CBWNet

Strengthening the norms against chemical and biological weapons

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Norm Contestation and Compliance in the Chemical and Biological Weapons Prohibition Regimes

Alexander Kelle (ed.)

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Alexander Kelle, (ed.)
Senior Researcher, IFSH & CBWNet Network Coordinator

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Introduction

Una Jakob, PRIF, and Alexander Kelle, IFSH

This working paper provides an overview and summaries of presentations delivered at the CBWNet conference on *Norm Contestation and Compliance: The Prohibition of Chemical and Biological Weapons* that took place in Frankfurt on 22 and 23 October 2025.

Thematically this conference combined two work packages of the CBWNet project, led by the PRIF and IFSH teams, respectively. These work packages address issues surrounding contestations of the norms against chemical and biological weapons (CBW), as well as compliance with CBW norms as one core element of a strong CBW prohibition. In the conference, the focus was on contestations and compliance issues related to the use of chemical weapons and to the prohibition of riot control agents as methods of warfare, as well as on conceptual considerations related to compliance with CBW norms.

The current compilation contains summaries of the presentations held at the meeting, with the individual contributions prepared by the presenters in light of the discussions during the conference. With respect to the historical evolution of the norm against chemical weapon (CW) use, Detlef Männig and Alexander Kelle trace the evolution of the non-use norm through the 20th century. They focus on early legal instruments prohibiting CW use and their contestation in select cases during the 20th century. In a separate contribution Alexander Kelle discusses Russian norm contestation as it relates to implementation of the CW investigation norm in relation to Syrian violations of the norm against CW use. Bruno Cevallos analyses the emergence of and governance challenges related to hybrid incapacitating agents, such as biologically derived malodorants including the agent commercially known as “Skunk”.

In the second thematic cluster, Ralf Trapp describes the investigations of Syria’s norm violations and analyses the relationship and connections between the various investigative mechanisms applied there. Barry de Vries traces the differences in reactions to allegations of the use of riot control agents and of other chemical warfare agents in Ukraine since 2014 and discusses a possible perceived norm hierarchy as explanation for these different reactions.

In the third thematic cluster, Almuntaser Albalawi, Veronika Klymova and Una Jakob present theory-guided considerations related to compliance with CBW norms. Almuntaser Albalawi focuses on conceptual deficits in the definition and usage of the term compliance, with particular attention to compliance as a state, compliance control as a process, and enforcement as reaction to non-compliance. Veronika Klymova explores the added value of treating the norms against CBW as moral norms and looking at (non-)compliance through the lens of moral psychology. Una Jakob addresses the question of restoring compliance as one important element in the efforts to strengthen CBW norms by looking at the case of Syria from a theoretical perspective focussed on state identity.

Together these contributions present a cross-section of current research and policy work in the CBWNet project (and beyond). Several of the contributions represent work in progress, which will result in more detailed studies. This collection is intended to contribute to the ongoing discussions about norm contestation and compliance in different epistemic communities, both in an academic context and in the diplomatic circles concerned with implementation of the treaties prohibiting chemical and biological weapons.

Contestation in the Emergence of the Norm against Chemical Weapons' Use

Detlef Männig, Männig Consulting and Alexander Kelle, IFSH and CBWNet[1]

Chemical weapons (CW) are on the one hand the type of weapon of mass destruction that have been used most often throughout history, most extensively during World War I. On the other hand, there is a widely accepted taboo prohibiting the use of CW. Yet, this non-use norm did not always exist and has evolved over time. Drawing on the differentiation between rhetorical, procedural and behavioural contestation introduced by Bower and Lantis,[2] this contribution places the emergence of the norm against the use of CW in its historical context by first reviewing the legal codification of the norm against CW use in early 20th century international agreements, most notably the 1899 and 1907 Hague Conventions and the 1925 Geneva Protocol. The paper subsequently analyses the contestation of the non-use norm by Italy and Japan in the 1930s and Iraq in the 1980s.[3] Arguments and actions of both norm entrepreneurs – those states advocating for the establishment of a norm against CW use – and norm antipreneurs – those states arguing against the norm, using procedural tools to delay or weaken it, or ignoring the emerging non-use norm through their actions – will be taken into consideration.

With a view to the three types of contestation of emerging norms, Bower and Lantis refine and extend the conceptualization of antipreneurship by theorizing three dominant forms of antipreneurial agency: rhetorical, procedural, and behavioral. These are identified as prominent strategies practiced by actors who attempt to preserve the status quo by blocking efforts to establish, modify or replace these standards, while still remaining engaged in diplomacy. Bower and Lantis define rhetorical antipreneurship or contestation as the use of discursive claims as strategic rhetorical devices to assert the legitimacy of the status quo and challenge proposed normative innovations. Here, the objective is to neutralize entrepreneurial efforts by disrupting deliberations that could lead to the establishment of a new or consolidation of a rival norm. Procedural antipreneurship or contestation is defined as leveraging diplomatic procedures and practices to block unwelcome initiatives for normative innovation. This strategy, Bower and Lantis argue, is most effective in settings where the institutional rules favor stasis over rapid innovation. Finally, behavioral antipreneurship involves activities that are intended to implicitly or explicitly challenge the emerging alternative normative consensus before it can consolidate. This occurs on a spectrum ranging from overt non-compliance to defensive concessions to norm entrepreneurs, seeking to establish new or strengthen existing norms. This contribution argues that throughout the 20th century, these different types of contestations of the establishment of the norm against CW use can be observed. They will be discussed below.

First international legal manifestations of the emerging norm against CW use still relevant today can be found in the Hague Convention of 1899, in which "The Contracting Parties agree to abstain from the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases" and "In addition to the prohibitions provided by special Conventions, it is especially forbidden: (a) To employ poison or poisoned weapons" (1899 Declaration IV.2). These prohibitions were reiterated in the 1907 Convention, Art. 23. As noted by Catherine Jefferson, the "provision in

[1] The authors would like to acknowledge research assistance provided by Maximilian Pfeiffer at the IFSH Berlin Office.

[2] Adam Bower and Jeffrey S. Lantis, "Contesting the heavens: US antipreneurship and the regulation of space weapons", *European Journal of International Security*, 2024, 9, 1-22, doi: 10.1017/eis.2023.2.

[3] Other relevant cases could include contestation of the non-use norm by Spain, Egypt, Syria and Russia. Their analysis, however, is beyond the scope of this current contribution.

article 23(a) prohibiting the employment of 'poison or poisoned arms' … was apparently agreed without controversy [and] was directly lifted from article 13(a) of the Brussels Declaration, which suggests that the prohibition against poison had at this point become an uncontested norm. However, this provision constituted a prohibition distinct from that codified in Declaration II on the use of projectiles the object of which is the diffusion of asphyxiating or deleterious gas.[4] As further elaborated by Jean Pascal Zanders, negotiators at the Hague Conference in 1899 "made no direct association between poison and poison gas. They considered the former an ancient barbarous mode of warfare, whose long-standing customary prohibition generated no controversy. In contrast, poisonous or deleterious gases were clearly perceived by all as a novel development spawned by the growing impact of science on society and industry."[5] The most vocal opposition, in the form of rhetorical contestation, during negotiations in 1899 came from the US delegate, Captain Mahan, who "was quite vigorous in his opposition to the ban on chemical projectiles in naval warfare." [6] He argued that banning gas was inconsistent. He believed if a weapon was decisive in combat, it shouldn't be banned. He specifically pointed out that drowning sailors with torpedoes or mines was just as "cruel" as gas, yet those weapons were used without hesitation.

It is noteworthy that among others Germany, Italy, Japan, Russia and Spain ratified the Hague Conventions, while the United States did not. This however, did not prevent most belligerents during World War I (WW I) to resort to the use of CW, i.e. to engage in behavioural contestation of the emerging norm against CW use on a massive scale. In addition to the above mentioned distinction between the use of poison and of "use of projectiles the object of which is the diffusion of asphyxiating or deleterious gas" this contestation was enabled by the fact that the "Hague Convention left open loopholes that the contemporary actors used after the war to justify their decisions. It was argued, for instance, that the Hague Convention does not cover gas attacks originating from rigidly installed batteries rather than movable artillery or that 'military necessity' could be used to justify violations of international laws."[7] Thus, the emerging norm against the dispersion of toxic chemicals contained in treaty law was competing with older norms governing the conduct during war, such as the idea of a *raison de guerre*. Such older norms were reportedly prioritized by British Prime Minister Winston Churchil after WW I, who is on record as being "strongly in favour of using poisoned gas against uncivilised tribes."[8]

Also following WW I, the most important arms control treaty against chemical and biological weapons was the "Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare" (commonly called the 1925 Geneva Protocol). The Protocol established three moral and legal pillars: Chemical warfare is morally repugnant to global society, it is already restricted by existing international agreements, and it must be recognized as a globally binding law that governs both the ethics and the actual behavior of all nations. [9]

4 Catherine Jefferson, "Origins of the norm against chemical weapons", *International Affairs*, 2014, 90(3), pp.647-661, quote on p.650. On the Brussels declaration see https://ihl-databases.icrc.org/en/ihl-treaties/brussels-decl-1874.

5 Jean Pascal Zanders, "International Norms against Chemical and Biological Warfare: An Ambiguous Legacy", *Journal of Conflict & Security Law*, 2003, 8(2), pp.391-410, quote on p.407.

6 William R. Hawkins, "Captain Mahan, Admiral Fisher and Arms Control at The Hague, 1899", *Naval War College Review*, 1986, 39(1), pp.77-91, quotes on pp.83-84.

7 Jürgen Renn, "Introduction", in Bretislav Friedrich et al (eds.) *One Hundred Years of Chemical Warfare: Research, Deployment, Consequences*, Cham, Switzerland: Springer Open, 2017, DOI 10.1007/978-3-319-51664-6, pp.1-8, quote on p.3.

8 https://www.nationalchurchillmuseum.org/churchills-1919-war-office-memorandum.html.

9 For the wording of the Geneva Protocol see https://treaties.unoda.org/t/1925.

In this context they 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."[10]

It is noteworthy that the Geneva Protocol prohibits the use but not the development, production and stockpiling of CW. Furthermore, several countries expressed reservations concerning the inclusion of tear gases in the scope of the Protocol, the Protocol's reciprocal application, and maintaining the right to use CW against Non-states Parties. These restrictions limited the effectiveness of the Geneva Protocol in subsequent years.

One example of a state who ratified the Geneva Protocol, but did not follow its normative guidance to not use CW is Italy, who ratified the Geneva Protocol in 1928, yet the country used CW against Abyssinia / Ethiopia during the 1930s. Italian dictator Federico Mussolini sought to justify the "use of gas 'as ultima ratio to overcome enemy resistance' (27 October 1935), 'for supreme reasons of defence' (16 December 1935) and even just 'in case of necessity'".[11] Public outrage among the European powers led to short-term interruptions of CW use, but overall League of Nations sanctions had little effect on Italian conduct in war.[12] With a view to the rhetorical contestation of the CW non-use norm, "Italy did not explicitly deny that it had had recourse to the prohibited weapons. It tried to explain its action by alleging that the Ethiopians had been the first to violate the established rules of conduct in war, and claimed that the Geneva Protocol had not modified the 'existing legal situation in regard to the right of reprisal'".[13] In other words, the emerging non-use norm was competing with older norms governing state conduct in war – and lost out. However, this use of established norms had a utilitarian character, as Mattioli elaborates, Italy's use of gas was a cynical, tactical calculation. Mussolini monitored international reactions closely; he would pause chemical attacks when the public outcry was loud and resume them as soon as international attention faded, exploiting the weak political will of the League of Nations. In the presence of such political will, Mattioli argues,

> "it would have been easy to place significant obstacles in the way of Italian aggression. This would have required only extending the League of Nations' mild sanctions, which had come into effect on November 18, 1935, to include fuels and closing the British-controlled Suez Canal to Italian troop and supply traffic."[14]

Contrary to Italy under Mussolini, Imperial Japan had not ratified the 1925 Geneva Protocol, but was a party to the Hague Conventions of 1899 and 1907. Yet, these early efforts of codifying the norm against CW use had little effect on Japanese use of CW in occupied China during the 1930s.[15] Rather, Japanese use of chemical weapons occurred in China where the enemy was unable to retaliate in kind. In contrast, Japan refrained from CW use in the Pacific against the US and its allies,

[10] Idem.
[11] Rainer Baudendistel, "Force versus law: The International Committee of the Red Cross and chemical warfare in the Italo-Ethiopian war 1935-1936", in *International Review of the Red Cross*, 1998, No.322, pp.81-104, quote on p.99.
[12] Aram Mattioli, "Entgrenzte Kriegsgewalt: Der italienische Giftgaseinsatz in Abessinien 1935-1936", *Vierteljahreshefte für Zeitgeschichte*, 2003, 51(3), pp.311-337.
[13] SIPRI, *The Problem of Chemical and Biological Warfare. Volume IV: CB Disarmament Negotiations, 1920-1970*, Stockholm: Almqvist & Wiksell, p.191.
[14] Mattioli, "Entgrenzte Kriegsgewalt," 2003, p.332; authors' translation.
[15] Although use of biological weapons by Imperial Japan is well documented, see for example, Sheldon H. Harris, *Factories of Death: Japanese Biological Warfare, 1932–45, and the American Cover-up,* New York: Routledge, 2002, here we focus on CW use.

who the Japanese military was afraid would respond in kind with and with a devastating effect.[16] Notwithstanding the atrocities committed by Imperial Japan, "[t]his instance of chemical warfare received much less international attention than the Italo-Ethiopian War, possibly because it was overshadowed by events then taking place in Europe".[17]

When reports emerged that the axis powers were preparing for chemical warfare during World War II, U.S. President Franklin D. Roosevelt, noted that CW use had been "outlawed by the general opinion of civilized mankind" but warned his enemies that the U.S. would retaliate in kind, if attacked first with CW.[18] With the advent of the nuclear age in the mid-1940s, the nuclear strategizing and the potential use of nuclear weapons overshadowed the potential use of CW. Thus when Iraq used CW against Iran and the Kurdish minority on its own territory during the 1980s international reaction was muted at first. It is noteworthy that both Iraq (1931) and Iran (1929) had ratified the 1925 Geneva Protocol. When challenged Iraq claimed first use of CW by Iran and that the international prohibition of CW use did not apply in case of Iran, which it sought to portray as "an outlaw rival which did not recognize any of the international treaties".[19] Only after the Iraqi attack on Halabja in March 1988, did the international response to the Iraqi behavioural contestation of the non-use norm become more vocal.[20] This took the form of UN Security Council Resolutions 612 (1988) and 620 (1988), both of which condemned the use of CW in violation of the 1925 Geneva Protocol and called for international action to prevent their future use. Despite the rhetorical contestation of CW use, behavioral contestation was very limited and led one observer to conclude that it was "a sad indictment on every state that political expediency has been permitted to prevail over the exigencies of the rule of law in international affairs".[21]

In summary, the norm against CW use did not emerge as a simple ban, but through constant contestation where violations of the emerging norm (behavioral antipreneurship) forced diplomatic responses (norm entrepreneurship), which in turn prompted states to develop legal and rhetorical justifications (rhetorical and procedural antipreneurship) to carve out exceptions or justify deterrence. The practice of non-use of CW by most states during and after World War II, despite foregoing potential military advantages, demonstrated the consolidation of this prohibition as customary international law, driven largely by the fear of retaliation and political costs that CW use would entail.

