that we seem to be talking about,” said Kaszeta, “we’re looking at an industrial effort two orders of magnitude larger than the Aum Shinrikyo effort.”

But a study of the Aum Shinryko’s weapons programs, published by the pro-military think tank Center for a New American Security (CNAS), shows that the Aum Shinryko facility in which sarin was to be made was intended to be a major factory for the production of as much as 70 tons of sarin. That would have been orders of magnitude greater than the largest amount that anyone has suggested might have been used in the August 21 attack. On the other hand, the CNAS account shows that the lab actually achieved a production of 40-50 liters of sarin within roughly a year, and with a minimal staff.

Kaszeta has estimated that as much as a ton of sarin may have been used in the attack, based on an old US military manual for planning a battlefield attack to achieve sufficient casualties – an amount presumed to be beyond the capability of the Syrian opposition. Postol and Lloyd have estimated, on the other hand, that 600 liters of sarin would have been required to launch the attack on August 21, based on a total capacity of 50 liters of sarin for each rocket and a total of 12 rockets.

That estimate was based on the volume of the rockets, which can hold roughly 50 liters of liquid. Postol told Truthout he believes they must have been fully loaded, because loading them only partially could have resulted in the rockets being unstable and “tumbling,” rather than traveling their full range.

But sarin is soluble in water, and if the pH of the water is neutral (i.e., pH=7), the sarin does not break down for roughly 5.4 hours, according to a 2002 article in the journal *Critical Care*

*Medicine*. That means that each rocket could have contained as little as 5 to 10 liters of sarin mixed with 40 to 45 liters of water, thus reducing the total amount of sarin used in the attack to as little as 60 liters – the same order of magnitude of Sarin as produced by the clandestine Aum Shinryko laboratory.

**How Lethal Was the Attack?**

The use of a water solution to fill the rockets would have dramatically reduced the lethality of the attack compared with what has been widely assumed and would help explain anomalies in the data published in the UN investigation report that have puzzled chemical weapons experts. The data gathered by the UN team from a few dozen survivors showed that most of those claiming to have been most heavily exposed to sarin failed to present symptoms that would be expected from such exposure.

The UN team reported that the investigating team had asked an opposition leader to help identify a total of 80 people "who had been badly hurt but had survived." The opposition leader chose the doctors who in turn identified the patients to be interviewed. The 36 individuals ultimately selected for detailed profiles of symptoms described themselves as among the most seriously exposed to sarin. Thirty of those 36 reported rocket strikes either on or near their homes. The remaining six said they had gone to a point of impact to help those suffering from the attack.

The UN report states that the data on symptoms collected on the 36 individuals are "consistent with organophosphate intoxication." But both Kaszeta and Dr. Abbas Faroutan, who treated Iranian victims of Iraqi nerve gas attacks, have pointed to serious irregularities in the symptoms reported by these people.

Twenty-eight of the 36 victims – nearly four-fifths of the sample – said they had experienced loss of consciousness, according to the UN report. The second most frequent symptom was difficulty breathing, which was reported by 22 of the 36, followed by blurred vision, which 15 of them suffered. But only five of the 36 reported miosis, or constricted pupils.

Kaszeta explained to Truthout that miosis is the most basic and reliable indicator of nerve gas poisoning. And according to the 2002 *Critical Care Medicine* article, exposure of only 1 mg of sarin per cubic meter for as little as 3 minutes would have caused miosis. Yet it was the least prevalent symptom among these people claiming to have been very seriously exposed to sarin. Faroutan noted that the data were "not logical."

**"The objective was not to kill people, but to terrify people."**

Even stranger, seven of the 36 victims told investigators they had lost a combined total of 39 members of their immediate families killed in buildings they said were either points of impact of the rockets or only 20 meters (64 feet) away from one. Yet only one of the seven exhibited the most common symptom of exposure to sarin – the constriction of pupils – and only one reported nausea and vomiting.

The UN team found that six people who claimed high levels of exposure had no trace of sarin in their blood, but the rest all showed evidence of exposure to sarin. The fact that all but seven of them failed to exhibit the most basic sign of such exposure suggests that the amount of sarin to which they were exposed was extremely low. After comparing the data

on the 36 survivors with comparable data on survivors of the Tokyo sarin attack, Kaszeta told Truthout that the people interviewed and evaluated by the UN "didn't have serious exposure" to nerve gas.

