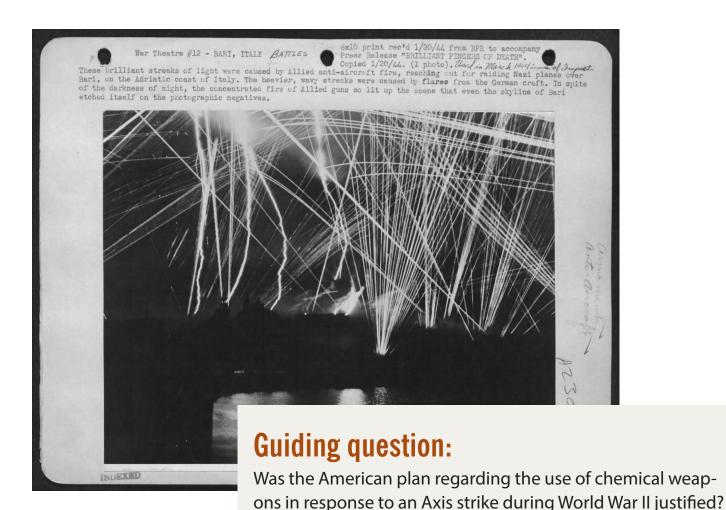


Activity: The Bari Incident: Chemical Weapons and World War II



DEVELOPED BY AMANDA REID-COSSENTINO

Grade Level(s): 9-12

Subject(s): Social Studies

Cemetery Connection: Sicily-Rome American Cemetery

Fallen Hero Connection: Corporal Robert S. Quirk







Overview

Students will utilize resources from the American Battle Monuments Commission including "How did Poison Gas Change Warfare?" and information on Sicily-Rome American Cemetery, as well as primary and secondary sources to examine the use of chemical warfare in World War II. They will review the use of gas in World War I, learn about the incident with the *John Harvey* at Bari, Italy, and complete a T-Chart illustrating pros and cons of using chemical weapons. Students will also ultimately take a personal stand on the issue in a culminating writing assessment, a letter with recommendations to President Franklin D. Roosevelt.

Historical Context

In 1943, the Allies' focus was on the Mediterranean. Bari, Italy, a town of 200,000 on the Mediterranean Sea became an important shipping port, supplying British General Bernard Montgomery's Eighth Army and American Major General Jimmy Doolittle's Fifteenth Army. American President Franklin D. Roosevelt condemned the use of gas during World War II,

"I was very interested to learn about the Chemical Warfare Service as I investigated the life of my Fallen Hero, Robert S. Quirk. In my research, I came across the terrible tragedy that unfolded at Bari Harbor, when a German air attack released mustard gas that had been secretly stowed on the SS John Harvey."

— Amanda Reid-Cossentino

Reid-Cossentino teaches at Garnet Valley High School in Glen Mills, Pennsylvania.

but consistently promised that the U.S. would respond in kind if the Germans resorted to use of chemical weapons. On December 2, 1943, 30 Allied ships were crammed stern to bow into Bari Harbor when 105 Luftwaffe planes launched a crushing surprise attack. The U.S. Liberty ship *John Harvey* caught fire and exploded, sending her secret cargo of 2,000 bombs filled with deadly mustard gas spewing into the atmosphere.

Objectives

At the conclusion of this lesson, students will be able to

- Describe historical context and details of the Bari Incident;
- Analyze the American chemical warfare policy; and
- Synthesize sources to make a written recommendation to President Roosevelt on American policy and whether or not to continue manufacturing mustard gas.

Standards Connections

Connections to Common Core

CCSS.ELA-Literacy.RH.11-12.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

CCSS.ELA-Literacy.RH.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

CCSS.ELA-Literacy.RH.11-12.9 Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Connections to C3 Framework

D2.His.1.9-12. Evaluate how historical events and developments were shaped by unique circumstances of time and place as well as broader historical contexts.

D2.His.12.9-12. Use questions generated about multiple historical sources to pursue further inquiry and investigate additional sources.

D2.His.16.9-12. Integrate evidence from multiple relevant historical sources and interpretations into a reasoned argument about the past.

D4.1.9-12. Construct arguments using precise and knowledgeable claims, with evidence from multiple sources, while acknowledging counterclaims and evidentiary weaknesses.

Documents Used ★ indicates an ABMC source

Primary Sources

Action Report of the USS *Aroostook*, December 5, 1943 (excerpt) National Archives and Records Administration

Chemical Casualties in Bari Raid, January 5, 1944 National Archives and Records Administration Franklin D. Roosevelt, Statement Warning the Axis Against Using Poison Gas, June 8, 1943 The American Presidency Project, University of California at Santa Barbara http://www.presidency.ucsb.edu/ws/?pid=16407

Franklin D. Roosevelt, Letter to the Senate on Chemicals in Warfare, August 4, 1937 The American Presidency Project, University of California at Santa Barbara http://www.presidency.ucsb.edu/ws/index.php?pid=15443

George Southern, *Poisonous Inferno: World War II Tragedy at Bari Harbour* (excerpt)

Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (Geneva Protocol), June 1925 U.S. Department of State

http://www.state.gov/t/isn/4784.htm

Stewart F. Alexander, "Final Report of Bari Mustard Casualties" (excerpt) Records of the Office of the Surgeon General National Archives and Records Administration

Stewart F. Alexander, "Toxic Gas Burns Sustained in the Bari Harbor Catastrophe" (excerpt), December 27, 1943

Records of the Office of the Surgeon General

National Archives and Records Administration

Winston Churchill, Prime Minister's personal minutes, July 6, 1944 Churchill Archive

Secondary Sources

Constance M. Pechura and David P. Rall, Editors Veterans at Risk: The Health Effects of Mustard Gas and Lewisite (excerpt), 1993

U.S. Institute of Medicine

Sicily-Rome American Cemetery Visitor Guide and Information 🛨 American Battle Monuments Commission

http://www.abmc.gov/cemeteries-memorials/europe/sicily-rome-american-cemetery#. VuJAA-ZXH7x

The Bari Explosion ★ American Battle Monuments Commission https://youtu.be/1QxknazeuT4

Materials

- Pros and Cons of Chemical Warfare Chart
- Letter to President Franklin D. Roosevelt Assessment
- Letter to President Franklin D. Roosevelt Assessment Rubric
- Computer with internet capability
- Projector and speakers

Lesson Preparation

- Print one copy of the following for each student:
 - Geneva Protocol
 - Pros and Cons of Chemical Warfare Chart
 - Letter to President Franklin D. Roosevelt Assessment
 - Letter to President Franklin D. Roosevelt Assessment Rubric
- Place students into groups of four to six students each.
- Print and assemble (or make available digitally) one Document Packet for each student group.
 The Document Packet should include the following sources:
 - Franklin Delano Roosevelt, Statement Warning the Axis Against Using Poison Gas
 - Franklin Delano Roosevelt, Letter to the Senate on Chemical Warfare
 - Stewart F. Alexander, "Toxic Gas Burns Sustained in the Bari Harbor Catastrophe"
 - Stewart F. Alexander, "Final Report of Bari Mustard Casualties"
 - Winston Churchill, Prime Minister's personal minutes, July 6, 1944
 - Action Report of the USS Aroostook
 - Chemical Casualties in Bari Raid
 - Veterans at Risk (excerpt)
 - o Poisonous Inferno (excerpt)
- Set up classroom technology.
- Test all online resources before class.