16 Miloš Vec, "Challenging the Laws of War by Technology, Blazing Nationalism and Militarism: Debating Chemical Warfare Before and After Ypres, 1899–1925," in Friedrich et al (eds.), *One Hundred Years of Chemical Warfare*, pp.105-134.

17 SIPRI, *CB Disarmament Negotiations, 1920-1970*, p.21.

18 Franklin D. Roosevelt, *Statement Warning the Axis Against Using Poison Gas*. Online by Gerhard Peters and John T. Woolley, The American Presidency Project https://www.presidency.ucsb.edu/node/210107

19 Seçil Özdemir, "Iran-Iraq War: The Employment of Chemical Weapons," *The Journal of Iranian Studies*, 2022, 6(1), pp.105-133, quote on p.119.

20 See Joost R. Hiltermann, *A Poisonous Affair: America, Iraq, and the Gassing of Halabja*. Cambridge: Cambridge University Press, 2007.

21 Timothy L. McCormack, "International Law and the Use of Chemical Weapons in the Gulf War," *California Western International Law Journal*, 1990, 21(1), pp.1-30, quote on p.30.

Russian Norm Contestation in Case of Syrian Chemical Weapons Use

Alexander Kelle, IFSH and CBWNet

Russia has a prominent role in the CW prohibition regime, as it was the largest CW possessor state that completed the destruction of its declared CW stockpiles in 2017, 20 years after the CWC entered into force. This notwithstanding, there have been continuing doubts about the complete dismantling of Russia's offensive CW programme. Already in 1991 a whistleblower and former insider of the Soviet CW program, Vil A. Mirzayanov, alleged that the Soviet Union had a secret CW development program, including for highly-toxic binary nerve agents, nick-named "Novichoks" (for "newcomer"), which Russia continued to shield from international scrutiny.[22] This complicated and ultimately led to the breakdown of the bilateral CW destruction efforts. As summarized by Jonathan Tucker, "during discussion with U.S. officials, the Russians did not dispute the facts that Mirzayanov had disclosed – only their interpretation. They admitted having conducted research on a new class of nerve agents but maintained that the Wyoming MOU … required declaring only stockpiled weapons, not small amounts of agent produced for development and testing purposes."[23] This Russian attitude also prevailed several years later in the multilateral context when Russia from 1997 onward did not declare its Novichok nerve agent program to the OPCW and denied any involvement in the attempted poisoning with such nerve agents of Sergey Skripal and Alexey Nawalny in 2018 and 2020, respectively.[24] Widespread Western criticism of Russia's unwillingness to cooperate in clearing up these assassination attempts was compounded by increasing evidence of Russian CW use, mostly in the form of riot control agents as a method of warfare, in its war of aggression against Ukraine.[25]

In addition to the Russian contestation of allegations of CW use, the country also was heavily involved in defending its Syrian ally against accusations of use as well as proven cases of CW use by the Assad regime. In order to analyse Russian norm contestation in this context, this contribution uses a typology developed by Bettiza and Lewis detailling "four modes of contestation that Russian [...] actors are engaged in: liberal performance, liberal mimicry, civilizational essentialization, and counter-norm entrepreneurship."[26] Accordingly, liberal performance constitutes a "practice whereby authoritarian states and elites [...] reproduce – both in form and content – liberal discourses and practices, to contest American and European actors' non-compliance with the liberal ideas and identities, which they claim to abide by and champion globally. It is an applicatory form of contestation, whereby the authoritarian agent performs the role of liberal activist and watchdog on the world stage."[27]

[22] Vil S. Mirzayanov, State Secrets. An Insider's Chronicle of the Russian Chemical Weapons Program, Denver, CO: Outskirts Press, 2009.

[23] Jonathan B. Tucker, *War of Nerves. Chemical Warfare from World War I to Al-Qaeda*, New York: Random House, 2007, p.323.

[24] See Caitriona McLeish, "The Skripal case: Assassination attempt in the United Kingdom using a toxic chemical", *SIPRI Yearbook 2019. Armaments, Disarmament and International Security*, Oxford: Oxford University Press, 2019, pp.408-417; Alexander Kelle, *Adding Novichok Nerve Agents to the CWC Annex on Chemicals: A Technical Fix and its Implications for the Chemical Weapons Prohibition Regime*, UNIDIR, Geneva, Switzerland. https://doi.org/10.37559/WMD/22/WMDCE/01

[25] For an overview see the related OPCW webpage at https://www.opcw.org/media-centre/featured-topics/ukraine.

[26] Gregorio Bettiza and David Lewis, "Authoritarian Powers and Norm Contestation in the Liberal International Order: Theorizing the Power Politics of Ideas and Identity", *Journal of Global Security Studies*, 5(4) 2020, pp.559-577; quote on p.599.

[27] Ibid, p.566.

Liberal mimicry contest the meaning and aims at re-interpreting liberal norms with the aim of "frustrating Western normative agency and weakening the universal appeal of liberal norms [by] denying the universality of the West's construction of values and assertion of norms."[28] As Bettiza and Lewis note, liberal mimicry adopts the form of liberal discourses and practices and fills them with non-liberal content, such as in the case of the reinterpretation of the Responsibility to Protect (R2P) concept in order to justify Russian interventions in Georgia and Ukraine.[29] Through this mode of contestation, Russia seeks to destabilize and delegitimize attempts by the West to fix the meaning of international liberal norms and practices.

Authoritarian powers also engage in civilizational essentialization, which constructs alternative civilizational identities to "contest the universal validity of liberal norms."[30] According to Bettiza and Lewis, this mode of centestation is "centered on the production of forms of civilizational identity that naturalize differences, harden boundaries, and eliminate a view of identity as multilayered, internally contested, evolving, and contingent. This essentialized civilizational self is then represented as embodying a set of values which are posited as distinct from the liberal West in the case of Russia and China."[31] The assertion of a "Russian identity and sets of distinct values and norms," Bettiza and Lewis note, "has a long history in Russian thought."[32]

Lastly, Russia is engaging in counter-norm entrepreneurship as a validity mode of contestation of liberal Western norms, "which involves articulating and advancing globally a set of non-liberal (1) social and political norms and (2) visions of international order [...] Counter-norms are generally articulated in opposition to liberal projects [and focus on] traditional values [...] and strong leaders."[33] As such, counter-norm entrepreneurship represents a form of contestation that calls into question the validity of liberal norms and not just their application or meaning.

In the context of Syrian use of CW, clearly the non-use norm was *de facto* violated. However the focus here will be on the Russian contestations of the implementation of the investigation norm enshrined in the CWC. The Convention foresees challenge inspections and investigation of alleged use for this urpose. For a number of reasons these have not been activated by CWC states parties and following reports of CW use in Syria, implementation of the investigation norm was modified by creation of an OPCW Fact-finding Mission (FFM) in 2014.[34]

Ever since the first reports about CW use in Syria emerged in early 2013, Russia has consistently sided with positions of the Syrian government of Bashar al-Assad by supporting the Syrian narrative on CW use in that country being attributable to non-state actors only. Already at the Third CWC Review Conference (RevCon) in April 2013 Russia sought to characterize CW use "including those of foreign origin, on Syrian territory by non-State actors as provocation to justify military intervention in the internal conflict in Syria."[35] Russia also supported the Syrian claim that CW use is a "provocation to justify military intervention in the internal conflict in Syria" and asserted that "the obscure manoeuvres involved in the organisation ... calls to mind the line taken in relation to

28 Ibid., p.567.
29 Idem.
30 Ibid., p.568.
31 Idem.
32 Idem.
33 Ibid, p.569.
34 For more details see https://www.opcw.org/fact-finding-mission.
35 This and the following quotes are taken from: Russian Federation, *Statement by G.V. Kalamanov Deputy Minister of Industry and Trade of the Russian Federation at the Third Review Conference, Third Review Conference 8-19 April 2013*, document RC-3/NAT.21, The Hague: OPCW, 9 April 2013.

the investigation once conducted into the existence of weapons of mass destruction in Iraq." Russia further cautioned that "under pressure from certain States, the investigation … is essentially being undermined" and that therefore "it is necessary to launch the United Nations mission without delay to investigate the alleged use of chemical weapons" in Syria.

Applying the four modes of contestation introduced earlier, the Russian support for the Assad regime in Syria was embedded in civilizational essentialism, i.e. the accusation that the West was conspiring to overthrow the Assad regime already under pressure from the effects of the Arab spring and the ongoing civil war in the country. One can also detect elements of liberal performance in so far as "certain states", i.e. the Western group led by the US, is accused of fabricating CW use cases and undermining the very standards of impartiality in conducting investigations they claim to uphold. Hence the Russian proposal to move the investigation to the UN and possibly under the control of the UN Security Council. It should be noted that the specter of an investigation by the OPCW was a red herring at this point in time, as Syria was not yet a state party to the CWC in spring 2013. This only changed the following fall.

At the 21st session of the CSP in November 2016 Russia "note[s] with deep regret and concern the continued politicisation of the work of the OPCW, the integrity and well-deserved authority of which have been sacrificed to the opportunistic interest of the States that have not yet abandoned their global ambitions." [36]Russia also lambasted the "anti-Syrian … decision that was rammed through by vote at the Eighty-Third Session of the Executive Council effectively split this policy-making body of the Organisation and undermined the tradition of consensus." The decision in question is the one taken by the OPCW Executive Council (EC) on 11 November 2016 entitled "OPCW-United Nations Joint Investigative Mechanism Reports on Chemical Weapons Use in the Syrian Arab Republic" by vote with 28 states parties in favour, 4 against (Russia, Chine, Sudan and Iran), and 9 abstentions). In it, the "The Secretariat (OPCW) is mandated to conduct inspections at all relevant sites in Syria as soon as security conditions permit, including sites identified by the Joint Investigative Mechanism as involved in weaponization, storage, delivery, or use of toxic chemicals." Russia also reiterated its complaint that "efforts of the opportunistic globalists have resulted in the trampling of the rights of a State Party to the Convention [and in] the well-known tragic events in the former Yugoslavia, Iraq, Libya, and now in Syria."

The Russian assertion of "politicization" of the OPCW by the West is yet another instance of liberal performance, as according to its narrative the authority of an institution of the liberal international order is undermined by the states who supposedly are supporting that order and thus highlights the double standards applied by the West. In contrast to this interpretation of events, it would appear that Russia (plus China, Sudan and Iran) voting against the majority view that the OPCW should act upon the JIM findings led to the further politicization of debates and decision-making at the OPCW. Yet, following its own logic, Russia was standing by the side of its Syrian ally and was thus also furthering its civilizational essentialization agenda by distancing itself from and trying to counter the geopolitical ambitions of the "opportunistic globalists". This was further enhanced by Russia also seeking to establish a pattern of Western interventionism disrespecting state sovereignty.

At the 4th CWC RevCon in November 2018 Russia continued its interventions along familiar lines, noting that "normal, day-to-day negotiations within the Organisation have been replaced with

[36] This and the following quotes are taken from: Russian Federation, *Statement by Mr Kalamanov Head of the Delegation of the Russian Federation and Deputy Minister of Industry and Trade of the Russian Federation at the Twenty-First Session of the Conference of the State Parties*', document C-21/NAT.40, The Hague: OPCW, 28 November 2016.

increased levels of politicised polemics on the Syrian problem. … Certain States Parties, flagrantly trampling upon the foundations of the OPCW, will resort to any tricks to find a reason to launch and develop military action on Syrian territory."[37]

By reference to Western attacks on Syria in 2017 and 2018 Russia has been furthering its civilizational essentialization agenda by distancing itself from and trying to counter the geopolitical ambitions of the "troika of well-known states [who]—in violation of international law—launched a missile strike against Syria."[38] Similarly, the continued accusations of "politicization" of the OPCW by the West provide yet another manifestation of liberal performance, because authority of an institution of the liberal international order is undermined by the states who supposedly are supporting that order. In this context Russia seeks to present itself as a "watchdog" for the liberal international order.

At the 25th session of the CSP in April 2021 the liberal performance and civilizational essentialism modes of contestation were in full display again, after the CSP voted to revoke some of the Syrian rights and privileges under the CWC on the basis of its continued non-compliance with the treaty's provisions. Along these lines Russia claimed that "the norms of international law were trampled upon […]. The decision that was taken to revoke Syria's rights under the Convention is the manifestation of how certain States are attempting to pass themselves off as the judges called to determine who and how well one is behaving in the international arena, and to dictate their own agenda."[39]

In sum, several themes have emerged in Russian contestation of the investigation norms in the context of CW use in Syria. These themes include defense of Syrian state sovereignty, questioning Western motives, disputing OPCW methodology and findings, and providing alternative explanations. Of the four types of contestation liberal performance and civilizational essentialism are most prevalent in relation to CW use in / by Syria. In contrast, the other two modes of norm contestation identified by Bettiza and Lewis, liberal mimicry and counter norm entrepreneurship, have not featured as prominently in Russian contestation efforts. Liberal mimicry, i.e. "adopting the form of liberal discourses and practices and filling them with non-liberal content", has not been observable, due to the fact that the basic norms of the CWC have not been questioned by Russia and thus no competing "non-liberal content" had to be developed to justify certain activities. Quite to the contrary, Russia has been consistent in its rhetorical support of the non-use norm. Similarly, counter-norm entrepreneurship, according to Bettiza and Lewis, involves the promotion of an alternative bundle of illiberal norms and approaches to international order. This has not been observed in relation to Syria-related Russian statements at the OPCW. Rather, the alleged non-adherence of the West to its own civilizational standards of the rules-based liberal international order has been criticized – violation of sovereignty, usurpation of the OPCW in the implementation of the investigation norm, which is supposed to be impartial, have been at the forefront of Russian interventions in this regard. Thus, the norms of the liberal international order have remained the frame of reference for the contestation.

[37] This and the following quotes are taken from: Russian Federation, *Measures to prevent chemical terrorism, Review Conference, Fourth Session 21-30 November 2018, (30 November 2018)*, document RC-4/NAT.75, The Hague: OPCW, pp.4-5.

[38] Russian Federation, *Statement by H.E. Ambassador A.V. Shulgin at the Twenty-Fourth Session of the Conference of the States Parties. Agenda Item 24*, document C-24/NAT.38, The Hague: OPCW, 29 November 2019, p.1.