The UN investigating team itself apparently came to a similar conclusion about the survivors who had supposedly experienced the most serious exposure to Sarin. The head of the UN Investigating team, Ake Sellstrom, appeared to suggest in a February 2014 interview with Gwyn Winfield, the editor of the CBRNe World Magazine, that many of the survivors to whom they had been steered by the opposition had merely imagined that they had been victims of sarin. "In any theater of war," he told Winfield, "people will claim they are intoxicated. We saw it in Palestine, Afghanistan and everywhere else."

The individuals claiming to have been victims of sarin were not necessarily falsifying their testimony. The symptoms they described were consistent with those associated with conventional weapons such as smoke and tear gas munitions known to be used by the Syrian military.

Another factor may also help to explain the evidence from the UN investigating team's report indicating that the August 21 attack was much less lethal than was claimed by the opposition and the Obama administration. In research that has not yet been published but that the researchers have described to Truthout, Postol and Lloyd discovered that the amount of explosive in the rocket used to disperse the sarin may have been much smaller than they had originally assumed. The resulting explosion, they concluded, would not have created the large, dense cloud of droplets in the air that would normally characterize a sarin attack. Instead, the rocket would have dispensed a puddle of sarin on the ground that would then have evaporated into a much smaller and less dense plume of sarin.

They carried out computer simulations on the ground effects of the plumes that would have been created by such a rocket. They concluded that such a plume could still be lethal, but would result in much higher numbers of people who survived than who died – contrary to the usual pattern in a sarin attack.

Because of the new information about the attack, Postol now suspects that the attack was not planned to have the highest possible level of lethality – regardless of who was responsible. "The objective was not to kill people, but to terrify people," he told Truthout. "Or it was to look as much like the Syrian government [attacking] as possible."

The UN team found evidence that the total number of victims being claimed by the opposition was also exaggerated. Sellstrom told Winfield that the figures presented to the team by hospital administrators at the two hospitals it had visited could not possibly have been accurate. "[I]t is impossible that they could have turned over that amount of people they claim they did," declared Sellstrom.

The Obama administration's use of the figure of 1,429 fatalities in the August 21 attack in its August 30 intelligence summary has always been suspect. Despite the Obama administration's claim that the figure was derived from a complicated methodology for counting bodies in videos and still pictures, the head of the independent, UK-based anti-Assad Syrian Observatory for Human Rights (SOHR), Rami Abdurrahman, told Associated Press that US officials had not consulted SOHR about the total casualty figure. Abdurrahman said US officials were "working with only one part of the opposition that is deep in propaganda".

**Capabilities vs. Motive**

What is now known about the attack makes it highly questionable that only the government side had the capability to carry out the August 21 attack. The exaggerated numbers of sarin patients admitted by hospitals, the dubious data on symptoms from those supposedly most affected, and the new evidence that the attack was much less lethal than believed at first are all consistent with a sarin attack that a determined rebel group such as Al Nusra could have carried out.

The UN team's Sellstrom was not convinced that only the regime had the capability to carry out the attack. In an interview with the Wall Street Journal, Sellstrom said he believes both sides in the conflict had the "opportunity" and the "capability" to "carry out chemical weapons attacks."

It was always easier to see the capability of the Syrian government to mount such an attack, but it was also easier to see the opposition's motive for doing so. The rebels would have benefited dramatically from US military intervention in response to an ostensible crossing of the "red line" Obama had publicly adopted in August 2012. The opposition had charged the Syrian military with using chemical weapons repeatedly beginning in December 2012, with the obvious hope of provoking a major US military response.

The only motive attributed to support the argument of the Syrian regime's guilt is that it was allegedly losing the war, especially around Damascus, and therefore used chemical weapons out of desperation. But the two-page assessment issued by the British Joint Intelligence Organisation August 29 appeared to contradict that argument. "There is no obvious political or military trigger," it said, "for regime use of Chemical War on an apparently larger scale now, particularly given the current presence of the UN investigating team."

Even more puzzling, were it the guilty party, was the Syrian regime's agreeing within 24 hours of the United Nations request to allow UN investigators to have access to the areas where it was being accused of having launched sarin attacks, thus allowing the UN to take samples for traces of sarin.

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