Procedure

Activity One: Introduction to Chemical Warfare (15 minutes)

- Activate prior knowledge on the use of gas in World War I by calling upon previous student knowledge and by using casualty information.
- Ask the students: What do you remember about the use of poison gas during World War I?
- Distribute a copy of the Geneva Protocol to each student to read.

- Teacher Tip: When reviewing the Geneva Protocol, be sure to note that the U.S. did not sign until 1975. During World War II, Americans were not technically bound to these demands.
- Ask students, Could this information be important when World War II rolls around? Why?

Activity Two: Chemical Warfare in World War II (45 minutes)

- Show students the video clip, *The Bari Explosion*. This clip features the Wall of the Missing with members of the *John Harvey* highlighted. The clip briefly summarizes the events of December 2, 1943. Tell students they will now learn more about this tragedy and weigh the merits of the use of chemical weapons.
- Divide students into groups of four to six students each.
- Distribute one Document Packet to each group and one Pros and Cons of Chemical Warfare Chart to each student or group (at teacher discretion).
- Ask students to generate a list of pros and cons for America's policy on chemical weapons.
- Lead a class discussion, taking student input, and construct a list of all pros and cons the students generate on the board.
- Tell students, I want you to think about all the sources you read today and make a personal decision. Imagine the front of the room is a scale or a continuum. The far left side will be for those students who think the production and use of chemical weapons in World War II was a good idea. The far right side will be for those students who think it is a terrible idea. You can be in between the two, if you are leaning one way or another. Please get up now and vote with your feet.
- Call on students from either side and the middle to explain why they chose to stand where they did, asking them what pieces of evidence were most convincing.

Assessment (50 minutes)

- Distribute one copy of the Letter to President Franklin D. Roosevelt Assessment to each student.
- Ask students to make a recommendation to President Roosevelt on whether or not the U.S. should continue to produce chemical weapons and maintain its current policy (utilizing only in retaliation). Student arguments should be supported by evidence found in the primary and secondary sources analyzed in the previous activity.
- The Letter to President Franklin D. Roosevelt Assessment Rubric can be used to score the assessment.

Methods for Extension

• Students with more interest in the role of the Chemical Warfare Service may research the role and responsibilities of members of this division.

- Students can research more modern usage of chemical weapons in warfare and explore other historical or modern events where the Geneva Protocol has been called into question.
- Students can investigate the use of Liberty Ships and the role of Merchant Marines during World War II.
- The American Battle Monuments Commission maintains U.S. military cemeteries overseas. These cemeteries are permanent memorials to the fallen, but it is important that students know the stories of those who rest here. To learn more about the stories of some of the men and women who made the ultimate sacrifice, visit www.abmceducation.org/understandingsacrifice/abmc-sites.

Adaptations

- Teachers can adapt the project to younger students or English language learners by reducing the requirements for the culminating assessment.
- The teacher may reduce the number of readings for activity two or annotate resources with helpful information to make them more easily digestible for younger students.

Pros and Cons of Chemical Warfare Chart

Should the United States maintain its World War II chemical weapons policy?

YES	NO

Letter to President Franklin D. Roosevelt Assessment

What Policy Should America Adopt Regarding Chemical Warfare?

It is January 1, 1944.

You are Henry Stimson, FDR's Secretary of War, a longtime politician and foreign policy spokesman. You have served your country previously as Herbert Hoover's Secretary of State, so you know the nuances of dealing with other nations and navigating public opinion. The president highly values your input and is looking to you for guidance at this most crucial time.

The U.S. has been entrenched in a brutal war for the past three years. Thousands of men have been lost and the end of the war is nowhere in sight. The Axis Powers have violated international law before, and the president is particularly concerned about the possibility of chemical warfare being used against the Allied military. Amidst concerns that Hitler was preparing to utilize poison gas, the U.S. authorized a shipment of mustard gas to the Italian war zone.

As you know, a mixture of bad luck, poor planning, and faulty execution led to the catastrophe at Bari Harbor on December 2, 1943. Although YOU have been briefed on the hundreds of casualties and the environmental concerns that followed the accidental release of mustard gas aboard the *John Harvey*, that information has remained highly classified. Our British allies have helped us to keep many of the details secret.

The Bari Incident has made President Roosevelt even more conflicted about the issue of chemical warfare. He is uncertain about his next move. Should the U.S. continue to prepare for the possibility of chemical warfare? Does the disaster at Bari show that the risk is too high? Should the U.S. continue the policy of only responding in kind to a German gas attack, or should the U.S. continue to utilize this weapon first in hopes of ending the war? Does the Geneva Protocol matter?

In a letter that is at least one page long, please advise the president on what YOU think America's policy should be regarding the use of chemical warfare. Answer the questions above. Please provide appropriate historical context and utilize (and cite!) at least four pieces of evidence from the assorted sources you utilized today.

Letter to President Franklin D. Roosevelt Assessment Rubric

	Advanced	Proficient	Basic	Emerging
Thesis Statement/ Stance on issue	The writer conveys a strong stance on the use of chemical weapons and articulates reasons why this stance was adopted.	The writer voices an opinion but needs to be more specific or detailed as to why.	The writer takes a side, but rationale is absent.	The writer does not take a side.
Persuasiveness of Letter and Integration of Sources to Support Analysis	Sophisticated analysis of situation. Incorporates four references to sources from the activity.	Solid analysis of the situation. Incorporates two or three references to sources from the activity. Claims could use more support.	Analysis of situation could use more attention. Incorporates one or two references to sources from the activity.	Analysis is not relevant or sources from the activity are not referenced.
Incorporation of Historical Detail	Excellent use of historical data and class materials.	Good use of class materials, but more connections could be made.	Acceptable use of class information, but ignores many opportunities to create ties.	Inaccurate use of information or lack of historical data.
Citations	All sources used are cited in text.	One or two references are missing citations.	More than two references lack citations.	Sources are not referenced.
Length/Format	Response is appropriate length (one page) and proper conventions are used.	Response is an appropriate length but proper conventions are absent or incorrect.	Response is less than three quarters of one page long.	Response is less than half a page long.

Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (Geneva Protocol), June 1925

U.S. Department of State

Before World War II the protocol was ratified by many countries, including all the great powers except the United States and Japan. When they ratified or acceded to the protocol, some nations -- including the United Kingdom, France, and the USSR -- declared that it would cease to be binding on them if their enemies, or the allies of their enemies, failed to respect the prohibitions of the protocol. Although Italy was a party to the protocol, it used poison gas in the Ethiopian war. Nevertheless, the protocol was generally observed in World War II. Referring to reports that the Axis powers were considering the use of gas, President Roosevelt said on June 8, 1943:

Use of such weapons has been outlawed by the general opinion of civilized mankind.