[39] Russian Federation, *Statement at the Twenty-Fifth Session of the Conference of the States Parties. Explanation of vote on Agenda Item 9(D)*, document C-25/NAT.127, The Hague, OPCW, 20 April 2021, p.1

Smells Like a Grey Spirit: Skunk and the Shadows of CBW Governance

Bruno Cevallos, Centro de Altos Estudios Nacionales (CAEN)

The global architecture designed to prohibit the development, proliferation, and use of non-conventional weaponry is anchored by a triad of international agreements: the 1925 Geneva Protocol[40], the 1972 Biological and Toxin Weapons Convention (BWC)[41], and the 1993 Chemical Weapons Convention (CWC)[42]. For decades, these regimes have operated on the basis of a relatively clear conceptual and institutional delineation between the biological and chemical domains, supported by distinct verification cultures and compliance mechanisms. This binary classification, however, is increasingly strained by the emergence of hybrid incapacitating agents that defy simple categorization. Among these, biologically derived malodorants such as the agent commercially known as "Skunk" represent a particularly acute challenge. These substances are chemically effective—producing incapacitation through intense sensory irritation and potential toxicity—yet are manufactured through biological processes, most notably microbial fermentation. As such, they occupy a technical and legal grey zone that places sustained interpretive pressure on existing disarmament regimes and creates governance gaps that can be exploited by state and commercial actors alike.

To understand the regulatory challenge posed by Skunk, it is first necessary to deconstruct both the agent itself and the method by which it is produced. Unlike traditional riot-control agents such as CS or CN, which are fully synthetic crystalline compounds dispersed as aerosols or pyrotechnic smokes, Skunk is described in material safety data sheets as a viscous liquid generated through a fermentation-based process involving yeast and alkaline substrates[43]. While the precise proprietary formulation has not been publicly disclosed, available safety documentation, patent fragments, and chemical profiling studies allow for a plausible reconstruction of the underlying biological mechanism. Based on these sources and on established knowledge of yeast stress metabolism, the most likely production pathway involves the induction of metabolic stress responses in the yeast species, such as *Saccharomyces cerevisiae,* through exposure to elevated concentrations of sodium bicarbonate, which functions as an alkaline buffer[44].

Under such conditions, yeast cells divert metabolic flux toward amino acid catabolism, including the upregulation of the Ehrlich pathway. This pathway facilitates the breakdown of sulfur-containing amino acids, notably methionine and cysteine, resulting in the production of volatile sulfur compounds (VSCs) such as methanethiol (methyl mercaptan) and ethanethiol (ethyl mercaptan). These compounds are widely recognized for their extremely low odor thresholds and their characteristic association with decay and sewage-like smells[45]. In addition, nitrogenous heterocyclic compounds such as indole and skatole—well known as primary contributors to fecal odor—are generated as secondary metabolites[46]. The resulting fermentation broth comprises not only these volatile odorants but also a complex biological matrix of proteins, lipids, and residual fermentation by-products, which confers unusual persistence and adhesive properties to the liquid when dispersed in the environment.

This hybrid mode of production situates Skunk at the intersection of the two principal international prohibition regimes. On the one hand, its reliance on microbial metabolism and biological processing potentially brings it within the scope of Article I of the BWC, which prohibits the

[40] Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925).
[41] United Nations Office for Disarmament Affairs. Biological Weapons Convention (1972).
[42] Organisation for the Prohibition of Chemical Weapons. Chemical Weapons Convention (1993).
[43] Odortec Ltd. *Skunk: Material Safety Data Sheet*.
[44] Nielsen, J., & Keasling, J. D. Engineering cellular metabolism. *Cell*, 164(6), 1185–1191 (2016).
[45] Schmeisser, E., Pollard, K., & Letowski, T. *Olfaction Warfare: Odor as Sword and Shield*. U.S. Army Research Laboratory (2013).
[46] Salem, H. S. Sources of indoor air pollutants in the Occupied Palestinian Territories, including Skunk liquid. *Journal of Environmental Pollution and Control*, 2(1), 106 (2019).

development and use of microbial or other biological agents and toxins "whatever their origin or method of production" when they lack justification for peaceful purposes. Although Skunk does not act through pathogenicity or classical toxicity, the hostile exploitation of biological metabolic processes for coercive purposes falls squarely within the spirit of the BWC's General Purpose Criterion. On the other hand, the agent is typically framed by manufacturers and procuring authorities as a chemical riot-control agent, a category that is permitted under Article II.9(d) of the CWC for law-enforcement purposes but strictly prohibited as a method of warfare. This dual framing allows state actors to invoke the law-enforcement exception of the CWC while effectively bypassing the weaker verification and transparency mechanisms of the BWC, thereby exploiting a regulatory seam between the two regimes.

The operational history of Skunk illustrates how this grey zone has been progressively expanded through practice. The first widely documented field deployment occurred in August 2008 in the village of Ni'lin in the occupied West Bank, where Israeli Border Police employed the agent against demonstrations opposing the construction of the separation barrier[47]. Delivered via water cannon, the liquid adhered to buildings, roads, vegetation, and clothing, remaining malodorous for days or even weeks. Human rights organizations subsequently linked its use to environmental contamination and significant psychosocial distress among affected communities, noting that the persistent stench rendered homes temporarily uninhabitable and marked individuals in ways that extended far beyond the immediate moment of crowd dispersal[48]

Following its operationalization in this militarized context, Skunk rapidly migrated beyond its original theatre of use. By 2010, the international diffusion of malodorants had become evident in Europe, when a Skunk-like substance was deliberately released in Luxembourg, prompting a forensic investigation to determine the nature of the contaminant[49]. The incident was notable for the analytical challenges it posed: gas chromatography–mass spectrometry (GC–MS) was required to identify the volatile organic compounds involved, underscoring the difficulty of attributing malodorant incidents using standard field detection tools. Importantly, this episode demonstrated that either the agent itself or the knowledge required to reproduce it had escaped its initial military-commercial supply chain and could be weaponized by actors outside formal state structures.

The normalization of Skunk accelerated markedly in the mid-2010s. In the aftermath of the civil unrest in Ferguson, Missouri, in 2014, commercial distributors such as Mistral Security actively marketed Skunk to United States law-enforcement agencies as a "less-lethal" and ostensibly humanitarian alternative to tear gas and kinetic impact munitions[50]. Investigative reporting confirmed that the St. Louis Metropolitan Police Department purchased the agent, and while large-scale operational deployments were not conclusively documented, procurement inquiries and pilot demonstrations reflected an exploratory phase of domestic adoption[51-52]. During this period, Skunk was reframed from a tool associated with military occupation to a legitimate instrument of municipal crowd control, illustrating how commercial narratives can reshape the normative perception of coercive technologies[53].

The agent's appeal to states facing persistent internal unrest was further demonstrated by its diffusion into the Global South and Asia. In 2017, Indian authorities, including the Central Reserve Police Force, publicly examined Skunk as a potential "non-lethal" option for crowd control in the disputed region of Kashmir[54]. Although operational deployment remained contested on ethical grounds—particularly due to concerns over humiliation and collective punishment—the very

47 Wired. Skunk bombs: The new weapon for Israel's army (2008).
48 B'Tselem. Crowd control: Israel's use of crowd-control weapons in the Occupied Territories (2012).
49 Wennig, R., Schneider, S., & Meys, F. GC/MS based identification of skunk spray maliciously deployed as "biological weapon" to harm civilians. *Journal of Chromatography B*, 878(17–18), 1433–1436 (2010).
50 Tucker, P. America's police will fight the next riot with these stink bombs. *Defense One* (2015).
51 Electronic Intifada. St. Louis police bought Israeli "Skunk" spray after Ferguson uprising (2015).
52 Hathaway, J. Skunk spray, Israel's malodorant, is coming to the U.S. *The Daily Dot* (2015).
53 Strickland, J. Skunk: The stench weapon Israel and U.S. police use for crowd control. HowStuffWorks
54 Crowley, M. Perilous paths: Weaponizing toxic chemicals for law enforcement. *Arms Control Today*, 46(2), 24–31 (2016).

consideration of the agent reflected its perceived utility in managing protracted civil conflict. Similarly, in 2021, reports emerged regarding plans to supply Skunk manufactured by Odortec to Colombian police forces during a period of nationwide protests[55], once again raising alarms among human-rights organizations about the global commercialization of hybrid riot-control agents[56-57].

This trajectory of diffusion culminates in the events of January 2024 at Columbia University in New York, which serve as a critical case study of contemporary verification failure. During a pro-Palestine rally on campus, participants reported being sprayed with a foul-smelling liquid that caused nausea, abdominal pain, burning eyes, and other symptoms severe enough to require hospitalization for several students[58-59]. Witnesses consistently described the odor as resembling raw sewage and rotting flesh, a sensory profile consistent with the volatile sulfur compounds characteristic of military-grade malodorants. In the aftermath, however, university authorities suggested that the substance was likely a non-toxic novelty spray purchased online, such as commercially available prank products. Regardless of the specific substance used, the incident starkly illustrates the current grey-zone problem: in the absence of advanced forensic attribution, the distinction between a military-grade incapacitating agent and a consumer novelty item becomes a matter of political framing rather than scientific determination.

As forensic scholars have noted, chemical signatures alone are often insufficient to establish whether an odorous compound is derived from biological fermentation or synthetic chemistry[60]. This ambiguity undermines accountability and enables plausible deniability, particularly in politically sensitive contexts. The expanding use of malodorants thus raises not only regulatory questions but also concerns regarding health effects and human rights. Manufacturers routinely claim that such agents are safe, organic, and environmentally benign, frequently emphasizing the food-grade nature of their inputs. In contrast, medical reports and non-governmental investigations document acute respiratory irritation, skin inflammation, hair loss, gastrointestinal symptoms, and persistent environmental contamination following exposure[61]. Variability in reported outcomes may reflect differences in formulation, concentration, and exposure conditions, yet the lack of publicly available toxicological data and the non-disclosure of microbial strains or production parameters constitute a significant quality-control and transparency deficit.

Beyond their physiological effects, malodorants operate through what has been described as a "politics of smell." By saturating bodies and spaces with the odor of waste and decay, these agents function as tools of sensory repression that symbolically reclassify protesters as pollutants to be removed[62]. This mechanism exploits involuntary limbic responses, transforming political subjects into objects of disgust and enabling dispersal without the overt violence associated with kinetic force. In doing so, malodorants offer authorities a means of control that is both deniable and socially stigmatizing, reinforcing their appeal despite unresolved legal and ethical concerns.

Recent advances in forensic science, however, offer a pathway to closing the attribution gap exposed by incidents such as the Columbia case. Landmark research conducted between 2024 and 2025 by Sieber, Steinritz, Worek, and John at the Bundeswehr Institute of Pharmacology and Toxicology has demonstrated that exposure to mercaptans—the primary active components of

55 WhoProfits. Odortec Ltd. (2021).
56 Physicians for Human Rights & INCLO. Lethal in Disguise: The Health Consequences of Crowd-Control Weapons (2016).
57 Blumenthal, R. Less-than-lethal weapons and the general practitioner. *South African General Practitioner*, 4(4), 158–162 (2023).
58 Salam, E. NYPD investigating alleged chemical attack on pro-Palestine Columbia University students. *The Guardian* (2024).
59 Keene, L. Columbia University says novelty spray was used on protesters. *The Forward* (2024).
60 Furton, K. G., et al. Advances in the use of odour as forensic evidence. *Philosophical Transactions of the Royal Society B*, 370(1674) (2015).
61 Blumenthal, R. Less-than-lethal weapons and the general practitioner (2023).
62 Kaul, N., & Cachelin, S. Non-lethal weapons and the sensory repression of dissent in democracies. *Security Dialogue*, 55(4), 368–385 (2024).

malodorants—can be retrospectively detected in human blood[63]. Although volatile mercaptans themselves are rapidly metabolized and eliminated, they act as reactive electrophiles that bind to the free thiol group at cysteine-34 of human serum albumin. This interaction results in the formation of stable disulfide adducts that can be identified using liquid chromatography–tandem mass spectrometry. Crucially, these biomarkers persist in plasma for up to six days, providing a verification window that was previously unavailable.

Had such biomarker-based protocols been applied in the investigation of the Columbia University incident or similar events, it would have been possible to distinguish between exposure to simple synthetic odorants, such as those found in novelty sprays, and exposure to the complex fermentation-derived matrices characteristic of military-grade malodorants. Complementing biomarker analysis, stable isotope ratio mass spectrometry offers an additional layer of discrimination. Chemicals synthesized from petrochemical feedstocks exhibit carbon and sulfur isotope ratios that differ measurably from those produced through biological fermentation pathways[64]. Because Skunk is derived from microbial metabolism, it effectively carries an isotopic fingerprint reflective of its biological origin. In principle, metagenomic analysis could further enhance attribution by identifying residual DNA from specific yeast strains or fermentation substrates within environmental samples, creating a genetic linkage between a deployed agent and a particular production facility[65].

The availability of these forensic tools has significant implications for the ongoing contestation of norms within the chemical and biological weapons regimes. Research on norm dynamics within the CWC framework highlights the tension between the convention's non-transfer norm and the parallel norm of international cooperation in peaceful chemical activities[66]. By interpreting the law-enforcement exemption broadly, some states have legitimized the development and transfer of increasingly sophisticated incapacitating agents. When such agents are deployed in contexts that are functionally indistinguishable from armed conflict, the boundary between law enforcement and warfare collapses, weakening the core prohibition norm. In the case of biologically produced malodorants, this dynamic is further complicated by the implicit legitimization of biological production methods for hostile purposes, thereby encroaching upon the normative domain of the BWC.

Looking ahead, the bio-fermentation foundation of Skunk raises longer-term proliferation concerns. Advances in metabolic engineering and synthetic biology could readily be harnessed to enhance odorant potency, persistence, or specificity, lowering technical barriers for a wider range of actors[67]. The potential integration of malodorants with unmanned delivery systems, including drones, further expands the risk spectrum by enabling remote, scalable, and deniable applications[68]. These developments exemplify the convergence of biotechnological and robotic innovation with coercive state practices, a domain in which normative frameworks have struggled to keep pace with technological change.

Addressing these challenges requires moving beyond the outdated binary classification of chemical versus biological weapons. States Parties to both the BWC and the CWC should explicitly reaffirm that the General Purpose Criterion encompasses biologically produced chemicals used for hostile

[63] Sieber, P. H., Steinritz, D., Worek, F., & John, H. Mercaptans in malodorants break disulfide bridges in human serum albumin and form adducts suitable as biomarkers of exposure in vitro. *Drug Testing and Analysis* (2025).

[64] Perini, M., Paolini, M., & Camin, F. Stable isotope ratio analysis for the authentication of food and pharmaceutical products. *TrAC Trends in Analytical Chemistry* (2024).

