

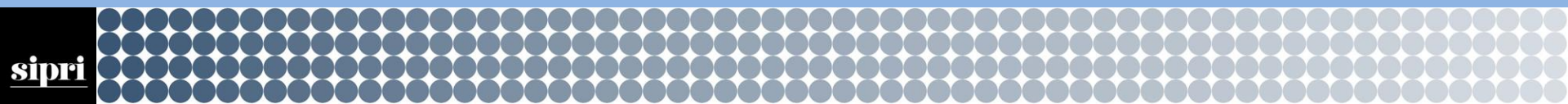
Experience of Medical Forensics in Poisoning Cases and Possible Relevance for CBW Investigative Mechanisms

International Society of Military Sciences *'(R)evolution of War'*

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Purpose and background

- Multi-disciplinary working paper (c. 9000 words) by Hart and Toprak
- Reflect forensic pathology experience and procedures
- Cl and cyanide exposure literature review
- Longer-term S&T points of possible verification relevance (e.g., for OPCW SAB-type activity)
- No attempt to replicate or reflect mainly national capacity consultation and 'reach back' (e.g., in context of NATO, OPCW, UNSC, UNODA)



1993 Chemical Weapons Convention (CWC)

- Definition of 'chemical weapon (CW)'
- Entry-into-force 1997; 191 States Parties; OPCW Technical Secretariat (The Hague)
- Declaration and verification provisions
 - CW stockpiles and infrastructure
 - Chemical industry
 - Chemical defence establishments



1. Syria-related developments

- Conflict may be dated to Mar. 2011
- Longstanding allegations of CW programme and stockpile (centred on sulphur mustard, sarin & VX)
- 23 July 2012 Syrian MFA press briefing
- Reaction
 - Red line warnings,
 - Consultations and exercises for identifying and securing CW-related sites
 - Emphasis by some on 1925 Geneva Protocol

2. Syria-related developments

- 2012-2015 CW allegations
- March 2013 request by Syrian Government to UN Sec.-General to investigate alleged CW use (chlorine).
- UN Secretary-General mechanism
 - Revised technical guidelines; Updated list of technical experts
 - Support of international bodies (e.g., OPCW, WHO, UNOPS)
 - Team headed by Dr Åke Sellström based in Cyprus
 - Relevant actors unable to agree and implement mandate until August 2013 (Ghouta incident).

3. Syria-related developments

- OPCW involvement
 - Russian-US Framework document of 14 Sep. 2013
 - First OPCW mission and joint OPCW-UN mission established Oct. 2013
 - OPCW Fact Finding Mission (FFM) and Declarations Assessment Team (DAT)
- UN Security Council Res. 2118 (2013)
 - UN-OPCW joint inspection team mandate ended 30 Sep. 2014
- UN Security Council Res. 2235 (2015)
 - 12 month joint UN-OPCW team est. to attribute responsibility
 - Multiple actor use of chlorine and HD



Declaration

(‘Progress in the elimination of the Syrian chemical weapons programme’, Note by the Director-General, EC-M-34/DG.1, 25 Oct. 2013)

- 41 facilities at 23 sites,
- 18 chemical weapon production facilities,
- 12 chemical weapon storage facilities,
- 8 mobile filling units, 3 chemical weapon-related facilities,
- 1000 tonnes of category 1 chemicals (mainly precursors),
- 290 tonnes of category 2 chemicals,
- 1230 unfilled munitions and 2 cylinders not claimed by the Syrian Government and possibly filled with chemical weapons.
- site diagrams for chemical weapon storage facilities.



Maritime operations

- 'The Moscow Plan' (27 Dec. 2013)
 - OPER RECSYR, Task Group 420.01, CTF-64
- National contributions
 - UN Trust Fund
 - OPCW Syria Trust Fund
 - In-kind contributions (multilateral/bilateral)

MV Cape Ray

(The container ship M/V Cape Ray departs Portsmouth, Va., Jan. 10, 2014, for sea trials. U.S. Navy photo by Petty Officer 2nd Class Jared Walker)



HDMS Esbern Snare

Absalon class support ship

Builder: Odense Steel Shipyard

Commissioned: 18 April 2005

Displacement: 6401 tonnes [fully loaded]

Draft: 6.3 m

Complement: 99 + 70 personnel

Boats carried: 2 x SB90E LCP [or similar]; 2 x RHIBs [or similar]

Aircraft carried: 2 helicopters

Saunders, S., *IHS Jane's Fighting Ships: 2013-2014* (IHS Jane's: Coulsdon, Surrey, 2013), p. 196.

The Storebro [big bridge] SB90E was originally developed by Swedish yacht company for military unit insertion and medical evacuation. It is currently sold on the civilian market, as well as to various navies (SB90H).



RS Pyotr Veliky

RS Pyotr Veliky [Peter the Great] [formerly the Yuri Andropov]

1 Kirov (Orlan) class battle cruiser (project 1144.1/1144.2) (CGHMN)

Builder: Baltic Yard 189 (St. Petersburg)

Commissioned: 9 April 1998

Displacement: 24690 tonnes [fully loaded]

Draft: 9.1 m

Complement: 744 (82 officers, 18 air crew)

Aircraft carried: 3 helicopters



CS Huangshan

13 + 7 Jiangkai II (Type 054A) class (FFGHM)

Builder: Huangpu Shipyard (Guangzhou)

Commissioned: 18 April 2005

Displacement: 3963 tonnes [fully loaded]

Draft: 5 m

Complement: not specified

Aircraft carried: 1 helicopter



Field Deployable Hydrolysis System

- DoD demo 1:

<http://www.youtube.com/watch?v=eitQBZTmt8o>

- DoD demo 2:

<http://www.youtube.com/watch?v=G4gxDKTU658>

- Frank Gardner report

<http://www.youtube.com/watch?v=WL9aDaVpF1o>

Syrian maritime operations news items

- Onboard Pyotr Veliky:

<http://www.youtube.com/watch?v=bXeDmAap3hk>

- China news special on operation:

http://www.youtube.com/watch?v=GC-s_c9XBNA



S&T of potential CW verification relevance

- Pulmonary lung toxicity typology
 - i. Type 1 and 2 cell effects
 - ii. Neuronal cell effects
 - iii. Endothelial/epithelial effects
- Forensic and medical documentation practice vis-a-vis OPCW SOPs and WIs for CW alleged use investigations
- Biomarkers for pulmonary exposure to toxic chemicals (class or type) in vivo and/or post-mortem (the search continues)



Possible discussion points

- Attribution of CW use problem
 - i. ME armed conflict context
 - ii. For international law and norms
- Security and defence sector implications
 - Capacity, equipment requirements, consultation mechanisms
- Policy, political and technical processes and linkages

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