This country has not used them, and I hope that we never will be compelled to use them. I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.

The protocol and the convention were ratified by President Ford on January 22, 1975. The U.S. instrument of ratification of the convention was deposited on March 26, 1975, and of the protocol on April 10, 1975.

Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare

Signed at Geneva June 17, 1925
Entered into force February 8, 1928
Ratification advised by the U.S. Senate December 16, 1974
Ratified by U.S. President January 22, 1975
U.S. ratification deposited with the
Government of France April 10, 1975
Proclaimed by U.S. President April 29, 1975

Geneva Protocol cont.

The Undersigned Plenipotentiaries, in the name of their respective Governments:

Whereas the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilized world; and

Whereas the prohibition of such use has been declared in Treaties to which the majority of Powers of the World are Parties; and

To the end that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations;

Declare:

That the High Contracting Parties, so far as they are not already Parties to Treaties prohibiting such use, accept this prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves according to the terms of this declaration.

The High Contracting Parties will exert every effort to induce other States to accede to the present Protocol. Such accession will be notified to the Government of the French Republic, and by the latter to all signatory and acceding Powers, and will take effect on the date of the notification by the Government of the French Republic.

The present Protocol, of which the French and English texts are both authentic, shall be ratified as soon as possible. It shall bear todays date.

The ratifications of the present Protocol shall be addressed to the Government of the French Republic, which will at once notify the deposit of such ratification to each of the signatory and acceding Powers.

The instruments of ratification of and accession to the present Protocol will remain deposited in the archives of the Government of the French Republic.

Geneva Protocol cont.

The present Protocol will come into force for each signatory Power as from the date of deposit of its ratification, and, from that moment, each Power will be bound as regards other powers which have already deposited their ratifications.

IN WITNESS WHEREOF the Plenipotentiaries have signed the present Protocol.

DONE at Geneva in a single copy, this seventeenth day of June, One Thousand Nine Hundred and Twenty-Five.

Franklin D. Roosevelt, Statement Warning the Axis Against Using Poison Gas, June 8, 1943

The American Presidency Project, University of California at Santa Barbara

From time to time since the present war began there have been reports that one or more of the Axis powers were seriously contemplating use of poisonous or noxious gases or other inhumane devices of warfare.

I have been loath to believe that any Nation, even our present enemies, could or would be willing to loose upon mankind such terrible and inhumane weapons. However, evidence that the Axis powers are making significant preparations indicative of such an intention is being reported with increasing frequency from a variety of sources.

Use of such weapons has been outlawed by the general opinion of civilized mankind. This country has not used them, and I hope that we never will be compelled to use them. I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.

As President of the United States and as Commander in Chief of the American armed forces, I want to make clear beyond all doubt to any of our enemies contemplating a resort to such desperate and barbarous methods that acts of this nature committed against any one of the United Nations will be regarded as having been committed against the United States itself and will be treated accordingly. We promise to any perpetrators of such crimes full and swift retaliation in kind and I feel obliged now to warn the Axis armies and the Axis peoples, in Europe and in Asia, that the terrible consequences of any use of these inhumane methods on their part will be brought down swiftly and surely upon their own heads. Any use of gas by any Axis power, therefore, will immediately be followed by the fullest possible retaliation upon munition centers, seaports, and other military objectives throughout the whole extent of the territory of such Axis country.

Franklin D. Roosevelt, Letter to the Senate on Chemicals in Warfare, August 4, 1937

The American Presidency Project, University of California at Santa Barbara

To the Senate:

I return herewith, without my approval, Senate Bill 1284, entitled "An Act to change the name of the Chemical Warfare Service."

The Bill proposes to call the present Chemical Warfare Service the "Chemical Corps."

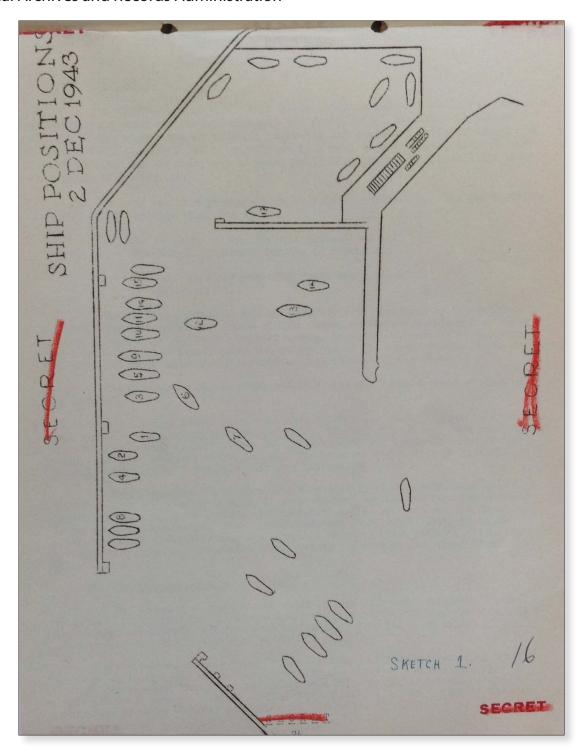
It is my thought that the major functions of the Chemical Warfare Service are those of a "Service" rather than a "Corps." It is desirable to designate as a Corps only those supply branches of the Army which are included in the line of the Army. To have changed the name to the "Chemical Service" would have been more in keeping with its functions than to designate it as the "Chemical Corps."

I have a far more important objection to this change of name. It has been and is the policy of this Government to do everything in its power to outlaw the use of chemicals in warfare. Such use is inhuman and contrary to what modern civilization should stand for.

I am doing everything in my power to discourage the use of gases and other chemicals in any war between nations. While, unfortunately, the defensive necessities of the United States call for study of the use of chemicals in warfare, I do not want the Government of the United States to do anything to aggrandize or make permanent any special bureau of the Army or the Navy engaged in these studies. I hope the time will come when the Chemical Warfare Service can be entirely abolished.

To dignify this Service by calling it the "Chemical Corps" is, in my judgment, contrary to a sound public policy.