[65] Greninger, A. L., & Naccache, S. N. Metagenomics to assist in the diagnosis of bloodstream infection. *Journal of Clinical Microbiology* (2019).

[66] Kelle, A. *Non-transfer vs. International Cooperation? Evolving Norm Contestation in the Chemical Weapons Prohibition Regime*. CBWNet Working Paper No. 16 (2025).

[67] Boddie, C., & Lentzos, F. Emerging technologies and the future of biological arms control. *Frontiers in Bioengineering and Biotechnology*, 10, 921384 (2022).

[68] Stelmack, K. Weaponized police drones and their effect on police use of force. *Pittsburgh Journal of Technology Law & Policy*, 15, 276–298 (2014).

purposes, irrespective of their method of production or their designation as “less-lethal.” The law-enforcement exception under the CWC must be interpreted narrowly so as to exclude agents that rely on biological production to circumvent export controls or that are deployed in contexts amounting to *de facto* warfare. From a practical standpoint, verification mechanisms must be updated to reflect contemporary science. This includes the development of validated reference datasets for fermented riot-control agents through joint analytical exercises supported by the OPCW and the World Health Organization, as well as enhanced transparency regarding dual-use fermentation capacities through the BWC confidence-building measures. National implementation systems should also be adapted to incorporate reporting on biologically derived incapacitating agents, consistent with obligations under United Nations Security Council Resolution 1540[69].

In conclusion, Skunk is more than a niche riot-control technology; it is a sentinel indicator of stress within the global disarmament architecture. Its trajectory—from initial deployment in the West Bank in 2008 to contested incidents on university campuses in 2024—demonstrates how the grey zone between biology and chemistry, and between law enforcement and warfare, can be systematically exploited. As advances in synthetic biology and metabolic engineering lower barriers to the weaponization of biological processes, the risk of their normalization as tools of coercion will continue to grow. At the same time, the availability of robust forensic techniques, including molecular biomarkers and isotopic fingerprinting, offers a credible basis for attribution and accountability, enabling compliance to be anchored in verifiable science and reinforcing the resilience of chemical and biological weapons norms.

[69] United Nations Security Council. *Resolution 1540* (2004).

Investigations of Chemical Weapons Use in Syria: from confirmation of use to attribution of responsibility

Ralf Trapp, Independent Consultant and CBWNet

The prohibition of the use of chemical weapons is at the heart of the norm against chemical weapons. It is part of humanitarian international law as recognized by the 1925 Geneva Protocol, and today forms part of customary international humanitarian law.[70] The prohibition of the use of chemical weapons, as well as of riot control agents as a method of warfare, is also one of the basic undertakings assumed by the States Parties of the Chemical Weapons Convention.[71]

But in addition to humanitarian and arms control law, the use of chemical weapons may also become subject to other bodies of law. The use of chemical weapons contravenes basic principles of international human rights law.[72] Furthermore, the Rome Statute of the International Criminal Court lists war crimes that are subject to the court's jurisdiction, which includes language that mirrors the 1925 Geneva Protocol and other rules of customary international law with regard to what is considered a chemical weapon today.[73]

This complementarity in legal coverage has consequences for the way in which allegations of the use of chemical weapons can be investigated, how different investigative mechanisms may interact, and how the results of such investigations are being dealt with. This paper looks at the example of the investigations of chemical weapons uses in Syria since 2013 and their interrelationships. It identifies issues that need further study with regard to the shift in emphasis from confirmation of CW use to attribution of responsibility for chemical weapons attacks.

Investigations of reported cases of chemicals weapons use in Syria

Investigations of the use of chemical weapons are part of the compliance management of the Chemical Weapons Convention (CWC). When such alleged uses involve a States not party to the CWC, investigations can be triggered by any State using the Secretary-General's Mechanism (UNSGM) to investigate reports of violations of the 1925 Geneva Protocol and related rules of customary international (humanitarian) law. Such a UNSGM investigation was conducted in 2013 following conflicting reports about chemical weapons uses in Syria. It confirmed the use of the nerve agent Sarin in an attack on Ghouta in August 2013, and certain other attacks. Under threat of military attack by Western states, Syria agreed to a US-Russian plan to join the CWC and dismantle its chemical weapons program under OPCW verification and with assistance by other States.

However, despite the successful work of this UN-OPCW Joint Mission, reports about chemical weapons attacks resurfaced in 2014. In the absence of formal requests for an investigation of these reports in accordance with CWC procedures, the OPCW Director-General negotiated arrangements with the Syrian government for setting up a Fact-Finding Mission (FFM) to probe into alleged CW use cases. After a number of CW uses were confirmed by the FFM, the UN Security Council established a Joint Investigative Mission (JIM) to identify those responsible for confirmed cases of CW use. The JIM worked from 2015 to 2017 and identified ISIL as well as the Syrian armed forces as responsible for certain CW attacks. In 2018, after Russia vetoed a Security Council decision to extend the JIM's mandate, the OPCW established the Investigation and Identification Team (IIT), which started work in June 2019; its mandate mirrored that of the JIM.

However, the use of chemical weapons also affects compliance with other international norms, and notably human rights obligations. The Human Rights Council's Commission of Inquiry into Syria (CoI-S), set up in 2011, began to include chemical weapons incidents in its reporting of human rights violations in 2013. Subsequently, the International, Impartial and Independent Mechanism

[70] ICRC IHL Databases rules 72-76. Available at https://ihl-databases.icrc.org/en/customary-ihl/v1

[71] Chemical Weapons Convention, Art.I.1.1(b) and Art.I.5.

[72] The CoI-Syria stated in its report of June 2013: "The use of chemical weapons is prohibited in all circumstances under customary international humanitarian law and is a war crime under the Rome Statute. Also prohibited under the CWC." Document A/HRC/23/58 of 4 June 2013.

[73] Rome Statute of the International Criminal Court, Art. 8.2.b.xviii.

to assist in the investigation and prosecution of persons responsible for the most serious crimes under International Law committed in the Syrian Arab Republic since March 2011 (IIIM), set up by the UN General Assembly in December 2016, also included chemical weapons attacks in its work.

Comparison of the different investigative mechanisms

When different bodies of law apply to the same situation, and multiple investigations of possible norm violations are triggered by different international bodies, questions arise about the relationships between them, their specific mandates in terms of scope and constraints, their interaction in practice, and of the interfaces that exist or may have to be created between them. The CWC address these issues from a perspective of State compliance with arms control and disarmament law obligations. In case of non-compliance by a State Party, procedures may be triggered to persuade the country to re-establish compliance as soon as possible, which may range from condemnations to sanctions, and in grave cases of non-compliance referrals to the UN Security Council and/or General Assembly.

Under human rights law, investigations may amongst others lead into judicial processes against individuals and entities responsible for crimes punishable under human rights law. Such judicial processes could take place in international tribunals or the International Criminal Court, or cases could be brought by national prosecutorial services in countries that claim jurisdiction over the crimes committed. Table 1 provides a concise overview of the different mechanisms and their possible consequences.

	International Humanitarian Law	CWC	Human Rights Law	International Criminal Law	National criminal law
The purpose of an investigation is to provide evidence for:	Unlawful conduct in war	(Non)compliance with undertaking not to use CW	Violations of human rights	War crimes	Acts in violation of national laws; War crimes
The entities to be investigated usually include:	Individuals, military organisations, governments	Governments	Governments; Non-state actors; Individuals	Persons having committed the most serious crimes of international concern	Natural and legal persons under the jurisdiction of the state
Applicability:	In armed conflict (international and non-international)	In peacetime; During armed conflict: traditionally not, but Article X and other CWC provisions apply in armed conflict	At all times	At all times; Complementarity to national criminal jurisdiction	At all times; CWC also requires extraterritorial application of penal provisions to own nationals; "Universal jurisdiction"
Standard of proof:	Reasonable grounds to believe	Reasonable grounds to believe	Reasonable grounds to believe	Beyond reasonable doubt	Beyond reasonable doubt
Possible actions:	Condemnations, sanctions, treatment as war crimes	Measures to re-establish compliance, sanctions, referrals to UNSC and/or UNGA	Condemnations, sanctions, transfer to judicial processes	Prosecutions and convictions by the ICC or International Tribunals	Prosecutions and convictions by national courts

Table 1: Investigations of CW use cases and their possible consequences

Complementarity of and relationships between the investigation mechanisms

The growing focus on identifying actors responsible for chemical weapons attacks by international investigative mechanisms poses questions at several levels. At the legal level, this relates to the cross-over from arms control mechanisms that have been designed to determine and manage State compliance, to judicial mechanisms that deal with the responsibility of natural and legal persons for criminal acts.

To illustrate the point, figure 1 below shows one possible way how evidence collected by one mechanism (in this case the OPCW's Fact-finding mission, a mechanism anchored in disarmament and arms control law) could eventually be used in a judicial environment (such as a national court).

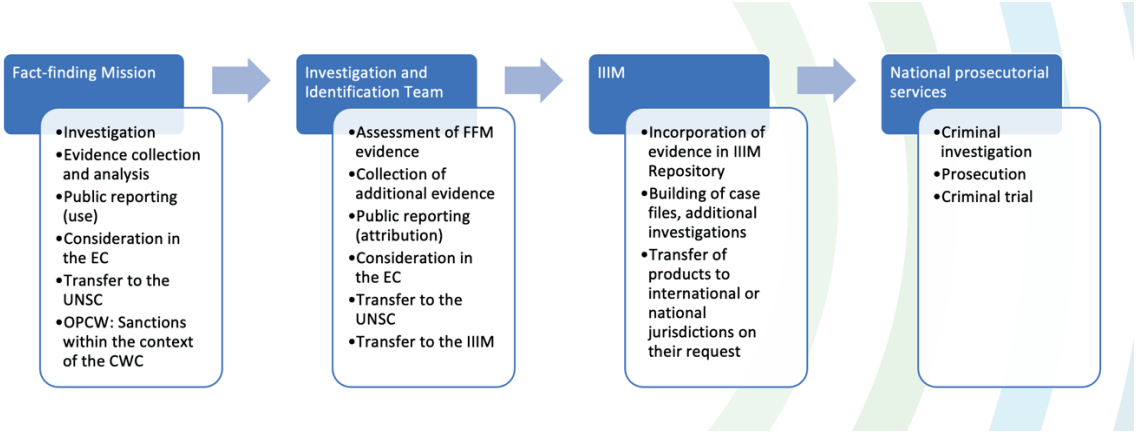

Figure 1: The path from arms control investigation to criminal prosecution – an example

This example is a rather simple linear relationship, but note that, for example, other investigative bodies and their results may be included in IIIM case files, such as the findings and evidence collected by the JIM, or the testimony collected by the Commission of Inquiry for Syria.

The different investigative bodies involved in such a chain (or array) of evidence transfer have to operate within their respective mandates and institutional policies. When an arms control organization gathers evidence that then becomes part of a criminal prosecution, this poses questions about how the legal and institutional interfaces between the organizations involved have been defined to ensure due process. In the case of Syria, these relationships were based on an array of both standing inter-organizational agreements, ad hoc arrangements, and decisions of policy-making organs of the institutions concerned. This is summarized in table 2 below.

Evidence collected by	**Evidence / findings transferred to**	**Legal basis for evidence transfers**
UNSGM	IIIM	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755
OPCW FFM	UN-OPCW JIM	UN Security Council Resolutions 2235 (2015) and 2319 (2016) UN-OPCW-Relationship Agreement - OPCW document C-VI/DEC.5 and UNGA document A/RES/55/283
OPCW FFM	OPCW IIT	OPCW decision C-SS-4/DEC.3
CoI-Syria	IIIM	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755
OPCW FFM	IIIM	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755
UN-OPCW JIM	IIIM	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755
OPCW IIT	IIIM	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755

Evidence collected by	Evidence / findings transferred to	Legal basis for evidence transfers
IIIM	International tribunals ICC National prosecutorial services	UN General Assembly resolution A/RES/71/248 (op. para 7) Terms of Reference of the IIIM as per report of the UNSG to the UNGA, document A/71/755

Table 2: Relationships between investigative entities dealing with cases of CW use in Syria

Implications

Whilst these transfers appear to be straight-forward based on the decisions taken by the respective policy making organs, there are legal, institutional and practical issues that may need further study. At the legal level, that may include compliance with conditions attached to the evidence as per the original investigation, ensuring continuity of witness protection, or the admissibility of evidence in judicial proceedings.

At the technical level, differences in the standards of proof used by different fact-finding and investigation mechanisms need to be considered. Fact-finding missions such as the FFM or the IIT operate towards a standard of "reasonable grounds to believe" in their public reporting. This is typical for human-rights investigations as well as investigations under arms control and disarmament law. Criminal proceedings on the other hand have to ensure fair trail and due process, and typically use a standard of "proven beyond reasonable doubt". When evidence is transferred from one investigative mechanism to another, the collection, preservation, transfer, storage and protection of the evidence must meet the highest of these different standards, even when the initial investigation used a lower reporting standard.

In addition to procedural aspects such as assured chain of custody and demonstrable authenticity, this has consequences for the quality expected of the scientific methods used to interrogate the evidence. Chemical forensics has made significant progress in recent years, but there remain gaps to be filled. Also, there are practical implications for institutions that support such investigations. In addition to maintaining an unbroken chain of custody, laboratories supporting such investigations also need to satisfy other requirements should evidence be transferred to judicial procedures after an investigation was completed:

- What exactly needs to be retained for future testimony or examination (sample material, analytical raw data, protocols and logs used, quality assurance documentation, etc.)?
- How can the competence be maintained to give expert testimony at trials about the work undertaken and the conclusions drawn from the analyses?
- What information can be released to the public or published in the scientific literature by the laboratory after completion of the mission, without compromising possible future judicial proceedings?

Given the time pressure of an unfolding investigation, it will be important to clarify these issues well in advance for laboratories that have volunteered to be rostered for future investigations.

In short, if the shift from investigating state noncompliance with international arms control norms to identifying personal and institutional responsibility for such acts as the basis of criminal proceedings is to be more than anecdotal, it will be necessary to clearly define the interfaces between the different mechanisms involved, and to address the legal, institutional and operational issues that such a shift entails. It will also be essential that the initial evidence collectors are aware of and respects possible future requirements with regard to forensic viability, chain of custody, witness protection and more. A thorough analysis of the practices developed during the chemical weapons investigations in Syria would therefore be highly desirable.