Records of the Office of the Surgeon General National Archives and Records Administration



Records of the Office of the Surgeon General National Archives and Records Administration

6. <u>Miscellaneous</u>. Sections of stomach in 19 cases showed no significant change, but in almost all there were marked post mortem changes. No sections of small intestine were available. Sections of the heart in 15 cases, pancreas in 21, thyroid in 6, adrenal in 8, and skeletal muscle, aorta and brain in 1 each, were received. None of these showed any noteworthy changes except for the norta in which there was an unusual deposition of calcium." 5. Analysis of Deaths. There were 83 deaths that can be classified as due to mustard exposure. The deaths were distributed by day as follows: 1st day - 4 deaths 15th day - 1 deaths 16th day - 1 deaths

 2nd day
 9 deaths
 16th day
 1 deaths

 3rd day
 11 deaths
 17th day
 0 deaths

 4th day
 8 deaths
 18th day
 0 deaths

 5th day
 4 deaths
 20th day
 2 deaths

 6th day
 4 deaths
 20th day
 1 deaths

 7th day
 5 deaths
 21st day
 0 deaths

 8th day
 9 deaths
 22nd day
 0 deaths

 9th day
 9 deaths
 23rd day
 0 deaths

 10th day
 2 deaths
 25th day
 0 deaths

 12th day
 2 deaths
 26th day
 1 deaths

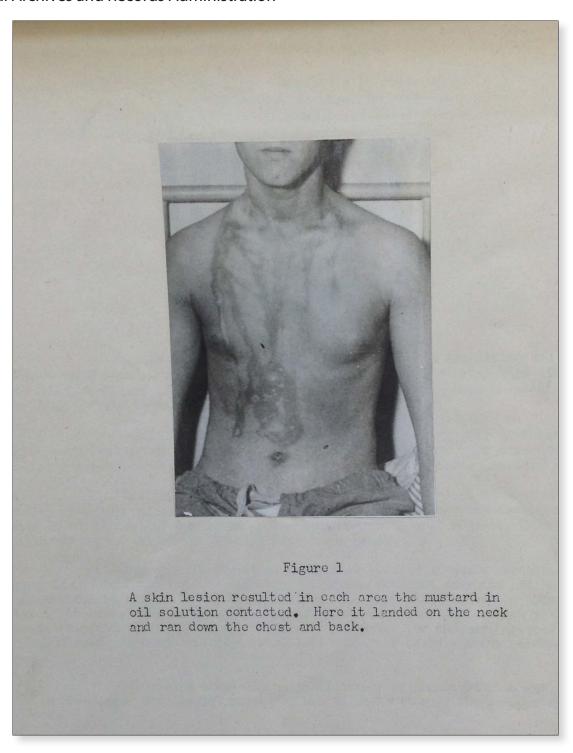
 12th day
 1 deaths
 27th day
 1 deaths

 14th day
 1 deaths
 28th day
 0 deaths

 14th day
 1 deaths
 28th day
 0 deaths

 2nd day - 9 deaths After the 28th - 2 deaths The first death occurred 18 hours after exposure. The type of early death merits special mention as it was described as most impressive by those who witnessed them. Individuals in marked hypotonia (peripheral vascular shock) would be remarkably clear mentally. Their exodus was in many cases most sudden and abrupt, and not associated with respiratory distress, dyspnoea, cynanosis, or restlessness. Despite the possibility of certain of these early deaths being considered as blast injuries, competant observers did not feel that the deaths clinically were blast deaths. There were blast injuries in Bari that night and there were blast deaths, but these have been separated in so far as is possible from the group of casualties reported herein. While there undoubtedly may have been some elements of blast in many of these cases, the significant and the fatal factor was the exposure to mustard. It is noted that there were two peak points in the death by day curve, one on the 3rd day and the second on the 9th day. The first peak was related to the acute systemic effects of the burns plus any acute systemic effects of the mustard. The 2nd peak represents the effects of secondary pneumonitis being imposed upon a toxic leucopenic patient. Eighty-eight percent of the deaths occurred within the first two weeks, and only 10 deaths occurred subsequent to the 14th day. - 22 -SECHET

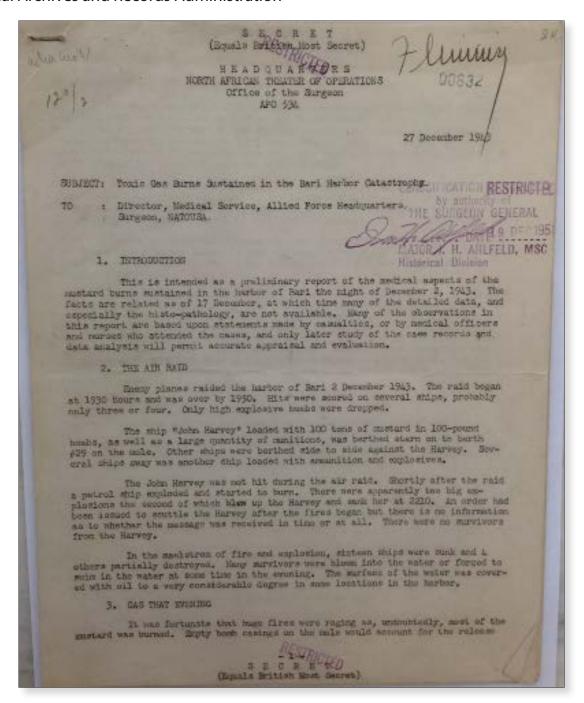
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10 Dec 43 Complains of sore throat.
11 Dec 43 Hoarse - almost complete aphonia. Cough /. Sputum /. Weak and
            breathless. Cyanosis. Chest - Respiratory excursion good. Small
            area of bronchial breathing with whispering pectoriloquy towards
            left base posterior. Few scattered moist sounds.
13 Dec 43 Condition improved. Cyanosis less marked. Cough less. Sputum
             1035-
 16 Dec 43 Half pint fresh blood given slowly. Off M&B 760. Total dosage -
             52 gms.
  18 Dec 43 General condition improved. Dressing stained with pus and
              smelling slightly. Sputum rusty. Cough easy and not distressing.
              Still has a definite patch of bronchial breathing and increased
               vocal resonance at left base posterior. Eyes slightly yellow -
               ? transient jaundice from transfusion.
   19 Dec 43 Voice hoarse. Breathing tends to be obstructed by acclimation of
               sputum in throat which he can usually cough up easily. TPR falling
                slightly.
    20 Dec 43 Throat sore. Copious frothy and mucopurulent sputum.
    24 Dec 43 Still has complete aphonia. Cough /. Sputum /. Chest left
                 posterior bronchial breathing and increased VR still present.
                 Numerous moist sounds heard all over both chests.
     29 Dec 43 ISQ (in statuo quo). No signs of burns healing. Very weak. Cough //. Sputum //. Chest - dullness with bronchial breathing
                 both bases.
      4 Jan 44 Much worse this morning. Rapid gasping respirations. Pulse
                  feeble. Chest as before. Colour - grey cyanosis. Profuse
                  purulent sputum.
                  1400 hours. Seen by Capt. Price. Very pale and dyspnoeic. No displacement of AB. Evidence of consolidation both bases.
                  Expectorating large quantities of foul smelling purulent sputum.
                  General condition very poor.
                  1800 hours semi-conscious and delirious at times. Pulse very
                  feeble and barely palpable at wrist. Moribund. Died 2230 hours.
                                            (Sgd) J. M. McInroy, Capt, RAMC.
                   No AF B.117 Rendered
                   P.M. Held and Report Attached.
                   The notes require no comment. A late "pulmonary" death. The lack of response to the usually successful therapeutic measures has been
                   noted in other cases in this series.
                                             (Sgd) A. L. d'Abreu, It.Co., RAMC.
O. i/c Surgical Division
                                 - 54 -
                                                             Colonel
                                             Commanding 98 General Hospital
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S E C E E T (Equals British Nort Secret)

of at least 2000 - 3000 pounds of mustard just above the sele.

It sooms remarkable that no general alarm of gas was released that evening, but very few survivors identified any characteristic oder. In the fire and excitement any specific oder either was not detected or escaped recognition. On direct cuestioning, some of the survivors space of commenting earlier on a "garlicky oder", some even had joked about the oder during the evening, attributing it to the quantities of garlic consumed by the Italians.

At some time in the evening, some one about the ship lyman Abbott called "Gan". The Lyman Abbott was lying in the harbor and later to be destroyed. Many of the crew put on their gas make for about a half hour. None had recognized gas themselves. Hasks were removed of their own volition.

No direct information concerning the possibilities of masterd exposure was communicated to the hespitals that evening. A resor had been heard at one hospital of this possibility, but it was authoritatively (?) denied by an unknown navel officer.

Such masterd as was not burned, either sank to the bottom of the harbor or was mixed and dissolved in the oil. It was the mixture or solution of sustand in oil that produced most of the severe casualties and deaths. The assumts of masters in the oil must have varied considerably from one part of the harbor to another. Some casualties were due to vapor alone, but the great majority, and the important ones, were those who had become covered with oil. Some became so containsted while seiming, some by the oil being thrown up against them or on to their clothes, and a few by sitting or standing in oil in life boats, or hanging from life rafts.

4. THE CASUALTIKS

More than 1000 men were killed or missing following the disaster.

More than 600 escualties were hospitalised following the raid. Of these casualties, 600 were suffering from custard exposure. Sixty-mine deaths, whelly or partly caused by sustard, had occurred as of 17 December.

5. FIRST AND THUATMENT

It must be repeated that rescue agends at the port and hespital personnel at the hespital had no idea or information that the ensualties were, or had been, exposed to mestard.

The casualties were covered with crude oil and, under the supposition that they were suffering from immersion and exposure, the casualties were wrapped in blankets and given term too. Surgical cases were given priority care and those just covered with oil were left wrapped up in blankets for as long as 12 or even 24 hours. We attempt was made to decentaminate or wish this mustard-in-oil solution from them. Oil conteminated slothing was not removed.

A few individuals, on their own initiative, cleaned all the oil from themselves promptly that might. These individuals sustained only minor burns.

S E C R E T

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SECRET (Equals British Most Secret) No anti-gas treatment was employed. Many of the cases, after several hours, appeared in good condition and were permitted to be sent to an Audiliary Scanan's Home (still clothed in their oil contaminated clothing). All cases showing shock or other injuries were given concontrated care and resuscitation. In the histle and rush of work no odors were detected, and many cases covered with oil remained wrapped in their wool blankets for many hours swelling their turn for special care. Very few of the medical attendants sustained burns, although several had irritation of the eyes, which would tend to indicate that, for the most part, the modution of musterd-in-oil was quite dilute. Cases were hospitalized in the 98th General Hospital (British), Lith Combined General Hospital (Indian), 3rd New Memland Mospital, 70th General Hespital (British), and the 86th General Hespital (Britian). 6. GENERAL DESERVATIONS The main explosion in the herber that evening was of transmissa violence. Mindow glass sower miles may was shattered, and considerable other damage done in Bari. With this in mind, it was expected by the hospitals that many blast injuries would be admitted, and cases, initially, were considered either as such or as insersion and exposure. The first indication of unusual proceedings that evening was noted in the resuscitation wards. Her were brought in supposedly suffering from shock, impersion and exposure. Palse would be imperceptible or just barely palpable, blood pressure would be down in the realm of 40 - 60 am bg, and yet the desce did not appear to be in clinical shock. There was no worrise or andoms expression or not appear to be in clinical shock. There was no worried or andous expression or restleasments, no shallow rapid respirations, and the heart action was only moderately rapid, 110 - 120, considering the condition of pulse and blood pressure. These cases did not complain of chest pain, have altered respiration, injured our drams, or blood tinged spatum as in typical blast injuries. They were rather apathetic. Upon being spoken to they could six up in had and could state that they full rather well at a time when their pulse was barely perceptible and their mentalis blood are taken to they could be as barely perceptible and their systolic blood prossure purhaps 50. A striking feature was the lack of response of the hypetonics to the usual resuscitation measures. Places infusions, at best, gave only a small and transient rise of blood pressure, and most cases showed no response to places, margith, stimulants, and morphis. Advendin gave no rise in tension, even when given as intravances infusion. Coramine gave a transient, but not significant, About dix hours after the dicaster, cases began to have eye symptoms. Patients in the bospital and enses not yet addition motes burning of the eyes and lachrymation. Lacrymation became very marked and was associated with sowers blop-herrospaces and photophobia. Within 26 hours, the eyes were smallen and the indiv-iduals complained that they were blind. There was no betual loss of vision but the (Special Printing Med Sporet)

Records of the Office of the Surgeon General National Archives and Records Administration

SECRET (Equals British Most Secret) blepherospasm was so severe that they would not open their eyes. Brythema of the skin was noted early the next sorning as it became light. Blisters were noted also about this time some 12 - 14 hours after initial exposure. It was at this time that the hospitals first were notified of the possibility of "blister gas" exposure among their casualties. Meases and wondting were present in nearly all cases upon edmission. Little information was gathered as to the character of the vanitus. The first death occurred 18 hours after exposure. Several other deaths occurred at 24 hours. There were 14 deaths within the first 48 hours. The type of early death deserves special mention as it was as dramatic as it was unprodicable. Individuals that appeared in rather good condition, care for hypotole, conjunctivitie, and skin crythone, within a natter of minutes would become meribard and die. There was no respiratory distress, marked symmetre, or restlessmess associated with their deaths. Cases that were able to talk and may they full wall, would be dead within a few minutes after speaking, and there were no prognostic signs of this possibility noted. Seem cases just repidly ment down hill, as for example: one case was pulseless but warm, and able to talk; though still with a clear sensorium - he ment was pulseless but cald; and meen his heart stopped besting. Their hearts, lungs, abdomeno, and C H S showed on or only very minimal findings at these times. They did not complain of chest pain or have any blood tinged sputum. The plotting of deaths of 54 studied cases (not enlected) showed this distribution of the time of death: 8th day - 8 deaths 9th day - 6 deaths let day - 5 deaths 2nd day - 8 deaths 10th day - 3 deaths 11th day - 3 deaths 12th day - 0 deaths 3rd day - 6 dueths Ash day - 4 deaths 5th day - 4 deaths 6th day - 3 deaths 7th day - 2 deaths 13th day - 1 death This demonstrated two peaks in the death curve, the first peak on the second to third day, and a second on the eight to minth day. Upper respiratory tract sympthemstelogy bogen to appear by the second or third day and was characterised by hearemone and moraness of the threat, especially marked on scallowing. Cough, at first, was bracey and, only later, productive of parulant spates. However, leser respiratory treet involvement was not prominent until well towards the end of the first work. Physical findings in the lungs in the patients who were to dis early were not striking as of trachual rheachi. The general apathy of the patients was mits consistent and impressive, They could be reused, but, when the external stirulus was recoved, they returned to their spatietic state. The examilians included non of at least tenlvo nationalities or ranus and the apothy was no striking in one as in the other, #4-SECHET (Equals British Nost Socret)