The Use of Chemical Weapons in Ukraine: perceptions of norm violations

Barry de Vries, JLU Giessen

While there have been consistent allegations concerning the use of chemical agents, especially tear gas, in the conflict between Russia and Ukraine since 2014, these did not receive significant responses from other states until recently. This changed especially in 2024, where allegations of chloropicrin use led to more involved responses. Even though there was little substantiation for these allegations, they were the basis for the impositions of sanctions against Russia[74] and statements during the UN's First Committee.[75] In this regard the use of chloropicrin was taken much more seriously by states than previous claims of tear gas use, pointing to a perceived hierarchy in the norm prohibiting chemical weapons and the norm prohibiting the use of riot control agents as methods of warfare. Both are clearly prohibited under the Chemical Weapons Convention (CWC) without any implied hierarchy in the Convention but the alleged violation of the different norms has received significantly different responses. This raises the question of whether this is due to a difference in the level of threat of the agent, or if there is a difference in perceived importance of the different norms. This submission will discuss these aspects by first going over the allegations, and compare the agents allegedly used. It will then discuss the different norms, the general prohibition of chemical weapons and the prohibition of using riot control agents as a method of warfare. Lastly, a possible reason for the difference in response to the different agents alleged to have been used will be proposed in a perceived norm hierarchy.

Use of Chemical Agents in Ukraine

There have been claims concerning the use of chemical agents throughout the conflict between Russia and Ukraine but until 2022 these allegations were sporadic and not well-substantiated. Since the full-scale invasion by Russia, the number of these allegations have rapidly increased with thousands of incidents of riot control agents use being alleged.[76] While the allegations have been made by both sides of the conflict, the only allegations that have clear substantiation concerns use by Russia.[77]

These allegation initially only concerned so-called 'tear gases', specifically CS gas.[78] Technical assistance visits from the OPCW have established that there were clear indicators in several

[74] See for example: US Department of State, 'Imposing New Measures on Russia for its Full-Scale War and Use of Chemical Weapons Against Ukraine', 1 May 2024, available online at https://www.state.gov/imposing-new-measures-on-russia-for-its-full-scale-war-and-use-of-chemical-weapons-against-ukraine-2/ (visited 1 December 2025); UK Foreign Office, 'Press Release: UK sanctions Russian troops deploying chemical weapons on the battlefield' 8 October 2024, available online at https://www.gov.uk/government/news/uk-sanctions-russian-troops-deploying-chemical-weapons-on-the-battlefield (visited 1 December 2025).

[75] For example Germany, Lithuania, New Zealand, Canada and Austria (First Committee, 15th and 16th plenary meeting - General Assembly, 79th session, available online at http://webtv.un.org/en/asset/k1h/k1hbjk5jup (visited 1 December 2025).

[76] 'Ukraine reports over 4,000 cases of Russian chemical weapon use on front line', The Kyiv Independent, 31 August 2024, available online at https://kyivindependent.com/ukraine-reports-over-4-000-cases-of-russian-chemical-weapon-uses/ (visited 2 December 2025).

[77] OPCW Compendium of correspondence shared by States Parties on Ukraine, available online at https://www.opcw.org/sites/default/files/documents/2022/Compendium%20of%20correspondence%20shared%20by%20States%20Parties%20on%20Ukraine.pdf (visited 2 December 2025); The Ministry of Foreign Affairs of the Russian Federation, 'Foreign Ministry Spokeswoman Maria Zakharova's comment on Kiev regime using and planning to use chemical weapons', 7 October 2024, available online at https://mid.ru/en/foreign_policy/news/1974755/ (visited 2 December 2025).

[78] Russia admits to using chemical weapons in Ukraine, *The Times*, December 26 2023; M. Rozei, 'OPCW Visits Ukraine on Chemical Weapons Allegations', 54 *Arms Control Today* (2024) available online at https://www.armscontrol.org/act/2024-09/news/opcw-visits-ukraine-chemical-weapons-allegations (visited 1 December 2025); J.-P. Zanders, 'Chloropicrin and its alleged use in the Ukrainian war (Part 2)', *The Trench Blog*, 30 May 2024, available online at https://www.the-trench.org/chloropicrin-in-ukrainian-war-2 (visited 1 December 2025).

incidents of CS use.[79] Throughout 2024 and 2025 allegations were also raised claim that chloropicrin was used.[80] There has been no public evidence substantiating these claims, however several states' intelligence services have supported these claims. Since the propagation of claims of chloropicrin use, this has featured most prominently in the responses by several states regardless of the lack of substantiation.

Tear gases and specifically CS gas are lachrymatory agents used to temporarily incapacitate people for riot control purposes. The effects of CS manifest near immediately on exposure and disappear quickly after cessation of exposure. It has a high margin between effective dose and lethal-dose and is generally considered as relatively safe and unlikely to cause permanent or serious injury.[81]

Chloropicrin on the other hand is generally not considered as a riot control agent and in the discussions surrounding its alleged use in Ukraine has often been referred to as a choking agent.[82] Chloropicrin is specifically included under Schedule 3 to the CWC, as it has significant economic uses but has historically been used as a chemical weapon.[83] Even though it is referred to as a choking agent and included under schedule 3, this does not necessarily mean that it generally causes significant damage. In most instances when chloropicrin is used there would be little possibility for death or serious damage to health.[84] It would generally be a relatively mild agent with similar effects as riot control agents.[85]

The difference in response to these agents can therefore not truly be justified on the basis of a potential increased danger by the chemical agent. There is therefore a different reason as to why attention is focused on chloropicrin, even though there is significantly more substantiation for the claims of CS gas use.

The Norms against Chemical Weapons and Riot Control Agents

As chloropicrin is not classified as a riot control agent but a chemical weapon the difference could lie in the regulation of chemical weapons when compared to riot control agents. Although earlier prohibitions existed, the main instrument instituting a clear prohibition on the use of chemical weapons was the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of All Analagous Liquids, Materials or Devices. The Protocol prohibits the 'use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices'. This prohibition is restricted to conduct in war but there is not a clear limitation with regard to the types of agents. The prohibition is specifically kept broad to incorporate any relevant chemical agent. In this regard the 1925 Protocol does not distinguish between chemical weapons and riot

[79] Note by the Technical Secretariat: Report of the OPCW Technical Assistance Visit on the Activities Carried out in Support of a Request by Ukraine (Technical Assistance Visit TAV/05/24 and TAV/01/25) 14 February 2025, S/2370/2025; Note by the Technical Secretariat: Report of the Technical Assistance Visit on the Activities Carrier out in Support of a Request by Ukraine (Technical Assistance Visit TAV/02/25 and TAV/03/25) 20 June 2025, S/2415/2025.

[80] Reuters, 'Ukraine accuses Russia of intensifying chemical attacks on the battlefield' 9 February 2024 available online at https://www.reuters.com/world/europe/ukraine-accuses-russia-intensifying-chemical-attacks-battlefield-2024-02-09/ (visited 2 December 2025).

[81] E.J. Olajos and H.Salem, 'Riot Control Agents: Pharmacology, Toxicology, Biochemistry and Chemistry', 21 *Journal of Applied Toxicology* (2001) 355-391, at 362; D.G. Sutherland, *Chemical and Biochemical Non-lethal Weapons,* SIPRI Policy Paper No. 23 2008, at 12.

[82] Letter of the Minister of Defence of the Netherlands of 4 Juli 2025 available online at: https://open.overheid.nl/documenten/a4a066dd-32f8-49b4-b4da-cd1e021750c0/file (visited 5 December 2025).

[83] M. Crowley, *Chemical Control: Regulation of Incapacitating Chemical Agent Weapons, Riot Control Agents and their Means of Delivery* (Palgrave Macmillan, 2016), at 44.

[84] M. Pesonen et al., 'Chloropicrin-induced toxic responses in human lung epithelial cells', 226 *Toxicology Letters* (2014) 236-244, at 236-237; M. Pesonen and K. Vähäkangas, 'Chloropicrin-induced toxicity in the respiratory system', 323 *Toxicology Letters* (2020) 10-18, at 11-12.

[85] H. Salem et al., 'Riot Control Agents', in Shirley Tuorinsky (ed), *Medical Aspect of Chemical Warfare* (Office of The Surgeon General Department of the Army, United States of America and US Army Medical Department Center and School Fort Sam Houston, Texas 2008) 441, at 443.

control agents but rather prohibit both when used in war.[86] While the majority of states clearly viewed the 1925 Protocol as also prohibiting riot control agents, a small minority of states have continuously argued that riot control agents were not prohibited for use in armed conflicts. The most vocal of these states has been the USA, which has maintained this position both before and after it became a party to the 1925 Geneva Protocol.[87]

The contested nature of the prohibition on riot control agents as a method of warfare was resolved in the CWC. This treaty does not only include a prohibition on any chemical weapons use but also incorporates a prohibition on the use of riot control agents as a method of warfare. This means that riot control agents are still allowed to be used for law enforcement purposes but not as a method of warfare. The CWC does include a clear definition of what riot control agents are, namely a chemical that produces rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.[88] On top of that is required that these agents are not included in the Schedules attached to the CWC. Consequently, tear gas such as CS gas can be considered a riot control agent, while chloropicrin, which is mentioned in Schedule 3 cannot be classified as a riot control agent under the CWC.[89]

However, the CWC does not include a clear definition of what is considered as law enforcement purposes or a method of warfare.[90] This has led to a situation where some states, most notably the US, maintain the position that there are certain purposes for which riot control agents can be employed during armed conflicts.[91] This position creates a situation where the scope of the prohibition on riot control agents is contested, with differing views as to when such an agent can or cannot be employed.

Consequently, under the CWC both the use of chemical weapons and riot control agents as a method of warfare is prohibited. Both norms are classified similarly under the CWC without a clear distinction in the hierarchy between these norms, however as the responses to the incidents in Ukraine show there is still a clear difference in response to their use.

A Perceived Hierarchy of Norms

While formally there is no clear hierarchy between the different norms in the CWC, the behaviour of the states does seem to indicate there is a perceived hierarchy, raising the question as to why that is. The responses and the differentiation in response to the type of agents show a clear distinction between the two norms, the general prohibition of chemical weapons and the prohibition of riot control agents as a method of warfare. It also shows that there is a perceived hierarchy between the two norms, where the general prohibition of chemical weapons is perceived as being of higher importance and perhaps also as being less controversial. While the use of riot control agents in the Russo-Ukrainian war is certainly a violation of the treaty and treated this way by the OPCW, states

86 GA Res. 2603A (XXIV) 16 December 1969; R. R. Baxter and T. Buergenthal, 'Legal Aspects of the Geneva Protocol of 1925', 64 *American Journal of International Law* (1970) 853-879, at 862-866; Crowley, *supra* note 10, at 135; M. Asada, 'A Path to a Comprehensive Prohibition of the Use of Chemical Weapons under International Law: From the Hague to Damascus', 21 *Journal of Conflict and Security Law* (2016) 153-208, at 157; M. Cottier and D. Krivanek, 'Article 8(2)(b)(xviii)', in K. Ambos (ed), *Rome Statute of the International Criminal Court: Article-by-Article Commentary* (4th edn., Beck/Nomos/Hart 2022) at 520

87 Fry, 'Gas Smells Awful: U.N. Forces, Riot-Control Agents, and the Chemical Weapons Convention', 31 *Michigan Journal of International Law* (2010) 475-558, at 483-484; Asada, *supra* note 13, at 157.

88 Article II(7) Chemical Weapons Convention.

89 Sutherland, *supra* note 8, at 15; Crowley, *supra* note 10, at 44.

90 Fry, *supra* note 14, at 499; B. Kastan, 'The Chemical Weapons Convention and Riot Control Agents: Advantages of a "Methods" Approach to Arms Control', 22 *Duke Journal of Comparative and International Law* (2012) 267-290, at 271-272; Crowley *supra* note 10, at 115.

91 Executive Order No. 11850 (40 Fed. Reg. 16187); Section 1232, National Defense Authorization Act for Fiscal Year 2006, 6 January 2006; Statement Of Joseph A. Benkert, Principal Deputy Assistant Secretary of Defense for International Security Policy, Hearing before the Subcommittee on Readiness and Management Support of the Committee on Armed Services, United States Senate 27 September 2006.

parties are less vigorous in their approach to these violations. Instead the alleged use of chloropicrin, even though being far less substantiated have moved to the forefront of the responses of western states, to the detriment of the more substantiated allegation of the use of tear gas. This can even be seen in the explicit statement of the Dutch Minister of Defence that the use of chloropicrin is 'an even more serious violation of the Chemical Weapons Convention'.[92]

The perceived hierarchy can be interpreted as the relative weakness and contested nature of the prohibition of using riot control agents as methods of warfare, potentially further weakening this already under pressure norm. There is a good likelihood that the perceived hierarchy stems from the, at times, contentious nature of the prohibition of riot control agents as methods of warfare. While it is clearly prohibited, there is a significant discussion on when a riot control agent is used as a method of warfare. In this context it is noteworthy that especially the USA has been one of the main proponents of the view that there are instances where riot control agents can be employed during armed conflicts. It could be argued that the focus on chloropicrin and the legal classification of this chemical as a chemical weapon rather than a riot control agents allowed the USA to sidestep this controversy in its decision to impose sanctions on Russia and Russian individuals for the use of chemical agents. In this regard it is noteworthy that the use of riot control agents is not mentioned in the US decision to impose sanctions and that chloropicrin is specifically referred to as a choking agent. This has subsequently been taken up by several other western states as part of their decision to impose sanctions, as well as in communications with the OPCW. In all these communications it is especially the use of chloropicrin that is focused on.

Compliance with Arms Control Norms: conceptual considerations

Almuntaser Albalawi, UNIDIR and PRIF

Compliance has been a central focus in both international law and political science scholarship as international organizations and regimes have evolved, particularly in efforts to understand how they shape state behavior. The scholarship, however, has struggled with conceptual and methodological difficulties that have impacted linking theory with practice. [93] These include ontological, measurement, and descriptive limitations, such as defining compliance and its linkages to relevant concepts like verification and enforcement.

Repeated violations and contestation across the three non-conventional weapons regimes: the chemical weapons prohibition regime, the biological weapons prohibition regime, and the nuclear nonproliferation regime, often linked to how states define and perceive compliance, have given renewed attention to such conceptual limitations long debated by scholars of political science and international law. Contestation, for instance, has often questioned the uniformity in drawing conclusions about compliance, which in turn shapes states' decisions about the effectiveness of international regimes, including, in some cases, impeding the universalization of treaties and contributing to deadlocks in negotiations to strengthen provisions and procedures.

Addressing these limitations is essential for advancing research on compliance in the arms control domain and for reducing contestation and building consensus on compliance conclusions. For the

[92] Letter of the Minister of Defence of the Netherlands of 4 Juli 2025 available online at: https://open.overheid.nl/documenten/a4a066dd-32f8-49b4-b4da-cd1e021750c0/file (visited 5 December 2025).

[93] Beth A. Simmons, Compliance with International Agreements, *Annual Review of Political Science* 1, no. 1, 1998, p.77. https://doi.org/10.1146/annurev.polisci.1.1.75.

purposes of this paper, only descriptive limitations will be addressed. [94] This includes clarifying gaps in defining compliance and distinguishing between compliance as a status and compliance control as a system, which are often not explicitly clarified. It also involves clarifying relevant concepts, such as enforcement and verification, and their interrelations with compliance, which are often underdefined and lead to causal and ontological uncertainty about how the concepts relate and overlap.