Winston Churchill, Prime Minister's personal minutes, July 6, 1944

Churchill Archives

10 Downing Street, Whitehall

General Ismay, for C.O.S Committee

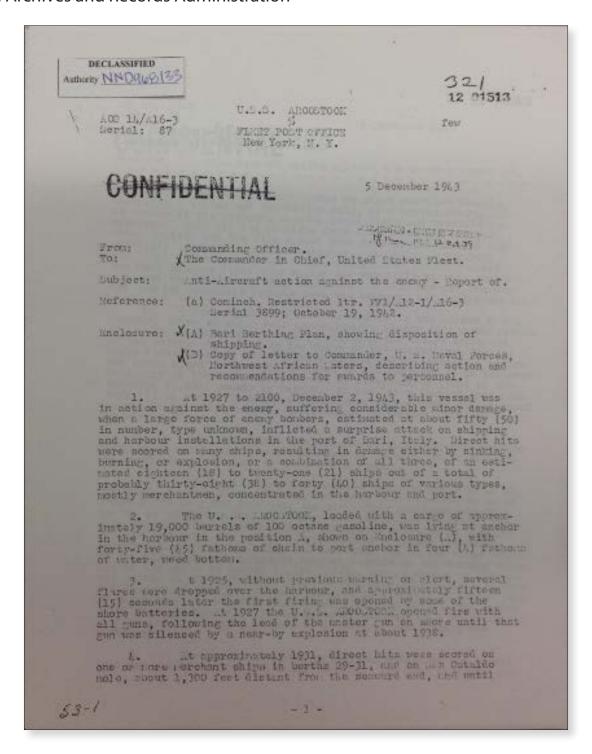
- 1. I want you to think very seriously over this question of poison gas. I would not use it unless it could be shown either that (a) it was life or death for us, or (b) that it would shorten the war by a year.
- 2. It is absurd to consider morality on this topic when everybody used it in the last war without a word of complaint from the moralists or the Church. On the other hand, in the last war bombing of open cities was regarded as forbidden. Now everybody does it as a matter of course. It is simply a question of fashion changing as she does between long and short skirts for women.
- 3. I want a cold-blooded calculation made as to how it would pay us to use poison gas, by which I mean principally mustard. We will want to gain more ground in Normandy so as not to be cooped up in a small area. We could probably deliver 20 tons to their 1 and for the sake of the 1 they would bring their bomber aircraft into the area against our superiority, thus paying a heavy toll.
- 4. Why have the Germans not used it? Not certainly out of moral scruples or affection for us. They have not used it because it does not pay them. The greatest temptation ever offered to them was the beaches of Normandy. This they could have drenched with gas greatly to the hindrance of the troops. That they thought about it is certain and that they prepared against our use of gas is also certain. But they only reason they have not used it against us is that they fear the retaliation. What is to their detriment is to our advantage.
- 5. Although one sees how unpleasant it is to receive poison gas attacks, from which nearly everyone recovers, it is useless to protest that an equal amount of H. E. will not inflict greater casualties and sufferings on troops and civilians. One really must not be bound within silly conventions of the mind whether they be those that ruled in the last war or those in reverse which rule in this.
- 6. If the bombardment of London became a serious nuisance and great rockets with farreaching and devastating effect fell on many centres of Government and labour, I should be prepared to do [underline] anything [stop underline] that would hit the enemy in a murderous place. I may certainly have to ask you to support me in using poison gas. We could drench the cities of the Ruhr and many other cities in Germany in such a way that

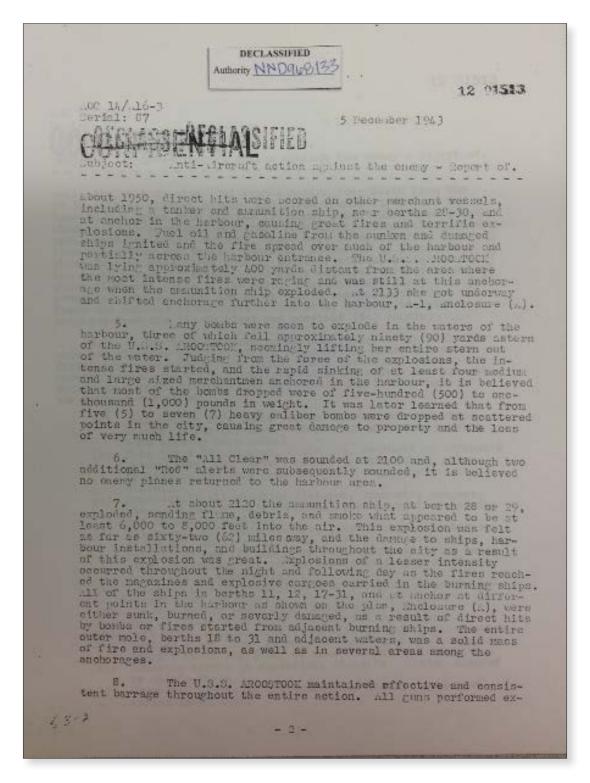
Winston Churchill, Prime Minister's personal minutes, July 6, 1944 cont.