Descriptive definitions of compliance often fail to differentiate between two interlinked yet distinctive strands of the compliance concept: Compliance as a status (a condition and conclusion) and compliance as a process or control system. An actor is in compliance if demonstrated and continues to demonstrate conformity of behavior with prescriptions (obligations) and proscriptions (prohibitions) of an agreement. [95]

This definition emphasizes two aspects: the state's behavior indicates how it interacts with agreements in fulfilling expectations, and its conformity to prescribed and proscribed standards is one way to evaluate this interaction. In explicit contexts, the references are made to 'prescribed,' 'standard,' 'target,' or 'acceptable' behavior, which serves as a benchmark against which an actor's behavior is assessed. [96] The standard behavior stems from the object of the agreement and aims to fulfill its basic bargain. This explains why flagrant noncompliance usually involves violating 'the basic bargain' or 'object' of the agreement.

Compliance, as a process, on the other hand, is a system of rules and procedures to ensure an actor's state of compliance. It is what Müller calls "compliance policy" and describes as "the totality of efforts…to deal with cases where it appears possible that another party does not abide by the prescriptions and proscriptions of that agreement". [97] The process can be viewed as "compliance control" or "managing compliance," as it aims to maintain an "acceptable" level of compliance by continuously reviewing performance and identifying problems. [98]

Another way to clarify this distinction is to consider interrelations between compliance as a concept and two other relevant concepts: verification and enforcement. One of the early works that contextualized interlinkages between verification, compliance, and enforcement was provided by

[94] A comprehensive version of this study addressing all three limitations was presented at the CBWNet Conference on Norm Contestation and Compliance: The Prohibition of Chemical and Biological Weapons, Frankfurt, October 22–23, 2025, based on the author's Ph.D. dissertation work.

[95] Oran R. Young, *Compliance and Public Authority: A Theory with International Applications*, Baltimore: Johns Hopkins University Press, 1979; Beth A. Simmons, Compliance with International Agreements, *Annual Review of Political Science* 1, 1998; Jana von Stein, International Law: Understanding Compliance and Enforcement, in the *International Studies Encyclopedia*, ed. Robert A. Denemark, Oxford: Blackwell Publishing, 2010; John Borrie, Pavel Podvig, James Revill, and John Hart, *Compliance and Enforcement: Lessons from Across WMD-Related Regimes* (WMDCE Series No. 6), United Nations Institute for Disarmament Research (UNIDIR), 2019.

[96] Oran R. Young, *Compliance and Public Authority: A Theory with International Applications*, Baltimore: Johns Hopkins University Press, 1979; Peter M. Haas, Robert O. Keohane, and Marc A. Levy, *Institutions for the Earth: Sources of Effective International Environmental Protection*, Cambridge, MA: MIT Press, 1993; Michael Reiss, *The Nuclear Non-Proliferation Regime: Past, Present, and Future*, Cambridge: Cambridge University Press, 1984, p.92; Ronald B. Mitchell, Regime Design Matters: Intentional Oil Pollution and Treaty Compliance, *International Organization* 48, no. 3, 1994: p.430; Beth A. Simmons, Compliance with International Agreements, *Annual Review of Political Science* 1, 1998.

[97] Harald Müller, *Compliance Politics: A Critical Analysis of Multilateral Arms Control Treaty Enforcement*, The Nonproliferation Review 7, no. 2, 2000: p.77–90, at p. 78.

[98] Abram Chayes, Antonia Handler Chayes, and Ronald Mitchell, *Managing Compliance: A Comparative Perspective*, in Edith Brown Weiss and Harold K. Jacobson (eds.), Engaging Countries: Strengthening Compliance with International Environmental Accords, Cambridge, MA: MIT Press, 1998, p.13–31; Wolfgang Lang, *Compliance with Disarmament Obligations*, Zeitschrift für Ausländisches Öffentliches Recht und Völkerrecht (ZAÖRV), 1995

Lang.[99] According to him, verification involves scrutinizing an actor's behavior in accordance with specific rules. It is primarily aimed at checking facts without necessarily going further. As such, it is closely related to the compliance process as a "special and limited category" of compliance.

Lang lists three variations to verification that establish interferences with compliance and enforcement. The minimalist variation "reduces verification to the establishment of facts; its purpose is to prove that a certain line of conduct has not followed a certain line of conduct." The intermediate "goes beyond simple fact-finding; it includes legal assessment, which means that the specific conduct of a state is evaluated by comparing it with an abstract norm." The third variation involves the enforcement element: "The extensive concept of verification includes reactions and consequences in the event of a violation that has been corroborated by undeniable facts and a legal evaluation beyond any doubt."[100]

The widely used definitions in the policy domain reduce verification to either the first variation or the first and part of the second variation provided by Lang, while treating the third variation as a definition for enforcement. As such, verification is described as a process of information gathering and analysis to make a judgment on whether a state is in compliance or non-compliance.[101]

Verification typically involves a technical judgment or assessment of compliance, not necessarily a legal one. For instance, the Technical Secretariat for the Organization for the Prohibition of Chemical Weapons (OPCW) provides technical assessments of compliance. Still, it is the Executive Council (EC) of state parties and the Conference of the State Parties (CSP) that review and provide conclusions on states' compliance. Similarly, the International Atomic Energy Agency (IAEA) provides technical reports on member states' implementation of their safeguards agreements, as part of their obligations under the Nuclear Non-proliferation Treaty (NPT), but it is the IAEA General Conference of all Member States and the 35-member Board of Governors that may provide conclusions on whether states are in compliance with the safeguards obligations under the NPT treaty or not.[102]

Compliance control, as a process and system, addresses allegations, suspicions, and inconsistencies. It encompasses verification and is informed by and addresses the issues raised by it.[103] This explains why early conceptualization, as Lang's or Mitchell's, treated both concepts interchangeably. For instance, in his characterization of compliance systems, Mitchell referred to compliance information systems, which encompass verification and compliance control activities as the "actors, rules, and processes that collect, analyze, and disseminate information on instances of violations and compliance."[104]

Verification and compliance are also linked to enforcement, according to Lang. He notes, "the broader concept of compliance-control… includes the follow-up to the outcome of verification, namely sanctions or other measures."[105]

[99] Wolfgang Lang, *Compliance with Disarmament Obligations*, Zeitschrift für Ausländisches Öffentliches Recht und Völkerrecht (ZAÖRV), 1995.

[100] Ibid., 79–81.

[101] United Nations Institute for Disarmament Research & Verification Research, Training and Information Centre (VERTIC), eds., *Coming to Terms with Security: A Handbook on Verification and Compliance*, Geneva: UNIDIR; London: VERTIC, 2003, p.1.

[102] A. Walter Dorn and Douglas S. Scott, Compliance Mechanisms for Disarmament Treaties, in *Verification Yearbook 2000*, London: VERTIC, 2000. p. 231–2.

[103] United Nations Institute for Disarmament Research & Verification Research, Training and Information Centre (VERTIC), eds., *Coming to Terms with Security: A Handbook on Verification and Compliance*, Geneva: UNIDIR; London: VERTIC, 2003, p.33

[104] Ronald B. Mitchell, Regime Design Matters: Intentional Oil Pollution and Treaty Compliance, *International Organization* 48, no. 3, 1994, p.430.

[105] Wolfgang Lang, Compliance with Disarmament Obligations, *Zeitschrift für Ausländisches Öffentliches Recht und Völkerrecht (ZAÖRV)*, 1995, p.87.

Müller's definition of enforcement accounts for all four concepts:

"Set of activities aimed at bringing a reluctant or even resistant party back into compliance [*as a status*] when more cooperative attempts at ensuring compliance [*control as a process*] have failed, and increasing evidence is available [*verification outcomes*] that the party is effectively in noncompliance [*as a status*] with its obligations; in extremis, enforcement may even entail the use of military force".[106]

In Müller's definition, the set of activities is enforcement procedures, and the intended condition and status these activities aim to achieve is to bring the actor back to a state of compliance. The cooperative attempts that preceded enforcement activities constitute compliance control as a process and system, which encompasses the process of obtaining evidence of (non)compliance through verification.

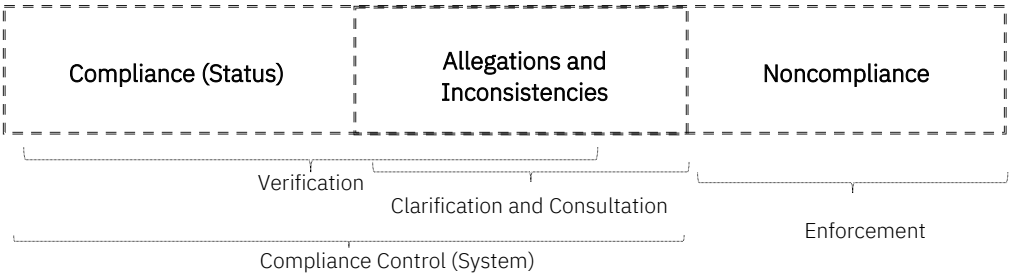

***Figure 1. Descriptive clarity: compliance, compliance control, verification, and enforcement**. Compliance as a status is distinct from compliance control, which reviews the implementation of a treaty and provides evidence of (non)compliance through cooperative activities, including verification, clarification, and consultation. Enforcement, on the other hand, comes into play once noncompliance has been established—the author's work.*

Enforcement and compliance control may overlap, even conceptually. Both aim at ensuring compliance. One way to distinguish them is to limit enforcement to follow-up actions and induced instruments when non-compliance is proven, and exclude the range of procedures and actions that may precede them, including clarification, consultation, and investigation mechanisms for ensuring compliance or establishing non-compliance, which form the compliance control process.

In other words, compliance control is about ensuring compliance through review of the treaty's implementation (assessing and concluding), usually through cooperative means of clarification and verification, whereas enforcement is restoring compliance by redressing and remedying violations and non-compliance of the treaty, once established.

The key difference is whether non-compliance or violation is established, since some definitions depend solely on whether procedures or interventions are cooperative, which generally relates to compliance control, or enforcement if they are punitive and coercive. This is not always the case, because enforcement can "range from 'soft,' positive inducement measures, such as providing technical or legal assistance to States working towards compliance, through to 'hard' inducement measures, such as public naming and shaming, the suspension of privileges, and the imposition of sanctions".[107]

[106] Harald Müller, Compliance Politics: A Critical Analysis of Multilateral Arms Control Treaty Enforcement, *The Non-proliferation Review* 7, no. 2, 2000, p.77–90, at p.78.

[107] Treasa Dunworth, *Compliance and Enforcement in WMD-Related Treaties*, WMD Compliance and Enforcement Series No. 1, Geneva: UNIDIR, 2019, p. 6.

Compliance with CBW Norms: contributions from moral psychology

Veronika Klymova, PRIF

The persistent interest in studying norms across disciplines is partially connected to existential questions that troubled people for millennia: "What does it mean to be a good person?" and "How can we ensure the flourishing and justice in human societies?" Norms have even been called "the superglue of human societies"[108] and figure centrally in such answers. The constructivist turn brought norms onto the IR agenda[109], and the claim that actors both shape and are shaped by the international system became commonplace. Since then, research has covered norm construction, dissemination, resilience, contestation and compliance, as well as debates over norms' "strength".

In IR, compliance refers to the adherence to laws, regulations, standards, or guidelines set by an authority and often also means knowing and following what not to do. Psychological mechanisms of moral judgment offer an important complement to the macro-level accounts of compliance. IR scholarship has long debated why some norms are more accepted than others, sometimes despite efforts to promote alternative norms[110], or whether compliance reflects conviction, fear or conformity[111]. This contribution proposes an individual-level explanation of psychological processes of moral judgment to supplement IR's structural focus.

Psychological research with young children shows evidence of prosocial behavior early in life, which can scaffold norm-based morality in adulthood[112]. Children, as early as preschool age, can distinguish between non-moral issues – social conventions (e.g., table manners) and moral matters that we would associate with being "just wrong" (e.g., hitting another child)[113].

Social conventions are easily broken and their demands often meet resistance. They are rules that are authority- and context-dependent. Whereas, causing harm to another is treated with categorical wrongness judgments and attributions of intentionality that support blame [114]. This distinction matters because it reaffirms that the CBW prohibition functions as a moral norm, not a mere convention: CBW use is cast as categorically wrong (harm to innocents) and, once intentionality is attributed, warrants blame.

This contribution argues that CBW prohibitions are moralized norms. The noncompliance with these norms is perceived as harmful and categorically wrong, which raises the costs of developing/using the weapons and helps sustain compliance in combination with institutional architectures and functional constraints.

Linking Moral Psychology and Norm Theory

The bridge between psychology and IR lies in understanding norms as both individual and collective phenomena. Psychology provides a more robust micro-level theoretical framework for the analysis of CBW norms because it specifies how norms operate in practice and how they are translated into actions. Inputs from psychology and, to some extent, neuroscience are crucial to understanding individual differences in norm internalization and help to move beyond the implicit blank slate approach in some constructivist work.

[108] Michael Tomasello and Amrisha Vaish, "Origins of Human Cooperation and Morality," *Annual Review of Psychology* 64, no. 1 (2013): 238, https://doi.org/10.1146/annurev-psych-113011-143812.

[109] Jeffrey T. Checkel, "The Constructive Turn in International Relations Theory," *World Politics* 50, no. 2 (1998): 324–48, Cambridge Core, https://doi.org/10.1017/S0043887100008133.

[110] Richard Price and Kathryn Sikkink, *International Norms, Moral Psychology, and Neuroscience*, Elements in International Relations (Cambridge University Press, 2021), Cambridge Core, https://doi.org/10.1017/9781108966610.

[111] Ethan A. Nadelmann, "Global Prohibition Regimes: The Evolution of Norms in International Society," *International Organization* 44, no. 4 (1990): 479–526.

[112] Tomasello and Vaish, "Origins of Human Cooperation and Morality."

[113] Larry P. Nucci and Elliot Turiel, "Social Interactions and the Development of Social Concepts in Preschool Children," *Child Development* 49, no. 2 (1978): 400, https://doi.org/10.2307/1128704.

[114] Bertram F. Malle, "Moral Judgments," *Annual Review of Psychology* 72, no. 1 (2021): 293–318, https://doi.org/10.1146/annurev-psych-072220-104358.

"Visceral" reactions [115] to biological weapons can be experienced only at the level of individual's psychology, similarly, "moral opprobrium" [116] describes the public expression of condemnation by individuals or groups. Research that combines individual-level psychology with structural or institutional analysis gives a fuller picture of norms[117].

Morality includes moral behavior and moral cognition and, for some authors, emotion and identity to address the gap between judgment and action[118]. Moral cognition comprises the processes that recognize, evaluate, and interpret behavior as moral or immoral[119]. Moral judgment is one of these processes.

Bentley develops a different biological weapons taboo argument that is not about how widespread compliance is. Bentley proposes three criteria: disgust (an object perceived as contaminating or dangerous), stigmatization (institutional and social negative response to something that evokes disgust) and fetishization (exaggerated perceived value, which explains the intensity and priority attached), which make the biological weapons taboo "distinctly visceral"[120].

The argument gives little space to moral cognition or the process of judgment. From a psychological perspective, this process engages both harm and purity intuitions: the use of poison or contagion in warfare violates not only the sanctity of human life but also triggers disgust-based responses to contamination. Immediate condemnation rooted in visceral disgust is often attributed to an intuitive "gut feeling" of wrongness[121].

The norms against chemical and biological weapons as moralized norms require defense. As Price notes, claims that chemical weapons are especially horrible are not sufficient to justify non-use. The evidence does not support the assertion that chemical weapons have a special status on these grounds or their association with poison[122].

Viewed together, Bentley's concept of taboo has many connections to Haidt's moral foundations theory (MFT), focusing on the intuitive and social aspects. For Haidt, disgust is one of the central intuitive responses that shape moral behavior when the object or action is perceived as impure or contaminated[123]. While Haidt did not explicitly operationalize the concept of stigmatization, a recent study applies his theoretical framework to the stigmatization practices associated with infectious diseases[124].

[115] Michelle Bentley, "A New Model of 'Taboo': Disgust, Stigmatization, and Fetishization," *International Studies Review* 24, no. 3 (2022): viac028, https://doi.org/10.1093/isr/viac028.

[116] J. P. Zanders, "International Norms Against Chemical and Biological Warfare: An Ambiguous Legacy," *Journal of Conflict and Security Law* 8, no. 2 (2003): 391–410, https://doi.org/10.1093/jcsl/8.2.391.

[117] Lacey J. Davidson and Daniel Kelly, "Minding the Gap: Bias, Soft Structures, and the Double Life of Social Norms," *Journal of Applied Philosophy* 37, no. 2 (2020): 190–210, https://doi.org/10.1111/japp.12351.

[118] Augusto Blasi, "Emotions and Moral Motivation," *Journal for the Theory of Social Behaviour* 29, no. 1 (1999): 1–19, https://doi.org/10.1111/1468-5914.00088.

[119] Malle, "Moral Judgments."

[120] Bentley, "A New Model of 'Taboo,'" 7.

[121] Jonathan Haidt, "The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment.," *Psychological Review* (US) 108, no. 4 (2001): 814–34, https://doi.org/10.1037/0033-295X.108.4.814.

[122] Richard Price, "A Genealogy of the Chemical Weapons Taboo," *International Organization* 49, no. 1 (1995): 73–103, https://doi.org/10.1017/S0020818300001582.

[123] Haidt, "The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment."

[124] C Damsté and K Kramer, "Moral Intuitions About Stigmatizing Practices and Feeding Stigmatizing Practices: How Haidt's Moral Foundations Theory Relates to Infectious Disease Stigma," *Public Health Ethics* 16, no. 1 (2023): 102–11, https://doi.org/10.1093/phe/phad002.

MFT's emphasis on intuitive moral processes is valuable but must be combined with a harm-based approach to capture the moralization of CBW norms. MFT states that morality is governed by gut reactions, with rationalization coming later. IR scholarship has long emphasized rational persuasion and other rational mechanisms in norm adoption and adherence, while somewhat neglecting the intuitive side of the brain[125].

MFT connects morality to evolutionary psychology through five domains: fairness, care, loyalty, authority, purity. Methodologically, MFT relies on scenario-based questionnaires that include topics such as cannibalism or incest. However, the questionnaires are written with the foundations assumed, which makes the results favorable to the theory. MFT's moral relativism makes explaining the norms against chemical and biological weapons difficult, and neither MFT nor Price and Sikkink[126] specify the way in which a visceral reaction, e.g. disgust, becomes a moral concern. These limitations motivate a mechanism that does not depend on relativized foundations or slow-reasoning assumptions.

As in IR, where norms are localized and actively reconstructed so they are congruent with preexisting local normative orders[127], moral psychology deals with cultural differences in what counts as immoral [128]. Morality cannot be reduced to either intuitive or rational process alone. It involves moving between intuitive and reflective modes, the latter not necessarily slow. The cognitive/reflective mode is especially useful when actors must justify themselves to others or interpret contested actions.

I turn next to a harm-based explanation[129] together with elaborating on moral judgment[130] to account for the strength of the norms against chemical and biological weapons.

Mechanism

People do not like to see others suffer, and they readily understand causation and intentionality in harm. Evaluating whether something causes harm is a basic process of moral cognition[131]. According to Gray, moral norms are those tied to harm.

This is by far not the only way to define morality or moral decision-making. The quest to find the one (or few) base of human morality continues. Is it justice/fairness[132], gut reactions with post-hoc rationalization[133], care[134], or a combination of cognition, emotions, identity and personality [135]?

Gray's theory of dyadic morality is a harm model well suited to explain the endurance of the norms against chemical and biological weapons and compliance with them. It emphasizes the intentional infliction of suffering: an agent (a state or leader) intentionally harms vulnerable patients through

[125] Price and Sikkink, *International Norms, Moral Psychology, and Neuroscience*.
[126] ibid
[127] Amitav Acharya, "How Ideas Spread: Whose Norms Matter? Norm Localization and Institutional Change in Asian Regionalism," *International Organization* 58, no. 02 (2004), https://doi.org/10.1017/S0020818304582024.
[128] R.A. Shweder, *Thinking Through Cultures: Expeditions in Cultural Psychology* (Harvard University Press, 1991), https://books.google.de/books?id=7DmCoEsxVxQC.
[129] Kurt Gray and Samuel Pratt, "Morality in Our Mind and Across Cultures and Politics," *Annual Review of Psychology* 76, no. 1 (2025): 663–91, https://doi.org/10.1146/annurev-psych-020924-124236.
[130] Malle, "Moral Judgments."
[131] Gray and Pratt, "Morality in Our Mind and Across Cultures and Politics."
[132] Lawrence Kohlberg, *The Psychology of Moral Development: The Nature and Validity of Moral Stages*, Essays on Moral Development 2 (Harper and Row, 1984).
[133] Haidt, "The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment."
[134] Carol Gilligan, "In a Different Voice: Women's Conceptions of Self and of Morality," *Harvard Educational Review* 47, no. 4 (1977): 481–517, https://doi.org/10.17763/haer.47.4.g6167429416hg5l0.
[135] A. Colby and W. Damon, *Some Do Care: Contemporary Lives of Moral Commitment* (Free Press, 1992), https://books.google.ch/books?id=dGq7AAAAIAAJ.

invisible, inescapable harm. The closer any act fits this template, the more it is perceived as immoral[136].

This theory helps explain why chemical and biological weapons prohibitions resonate categorically and why their violation provokes outrage exceeding strategic calculation. Gray's account is not a binary approach of harm/no harm, but rather a degree of perceived harm which gives considerations to intentionality, causation and suffering. Harm is perceived and evaluated by other actors, who are engaged in a dyadic loop, a recurring, cyclical pattern, which reinforces itself. Perceiving harm makes actions be judged as immoral, and judging an act as immoral amplifies perceived harm, which amplifies condemnation over time.[137].

For CBW prohibitions, the dyadic loop helps explain that as soon as an alleged violation is perceived as intentional harm against vulnerable populations, people move quickly from recognizing wrongness to assigning blame. This explains why even limited evidence of CBW use tends to provoke categorical responses.

The "purity" reactions (e.g., disgust at contamination) described in MFT and by Bentley can be understood as *harm* through a danger to a vulnerable subject. Thus, taboo arguments fold into a harm template instead of requiring separate moral considerations or theorizing.

If Gray explains why violations of the chemical and biological weapons prohibition norms look categorically wrongful, Malle explains how audiences get from an event to blame. Malle's framework describes four groups of moral judgement that have a hierarchical relationship building on each other towards more complex mechanisms of informational processing. Evaluation, norm judgments, wrongness judgment and blame judgment are groups of moral judgments that help an individual make inferences about an event or an action. An event is perceived and evaluated as "good" or "bad" fast, it is primarily an affective response and whether it is genuinely moral depends on whether you think that morality can be affective as, for example, moral foundations theory claims. Nevertheless, it is a basis for more sophisticated processes.

For chemical and biological weapons, the relevance of evaluation is in placing alleged use on a "badness" scale. Norm judgment is categorical and considers whether an action is permissible, prescribed or prohibited presupposing the existence of rules of conduct with which it is compared. The norms against chemical and biological weapons fall into the forbidden category and are codified in the Chemical Weapons Convention and the Biological Weapons Convention.

It is a declaration of the norms' existence, which plays a role in decision-making. For an action to be judged as morally wrong, motivation, intentionality and violation of a moral norm are important. Compliance exists on a spectrum. Sometimes states strive to comply but fail because of domestic political realities, lack of national capacity, or technical issues. The notions of intent and good faith are important for understanding non-compliance. Blame judgment builds on other three groups and integrates information about intentionality and justification of actions. People take into account the "why," and if reasons are deemed justified, negative moral judgments are avoided or mitigated, even for otherwise condemned actions.

The level of accepted non-compliance varies from norm to norm. Moral norms have a higher place in this hierarchy of compliance, meaning that noncompliance elicits a stronger reaction.

[136] Gray and Pratt, "Morality in Our Mind and Across Cultures and Politics"; Kurt Gray et al., "The Moral Dyad: A Fundamental Template Unifying Moral Judgment," *Psychological Inquiry* 23, no. 2 (2012): 206–15, https://doi.org/10.1080/1047840X.2012.686247; Chelsea Schein and Kurt Gray, "The Theory of Dyadic Morality: Reinventing Moral Judgment by Redefining Harm," *Personality and Social Psychology Review* 22, no. 1 (2018): 32–70, https://doi.org/10.1177/1088868317698288.

[137] Schein and Gray, "The Theory of Dyadic Morality."

Consider this, you invite a person to a dinner party, where said person enters your house without taking their shoes off. Now, in many cultures this is a completely appropriate behavior that aligns with what is considered polite and appropriate. However, in equally many cultures this would be considered as rude and inappropriate. The person will be violating the norm of etiquette. Here we are comfortable with allowing for cultural relativism and rarely would people enforce strictly the norm of taking off their shoes while entering the house.

Scope and Conclusion

CBW norms moralization can co-exist with functionalist arguments explaining why these weapons are not used more frequently: (un)reliability, unpredictability, limited utility.

Dolan's analysis of Marshall's 1945 proposal to use chemical weapons against Japan suggests that taboo norms, in this case, the use of chemical weapons, can be in conflict in the individual's psyche. According to Dolan, the proposal failed because other stakeholders held a different hierarchy of norms, which constrained Marshall[138].

In my understanding the taboo norms are moralized norms, which can be violated or considered to be violated. The noncompliance with the moralized norms is a difficult moral judgment, where justifications play an important role in a game of tragic trade-offs.

Norms' moralization alone is not sufficient to explain (non)compliance with them, because the tension between considering these weapons dishonorable and immoral and using them, especially when an enemy was painted as less than human, barbaric, was present since antiquity.

Myth (Odyssey during the Trojan war), facts (e.g., using poisoned arrows), and ancient codes of war described the use of poison. However, they were often in tension with each other. For example, The Laws of Manu, forbade the use of poisoned arrows and thus being credited as being the first at first oral and then written document to prohibit biochemical warfare (500 BC oral, 150 AD written). The same document advises to "spoil the grass and water" of the enemy. The Arthashastra (the fourth century BC), an Indian military tractate, details recipes for poisonous substances and urges their use in war if needed[139]. Biochemical warfare was recognized, employed, but painted as dishonorable in Greek and Roman traditions.

[138] Thomas M. Dolan, "Unthinkable and Tragic: The Psychology of Weapons Taboos in War," *International Organization* 67, no. 1 (2013): 37–63, https://doi.org/10.1017/S0020818312000379.

[139] Adrienne Mayor, *Greek Fire, Poison Arrows, and Scorpion Bombs* (Princeton University Press, 2022), JSTOR, https://doi.org/10.2307/j.ctv25c4znh.

Restoring Compliance with CBW Norms: state identity and the case of Syria

Una Jakob, PRIF

Introduction: Chemical Weapons Disarmament in Syria

In March 2025, the new interim foreign minister of Syria, Asaad Hassan Al-Shaibani, spoke before the Executive Council of the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague.[140] In his speech, he announced that his government would fully cooperate with the Organisation to bring Syria into compliance with the Chemical Weapons Convention (CWC).[141] This announcement followed a decade of massive violations of the international norms against chemical weapons by the previous Syrian government of Bashar al-Assad.[142] In an effort to bring Syria into compliance with these norms, OPCW member states by majority vote applied all the compliance measures foreseen in CWC Article XII – revoking several of Syria's membership rights, recommending member states to take measures that may include sanctions, and informing the UN General Assembly and UN Security Council of the situation. However, none of these measures had the desired effect to end Syria's violation of the CWC. Any other, more rigorous measures would have had to be sanctioned by the UN Security Council (UNSC) which has been deeply divided over the issue, as have the policy-making organs of the OPCW, with Russia (and China) opposing any condemnation of Syria, let alone action to bring it back into compliance. The question of restoring Syria's compliance with the CWC was hence stuck in a stalemate for several years.

In late November 2024, the group Hay'at Tahrir al-Sham (HTS) led by Ahmed al-Sharaa started a surprise offensive which resulted in the fall of Assad and his government. Already during the offensive, the group stated that they had no interest in "Assad's chemical weapons"[143], a position later reaffirmed in meetings with representatives of the OPCW Technical Secretariat. In addition to this rhetorical commitment, the current Syrian government has cooperated with the OPCW throughout the year 2025 in trying to locate, secure and ultimately destroy the remainder of the chemical weapons programme and stockpiles in Syria.[144] This has been a difficult process, given the patchy information about the state of the programme, the lack of expertise and resource on the Syrian side to address the issue swiftly and comprehensively, and ongoing security issues which have at times hampered OPCW engagement in-country. However, if the Syrian government sustains its current commitment and receives sufficient international support, there is a chance that this process could lead to Syria's complete chemical weapons disarmament and to establishing its compliance with the CWC and international norms against chemical weapons.

Theoretical Excursion: State Identity and Foreign Policy Decision-Making

Violations of the norms against chemical weapons have been rare in the past century. Hence, there are no general or generalizable patterns of processes to restore compliance in this field. Any analysis or explanation therefore has to be case-specific. This contribution follows an inductive,

[140] OPCW, "Syria's caretaker Foreign Minister addresses OPCW's Executive Council", News, 5 March 2025, https://www.opcw.org/media-centre/news/2025/03/syrias-caretaker-foreign-minister-addresses-opcws-executive-council.