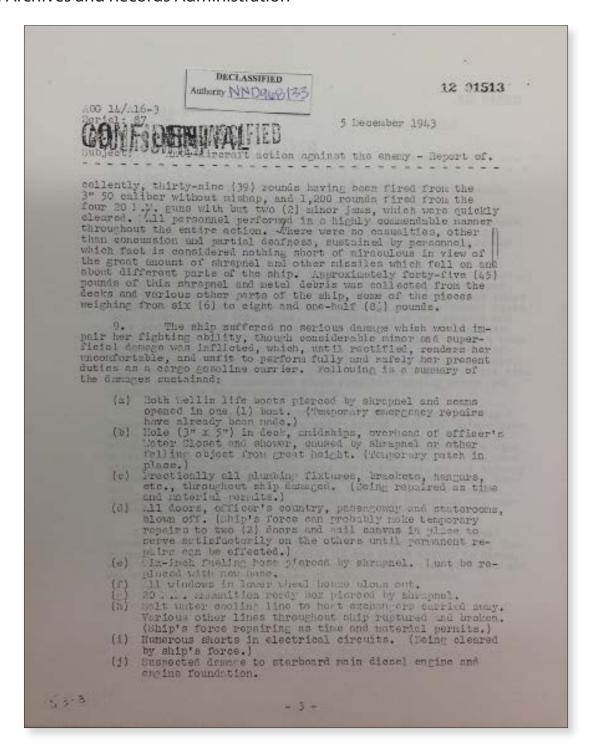
Churchill Archives

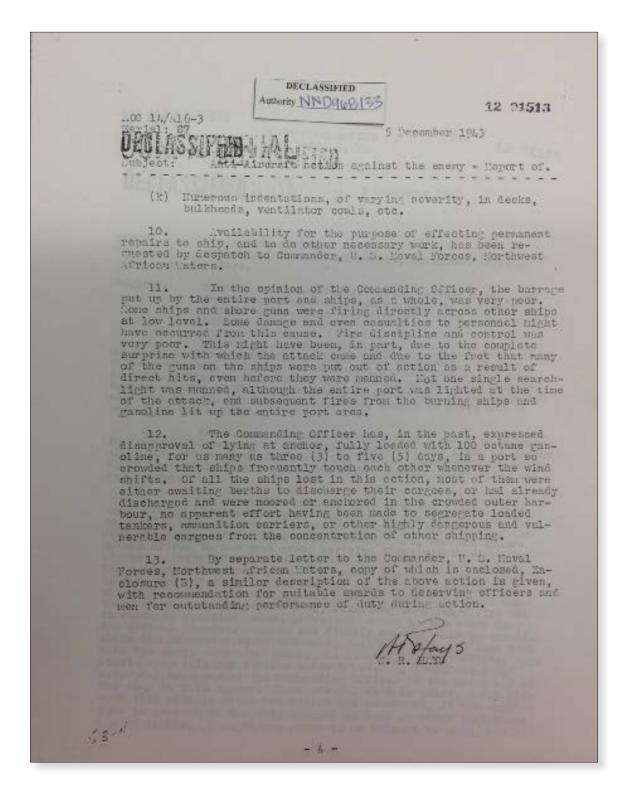
- most of the population would be requiring constant medical attention. We could stop all work at the flying bomb starting points. I do not see why we should have the disadvantages of being the gentleman while they have all the advantages of being the cad. There are times when this may be so but not now.
- 7. I quite agree that it may be several weeks or even months before I shall ask you to drench Germany with poison gas, and if we do it, let us do it one hundred per cent. In the meanwhile, I want the matter studied in cold blood by sensible people and not by that particular set of psalm-singing uniformed defeatists which one runs across now here now there. Pray address yourself to this. It is a big thing and can only be discarded for a big reason. I shall of course have to square Uncle Joe and the President; but you need not bring this into your calculations at the present time. Just try to find out what it is like on its merits.

[signed] Winston Churchill [initials] 6.7.44

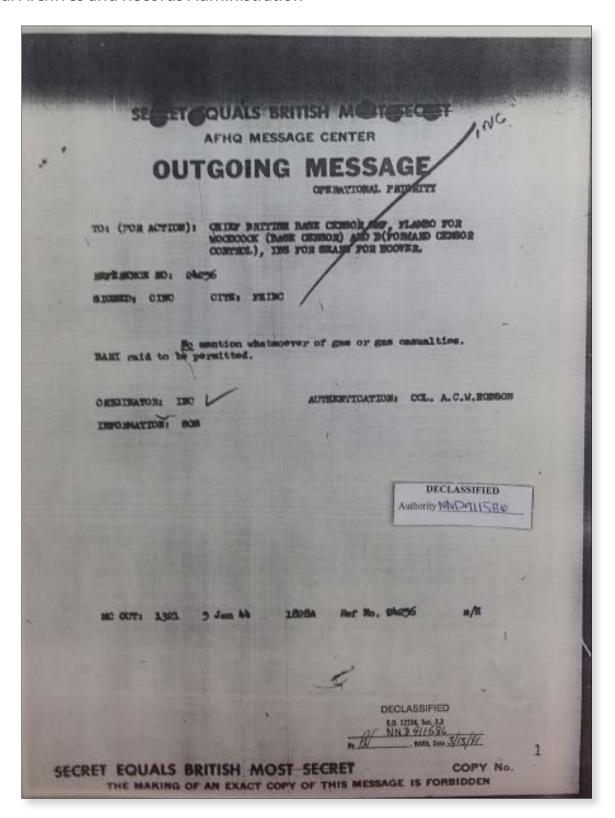








Chemical Casualties in Bari Raid, January 5, 1944



Constance M. Pechura and David P. Rall, Editors, *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite* (excerpt)

U.S. Institute of Medicine, 1993

The Bari Harbor Disaster

The only combat casualties from sulfur mustard in WWII were those injured or killed following a German air raid on the harbor of Bari, Italy, on December 2, 1943 (Alexander, 1947; Cochrane, 1946; Gage, 1946; Harris and Paxman, 1982; Infield, 1976; Perera and Thomas, 1986). Under conditions of secrecy, 2,000 bombs, each of which held 60 to 70 pounds of sulfur mustard, had been loaded on the merchant marine ship S.S. *John Harvey* before it had sailed from Baltimore to Bari. During the raid on Bari harbor, the *John Harvey* was sunk and some of its load of mustard bombs was damaged, causing liquid mustard to spill out into water already heavily contaminated with an oily slick from other damaged ships. Men who abandoned their ships for the safety of the water became covered with this oily mixture that provided an ideal solvent for sulfur mustard. The casualties were pulled from the water and sent to medical facilities unaware of what they carried with them on their clothes and skin. Equally unaware were the medical personnel who treated these casualties. Before a day passed, symptoms of mustard poisoning appeared in both the casualties and the medics. This disturbing and puzzling development was further compounded by the arrival of hundreds of civilians for treatment; they had been poisoned by a cloud of sulfur mustard vapor that blew over the city from some of the bombs that had exploded when the ship sank.

As the medical crisis worsened, little information was available about what was causing these symptoms. U.S. military command did not want to reveal to the enemy its preparations to position sulfur mustard in Europe for possible use against German forces. Eventually, however, the secret could not be kept (Harris and Paxman, 1982). The destroyer U.S.S. *Bistera*, well outside the harbor and undamaged by the raid, had pulled 30 men from the water in a rescue effort. By the next day, the officers and crew of the *Bistera* were blinded from the effects of the sulfur mustard carried onto the ship by those rescued. Bari was overloaded with casualties by then, and the *Bistera* and its crew struggled to nearby Taranto for treatment. Soon the U.S. command had no choice but to confirm the cause of these injuries. With the assistance of Colonel Stewart Alexander, a military physician with extensive knowledge of mustard poisoning, better precautions and treatment were begun. By the end of the disaster, over 600 victims of mustard poisoning were treated from the harbor area alone; of these, 83 died (Alexander, 1947). Close to 1,000 civilians from the town also died (Harris and Paxman, 1982).

Unfortunately, no long-term medical follow-up of survivors of the Bari harbor disaster has been reported.

Constance M. Pechura and David P. Rall, Editors. *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite*. Washington, D.C.: National Academies Press, 1993. Available at: http://www.ncbi.nlm.nih.gov/books/NBK236059/.

George Southern, *Poisonous Inferno: World War II Tragedy at Bari Harbour* (excerpt)

George Southern served in the British Royal Navy from 1942-1946 aboard ships escorting convoys in the Atlantic and Mediterranean. At the time of the Bari tragedy, he was a gunlayer on the destroyer HMS Zetland, one of the convoy's ill-fated escort vessels. It was not until a reunion in 1976 that he learned of the mustard gas and that seventeen ships had been lost on that dreadful night. This is the only book to have been published by a survivor...