[141] OPCW, "Statement of the Minister of Foreign Affairs of Syria H.E. Asaad Hassan Al-Shaibani at the 108th Session of the Executive Council", EC-108/4, 5 March 2025, https://www.opcw.org/sites/default/files/documents/2025/03/ec10804%28e%29.pdf.

[142] See e.g. Tobias Schneider and Theresa Lütkefend, "Nowhere to Hide: The Logic of Chemical Weapons Use in Syria", Global Public Policy Institute, 17 February 2019, https://gppi.net/2019/02/17/the-logic-of-chemical-weapons-use-in-syria. See also the documents and reports available on the OPCW website at https://www.opcw.org/media-centre/featured-topics/opcw-and-syria.

[143] Jakob, Una 2025: "Chemical Weapons Disarmament in Syria – a Door Opening?" PRIF Blog, 14 March 2025, https://blog.prif.org/en/2025/03/14/chemical-weapons-disarmament-in-syria-a-door-opening/.

[144] OPCW, "Progress in the Elimination of the Syrian Chemical Weapons Programme: Report by the Director-General", EC-111/DG.2, 24 November 2025, https://www.opcw.org/sites/default/files/documents/2025/11/ec111dg02%28e%29.pdf.

theory-guided approach in analysing the rhetoric accompanying the Syrian policy change on chemical weapons, looking at the process through a social constructivist lens of international norms and state identity.[145]

State identity is a form of socially constructed collective identity which, in the words of Thomas Banchoff, is "what binds the group together and situates it with respect to others".[146] According to Social Identity Theory (SIT), which is rooted in social psychology, individuals strive for a positive self-image, or high self-esteem in Ned Lebow's terms[147], which can be enhanced by positive identification with a group.[148] This forms the basis of group, or collective, identity. A stable collective identity, in turn, fulfils an important function for the group in that it creates a sense of belonging for its members and can help ensure group cohesion and coherence.[149] The latter is particularly important for state identities, that is, for collective identities where identification with the state's institutions, symbols, narratives and actions represent essential identity elements, since to be able to function and act, states depend on the support of and acceptance by (that is, positive identification of) their citizens.[150] This is not to say that for a stable state identity, all citizens need to support every action or policy position at all times, but rather that they need to accept the state as legitimate in principle and do not question its very existence.

Foreign policy can be driven by a range of motives, including security, power, influence, economic or other national interests, along with international and national norms and principles. State identity provides a framework of legitimate policy motives and objectives, and it determines the range of policy options that are considered acceptable and appropriate.[151] State identities can be constructed and shaped in different ways, but historical experience, path dependency and delineation from an "Other" are often crucial factors in identity construction processes.[152] The impact of identity considerations on foreign policy formation and decision-making can be determined when identity-related themes such as history, traditions, self-images, expectations of appropriate behaviour, and/or references to an "Other", can be identified in justifications for policy decisions.[153]

Identity motifs in Syria's current chemical weapons disarmament policy

To trace identity motifs in the current Syrian government's announcement of its renunciation of chemical weapons, this contribution relies on a content analysis of Foreign Minister Al-Shaibani's speech before the OPCW Executive Council in March 2025. This is an exploratory analysis intended

[145] For a detailed presentation of the concept of state identity as employed here see Una Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas: Eine konstruktivistische Analyse*, Wiesbaden: Springer, 2019.

[146] Thomas Banchoff, "German Identity and European Integration", *European Journal of International Relations* 5(4) 1999, pp. 259-289, quote on p. 268.

[147] Richard Ned Lebow, *National Identities and International Relations*, Cambridge: Cambridge UP 2016, p. 3.

[148] See e.g. Henri Tajfel, "Social Categorization, Social Identity and Social Comparison", in: Henri Tajfel (ed.), *Differentiation Between Social Groups: Studies in the Social Psychology of Intergroup Relations*, London: Academic Press 1978, pp. 61-76; Henri Tajfel and John C. Turner, "The Social Identity Theory of Intergroup Behaviour", in: S. Worchel and W.G. Austin (eds.), *Psychology of Intergroup Relations*, Chicago: Nelson Hall, pp. 7-24; for an overview see Jakob, Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas, p. 6.

[149] Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, p. 7.

[150] Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, pp. 15-17.

[151] Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, p. 37. For a discussion of identities and the 'logic of appropriateness' see James G. March and Johan P. Olsen, "The Institutional Dynamics of International Political Orders", *International Organization* 52(4) 1998, pp. 943–969.

[152] See e.g. Marijke Breuning, "Culture, History, Role: Belgian and Dutch Axioms and Foreign Assistance Policy," in Valerie Hudson (ed.), *Culture and Foreign Policy*, Boulder, CO: Lynne Rienner, pp. 99-123; Felix Berenskoetter, "Parameters of a National Biography", *European Journal of International Relations* 20(1), pp. 262-288. For different theoretical perspectives on the role of "Othering", that is, the delimitation and (positive) distinction of one's own group from another, for collective identity formation see e.g. Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, 7-13.

[153] Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, pp. 39-41.

to preliminarily probe the plausibility of the theoretical approach. For a rigorous analysis, more empirical data would be needed but was not yet available at the time of writing. The content analysis was carried out using the software MaxQDA and a simplified version of a coding scheme developed to identify identity motifs in justifications of arms control policy positions.[154] It relied on the following categories for the coding:

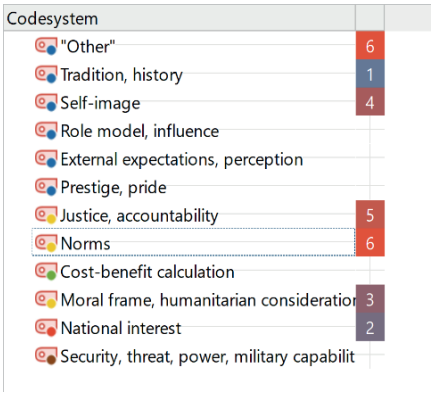

Figure 1: Coding scheme for content analysis of Al-Shabiani's speech in March 2025

The first six categories refer to the identity frame, whereas the others serve as control categories to account for potential alternative frames that could be employed to justify policy decisions, such as for example normative considerations, national interest or security considerations.

As can be seen in Figure 1, the analysis of Al Shaibani's speech indeed reveals several elements that point to identity construction as possible motif in the policy approach, in particular the reference to Assad and his government as "Other". It also shows a strong reference to normative aspects such as justice and accountability as well as international law and international norms. These references are sometimes used in conjunction with identity-related themes.

> *"I speak here today not only as Syria's Foreign Minister but as a representative of a nation and people that have endured profound suffering under the shadow of chemical weapons by those who were entrusted with their protection—a shadow that we did not cast, but are now resolute in dispelling."*
>
> *"This chemical weapons programme created under the Assad era is not our programme. The documented use by the OPCW is not our use. The legal obligations resulting from breaches are ones we inherited, not created. Nevertheless, our commitment is to dismantle whatever may be left from it, to put an end to this painful legacy and ensure Syria becomes a nation aligned with international norms."*
>
> *"Domestically and internationally, we will be doing our best to ensure the perpetrators of these unimaginable crimes are held to account, that justice is achieved for the victims, and that solid international standards are established to prevent the recurrence of such atrocities in the future".*[155]

Al-Shaibani clearly distances his government from the previous one by emphasising that his government is not in any way responsible for the previous government's use of chemical weapons and other violations of the CWC, thereby distinguishing the current government positively from the previous one. He connects this positive distinctiveness with the strive for justice and accountability of the norm violators (aka Assad's government). Moreover, he uses compliance with international law and international norms, including those against chemical weapons, and the current government's intention to bring Syria into compliance with the CWC, to create a (self-)image of Syria as law-abiding member of the international community and as an element of positive distinction. Finally, Al-Shaibani links his government's commitment to dismantle the remainder of the chemical weapons programme and abide by international law with the lifting of the unilateral economic

[154] Jakob, *Die Abrüstungs- und Nichtverbreitungspolitik Irlands und Kanadas*, p. 56.
[155] OPCW, "Statement of the Minister of Foreign Affairs of Syria H.E. Asaad Hassan Al-Shaibani at the 108th Session of the Executive Council", EC-108/4, p. 1, 2 and 4.

sanctions. Several states enacted these sanctions in reaction to Assad's violations of human rights and international law, including the use of chemical weapons.

While material interests – the improvement of Syria's economic situation – are thus clearly recognizable as drivers of Syria's policy approach, Al-Shaibani chose to rhetorically go beyond these material interests and added a layer of arguments referencing core elements of identity construction, namely by othering the Assad government and by constructing a distinctive (self-) image for Syria under the new rule. The emphasis on international law and international norms could be due to the fact that he addressed an international audience in a forum that had been intensely preoccupied with Syria's violations of the CWC for several years, and where he could safely assume that invoking normative frames would resonate positively with the large majority of listeners. This caveat notwithstanding, the speech provides some preliminary starting points for an analysis of the process of restoring compliance after norm violations from a theoretical, norm- and identity-focussed perspective.

Conclusion

The analysis presented here provides indications that state identity can be one relevant theoretical framework that could be taken into account when scrutinizing processes of compliance restoration. The empirical basis currently available for the Syrian case allow for an an exploratory study only, and no general assumptions can be inferred from it. Future research will need to consider additional empirical material. It will also need to compare frames of reference and justifications used in different contexts and to different, e.g. international and domestic, audiences. Moreover, adding perspectives from role theory – with a stronger focus on external expectations and interactions with other actors – might yield additional insights in particular regarding the motif of law-abiding, "good international citizen".

In addition, it could be explored how the process of restoring compliance relates to the strength and robustness of the norms against chemical (and biological) weapons. Restoring compliance is a rare phenomenon and as such does not render itself an 'easy' research topic from a theoretical perspective. At the same time, it is a crucial element of disarmament policy, and also essential in the wider efforts to uphold and strengthen disarmament norms. After all, it is not necessarily the violation of a norm that determines its strength or weakness, but the reactions to this violation and the question whether violations go unpunished. Understanding circumstances in which compliance can be, and has been, restored is thus an important aspect of research aimed at contributing to the strengthening of the norms against biological and chemical weapons, and merits further attention.

Contributors

Dr. Detlef Männig is an industrial chemist who studied at the University of Bonn, Yale University, the Weizmann Institute of Science and the University of Munich. Over a career of more than 35 years with Evonik Industries AG, he held various positions in Germany, the United States, and China. He has been active in industry-related issues of the CWC and BTWC and served as member and chairman of national and international Working Groups on Chemical and Biological Weapons and Non-Proliferation at VCI, Cefic, and ICCA.

Dr. Alexander Kelle is a Senior Researcher at the Berlin office of the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH). He leads CBWNet at IFSH and serves as an overall project coordinator. His research focuses is on the proliferation and prohibition of chemical and biological weapons. From 2013 to 2019, he worked as a Senior Policy Officer at the OPCW in The Hague. Prior to this he taught and conducted research at the universities of Bradford, Belfast und Bath.

Bruno Cevallos is a biologist with 4+ years of experience in scientific research, business intelligence, and international affairs. He serves as the liaison for Universidad Científica del Sur on the BWC Confidence-Building Measures. He holds a Master's degree in Disaster Risk Management from the Centro de Altos Estudios Nacionales, where he currently conducts research on biosafety and biosecurity risks within the context of national security and defense.

Dr. Ralf Trapp is a chemist and toxicologist specializing in chemical weapons detection, environmental risk assessment, and CW disarmament. He played an active role in negotiating the Chemical Weapons Convention and held senior positions at the OPCW in verification, cooperation, and strategic planning, including serving as Secretary of the Scientific Advisory Board. Since 2006, he has worked as an independent consultant on chemical and biological weapons arms control, advising international bodies such as the United Nations, OPCW and the European Commission.

Dr. Barry de Vries is a legal scholar and international law expert with over a decade of research, teaching and project coordination experience. He holds a PhD in Law from Justus Liebig University Giessen. He currently serves as a Postdoctoral Research Fellow in the CBWNet project, specializing in the comparative legal analysis of chemical and biological weapons legislation.

Almuntaser Albalawi is a Researcher for the Middle East WMD Free Zone Project at UNIDIR and an associate researcher at PRIF, focusing on chemical and biological weapons. Since 2023 he has been pursuing a PhD in Security Studies at Goethe University Frankfurt. He previously earned an MA in International Relations and Conflict Resolution from the University of Jordan and a BSc in Nuclear Engineering from the Jordan University of Science and Technology.

Veronika Klymova is a Researcher at the Peace Research Institute Frankfurt (PRIF) in the Research Department "International Security," specializing in nonproliferation and disarmament of biological and chemical weapons. She completed her MA in International Relations/Political Science at the Geneva Graduate Institute (IHEID) and earned an MSc in International Development (Conflict, Security and Development) from the University of Birmingham.

Dr. Una Jakob is a Senior Researcher at the Peace Research Institute Frankfurt (PRIF) in the "International Security" department, where she heads the Research Group "Biological and Chemical Disarmament and Security." Her work centers on nonproliferation, disarmament of biological and chemical weapons, biosecurity, and the governance of research with dual-use potential. She also co-leads the research group "Biological and Chemical Weapons Control" in the Cluster for Natural and Technical Science-Based Arms Control Research (CNTR) at PRIF.

The CBW network for the comprehensive strengthening of norms against chemical and biological weapons (CBWNet)

The research project CBWNet is carried out jointly by the Berlin office of the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH), the Chair for Public Law and International Law at the University of Gießen, the Peace Research Institute Frankfurt (PRIF) and the Carl Friedrich Weizsäcker-Centre for Science and Peace Research (ZNF) at the University of Hamburg. The joint project aims to identify options to comprehensively strengthen the norms against chemical and biological weapons (CBW).

These norms have increasingly been challenged in recent years, *inter alia* by the repeated use of chemical weapons in Syria. The project scrutinizes the forms and consequences of norm contestations within the CBW prohibition regimes from an interdisciplinary perspective. This includes a comprehensive analysis of the normative order of the regimes as well as an investigation of the possible consequences which technological developments, international security dynamics or terrorist threats might yield for the CBW prohibition regimes. Wherever research results point to challenges for or a weakening of CBW norms, the project partners will develop options and proposals to uphold or strengthen these norms and to enhance their resilience.

The joint research project is being funded by the Federal Ministry of Research, Technology and Space for four years (April 2022 until March 2026).

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This working paper provides an overview of presentations delivered at the CBWNet conference on *Norm Contestation and Compliance: The Prohibition of Chemical and Biological Weapons* that took place in Frankfurt am Main on 22 and 23 October 2025, in order to make the contributions available to a wider audience.

Contact

Responsible for Content §55, Abs.2 RStV:

Dr. Alexander Kelle, IFSH

Reinhardtstraße 7, 10117 Berlin

E-Mail: CBWNet@ifsh.de

www.cbwnet.org

twitter.com/CBWNet

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