Bari - Arrival and Attack

Shepherding the newly arrived convoy into Bari's outer harbour on that sunny morning of 2 December 1943 were the convoy escorts consisting of *Zetland* and *Bicester* and three minesweepers. Closed up at the actions stations I noticed, as everyone on the upper deck did, a lone German reconnaissance plane high in the sky. It passed over the port in a north-westerly direction, evidently returning to a base in northern Italy....

Between *John Motley* and *Testbank* lay the ship that was destined to create a horrifying situation never before encountered in the history of warfare - the USS *John Harvey* carrying a cargo of 5,037 tons of what were described as "war supplies"....According to official accounts, Allied Headquarters Algiers gave instructions for 24,430 Bombs Chemical, HS (HS was the code description for mustard) to be loaded onto the USS *John Harvey* at Oran...

We heard the sound of aircraft overhead. It was instantly followed by a single flare which illuminated the harbor and then several more. Both of us knew what that meant...as the flares slowly descended, the first bombs dropped. It signalled an outburst of activity. The scream of falling bombs rent the air and the crash and crump as they landed sent shock waves along the breakwater...in a mad scramble, lorries, half-tracks, jeeps, vans and motor bikes made a concerted dash along the mole....anyone walking, as we were....took their life in their hands.... For some time bombs fell all over the harbour...the result was catastrophic. As the fires gained hold, preparations were underway on several vessels to abandon ship. Other ships at anchor in the harbour had received direct hits and the crews were already taking to lifeboats and rafts.

At the end of the raid, the *Lyman Abbott* suffered a near miss... Donald Meissner stuffed cotton wool in his ears, put on his helmet and ran to his gun platform...'three bombs hit the water off our bow and the fourth hit just off the stern. It was so close the mud from the bottom of the harbor struck me in the face. I know the ship rose out of the water because I felt it slap the surface as it came down again. Suddenly there was a blinding flash as if night had turned to day, then a thunderous explosion sent all of us sprawling onto the deck, whose steel was vibrating

as if to tear itself apart. It then began to rain shrapnel...when all the fury of the explosion subsided, there was a deathly silence except for the moans and cries of the wounded and dying.'

We all discovered that we were not soaked with rain but with a thick, greasy liquid which was as black as pitch and gave off a foul stench...the explosion dumped me underneath the starboard side bridge some 20 feet from where I had been standing...when I moved along the deck and went below, survivors from other ships, covered head to foot in what at the time we thought was fuel oil, were being hosed down...

98th British General Base Hospital

Meanwhile in the hospital...it was not long before the influx of patients began. Nurse Gwladys Rees recalled 'The aftermath of the explosion was almost too pathetic and grim to describe. Only a few hours before dawn following the raid we began to realise that most of our patients had been contaminated by something beyond all imagination. I first noticed it when one or two of my patients went to the sink looking for a drink of water...they were complaining of intense heat and began stripping off their clothes...what little knowledge we had, our first thought was that these boys were suffering from mustard gas burns for their were blisters as big as balloons and heavy with fluid on these young bodies. We were not sure whether the staff was at risk...we tried to get tests done, we were never informed of the results...it was horrible to see these boys so young and in such obvious pain...The medical officers tried to get through to the War Office in London for information, advice and an antidote, but none was forthcoming..we were at a loss to battle this poison and we couldn't save the majority of the wounded. Almost one thousand men died in one night and just as many in the aftermath...

In her diary, Nurse Gay Trevithic wrote: What a night followed, ambulances screamed into the hospital all night long with casualties from the raid...The majority of them were either burned or covered in oil or had limbs blown off...It was so bad that when the boys came in we did not know whether they were Italians, Indians, or British...I only hope I never live to experience another night like this...

Aftermath: Legacy of Secrets

Some time later, he [Lt. Cdr. Morgan Giles, Staff Officer Special Operations at Bari] learned that USS *John Harvey* carried amongst its cargo white phosphorus bombs, and even worse, mustard gas bombs which were not fused...their contents thrown into the air and scattered on the water and neighboring ships...

It was obvious that not just one or two people had prior knowledge of the mustard gas aboard the *John Harvey* but a number of service personnel, probably as many as ten, were fully aware of its existence. One person who was not aware and who certainly should have

been was NOIC Bari, Captain Campbell, RN...it would appear that not one of the several people who knew of the mustard gas were capable of releasing the true facts to the hospital...

In the 1970s, the British official accounts were released and for the first time John [Adams, who had served in Royal Corps of Signals at Bari] learned about the existence of mustard gas at Bari. His doctor, an ex-RAF surgeon who had studied the effects of mustard gas...looked up his records and remarked that he was 99 percent certain that the lesion [in his lung] was the result of exposure to mustard gas...

On 24 February 1995, Bert Stevens gave up the struggle...he was the first survivor to be officially recognised as having been contaminated by the mustard gas at Bari, and the first to be awarded a pension...

Medical records are not due to be released until 2018, by which time no one who was in Bari in 1943 will be around to refute it. To the best of my knowledge, there has never been a comment or letter published concerning mustard gas by any doctor who was serving in Bari at the time...how many more people suffered like Bert Stevens and his family, totally unaware of the real reason, we will never know...

Perhaps it was a case of 'head in the sand' or the fact that the words 'mustard gas' were too controversial to be mentioned, so compounding the secrecy. The Official Account admits that many men died because of the lack of information, or more to the point, bungling secrecy...

Differences Between WWI and Bari

On 22 April 1915, at Ypres, Belgium, mustard gas was used for the first time when the German forces deployed 150 tons of chlorine against unprotected French troops...there was no censorship of the information...it was good propaganda. In the years following the armistice in 1918, many ex-soldiers who had been exposed to mustard gas suffered illness and sickness... [but] these ex-servicemen had one advantage that the survivors of Bari were denied. A great number of general practitioners had returned from war service and had experienced life in the trenches of Flanders and the effects of mustard gas...they helped them and procured war pensions for many of them. There was no such help for the contaminated at Bari, though that was not the fault of general practitioners. There were no medical records showing exposure to mustard gas, which could have assisted in diagnosing various ailments brought on in later years...

Continued Impact in Italy

The port of Molfetta, some 50 miles (80km) north of Bari had been singled out as a disposal point for a certain quantity of mustard gas still in Bari...in order to save on fuel oil, and not

knowing the nature of the materials they were dumping, the barge and boat-owners cut corners by jettisoning the highly toxic cargoes in an area of the sea 40 miles (64km) northeast of Molfetta. This area, though not as far, was of course much shallower than the designated one. When fishing resumed after 1945, incidents began to occur. Nobody knew what the metal bomb and shell casings dragged up in the fishing nets contained...Dr Angelo Neve is the enthusiastic co-ordinator and director of a group studying the long-term effects of the contamination of the seas around Bari...[he] sent me a video tape filmed aboard a diving support vessel...the diver turned round to show viewers his leg, on which ugly red blisters covered a large area from his knee to his thigh. It showed contamination still occurring more than fifty years after the disaster...

To learn more about Bari, see Southern, George. *Poisonous Inferno: World War II Tragedy at Bari Harbour.* Shrewsbury: Airlife, 2002.