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CONTENTS

EDITORIAL

Welcome to the FEBRUARY 2021 issue of ANZSIL *Perspective*.

My editorial team and I are delighted to launch the ANZSIL *Perspective* online platform www.anzsilperspective.com where you can find all our latest *Perspectives* and our archive. Over the last year since we have been outward facing rather than a members only publication, we as an editorial team have been impressed by the high level of contributions which we have shared with members and freely online for the international community.

This month we are very pleased to have four excellent contributions, two Perspectives and two book reviews from a range of authors with some thoughtful insight into international law issues.

As ANZSIL Perspecive continues to grow, we look forward to monthly or fast turnaround contributions which can particularly reflect our regional representation in international law practice and academia.

This month I am, as ever, delighted that, once again, we have articles from a diverse range of authors giving voice to a diverse range of international law issues, including serious issues of international peace and security, sovereignty, international criminal law and neuroscience.

As you know, in my role as editor I am keen to encourage contributions from across our membership and the wider international legal community, especially those with emerging careers. I am also pleased that our contributions in 2020 included discussion and responses to earlier publications so that ***ANZSIL Perspective*** is also contributing to continued debate and education. I look forward to the submissions for March 2021.

Felicity Gerry QC (Editor)

The deadline for the next ANZSIL *Perspective* is 12 March 2020. The current call for *Perspectives* and submission details and guidelines are on the ANZSIL *Perspective* webpage.

The views expressed in contributions to ANZSIL *Perspective* are those of the authors. Those views are not necessarily shared by ANZSIL or the Editors of *Perspective.*

Legal Acts and Legal Facts: The Mauritius/ Maldives Maritime Boundary Dispute in the Chagos Archipelago

Karen N. Scott

On 28 January 2021 a Special Chamber of the International Tribunal for the Law of the Sea (ITLOS) delivered its decision in the preliminary objections stage of the Indian Ocean maritime boundary dispute between Mauritius and the Maldives. Belying its dry nomenclature, this case has implications well beyond the 1982 United Nations Convention on the Law of the Sea (UNCLOS). The Special Chamber dismissed the jurisdictional objections of the Maldives and proceeded on the basis that Mauritius is the relevant sovereign coastal state for the Chagos Archipelago, following the 2019 Advisory Opinion of the ICJ on the *Legal Consequences of the Separation of the Chagos Archipelago from Mauritius in 1965* notwithstanding the non-binding status of the advisory decision. This decision has implications for how we characterise 'law', the continuing relevance of consent to the international legal system and the authoritative nature of international law.

Background to the Chagos Archipelago Dispute

The Chagos Archipelago was administered as a dependency of the colony of Mauritius by the UK between 1814 and 1965. The UK separated the Chagos Archipelago from Mauritius as part of the Lancaster House Agreement in 1965, creating the British Indian Ocean Territory, and leasing its main island, Diego Garcia, to the United States as a

military base. The UK has committed to cede the Chagos Archipelago to Mauritius when it is no longer required for defence purposes. In February 2019, the ICJ *Chagos Advisory Opinion* concluded that 'the process of decolonization of Mauritius was not lawfully completed when that country acceded to independence in 1968, following the separation of the Chagos Archipelago' [183]. The ICJ advised that the UK is under an obligation to bring an end to its administration of the Chagos Archipelago as rapidly as possible and that all Member States are under an obligation to cooperate with the UN to complete the decolonization of Mauritius. In May 2019, the UNGA adopted Resolution 73/295 (116 votes to 6/ 56 abstentions) whereby it endorsed the ICJ Advisory Opinion [1], affirmed that the 'Chagos Archipelago forms an integral part of the territory of Mauritius' [2(b)] and characterised the continued administration of the Archipelago by the UK as 'a wrongful act entailing the international responsibility' of the UK [2(d)]. The UNGA called upon the UK to withdraw its colonial administration from the Chagos Archipelago within six months [3]. The UK does not accept that the ICJ and UNGA are appropriate fora for resolving what it characterises as a bilateral dispute between itself and Mauritius, and 'has no doubt about its sovereignty over the Chagos Archipelago', which it asserts has never been subject to the sovereignty of Mauritius.

Mauritius/ Maldives, Preliminary Objections 2021

In response to Mauritius' submission to the Special ITLOS Chamber, the Maldives put forward five preliminary objections to jurisdiction, all of which were rejected by the Special Chamber [354]. For the purposes of this *Perspective*, only one objection will be assessed, namely, that the Chamber lacked jurisdiction to determine the unresolved sovereignty dispute between Mauritius and the UK, and that such a determination is a

necessary pre-requisite to determine Mauritius' maritime claims, that are based on its status as the relevant coastal state for the Chagos Archipelago [101].

The Chamber uncontroversially accepted the first part of the Maldives' assertion, that a dispute 'requiring the determination of a question of territorial sovereignty, may not be regarded as a dispute concerning the interpretation or application' of UNCLOS pursuant to Article 288(1) of the Convention. This conclusion is consistent with the 2015 *Chagos MPA* Arbitration, the 2016 *South China Sea Arbitration* and the 2020 *Coastal State Rights in the Black Sea* dispute between Ukraine and Russia (preliminary objections).

However, it rejected the second part of the Maldives' objection: that a determination of the sovereignty dispute between the UK and Mauritius is a pre-requisite to determining a maritime boundary between Mauritius and the Maldives. Rather, the Special Chamber found that it was able to proceed on the basis that Mauritius *was* the coastal state for the Chagos Archipelago for the purposes of maritime boundary delimitation, notwithstanding that the process of decolonization has yet to be completed [250]. The Chamber relied on both the ICJ Advisory Opinion and UNGA Res. 73/295 in coming to this conclusion. In a nuanced decision, the Special Chamber drew 'a distinction between the binding character and the authoritative nature of an advisory opinion of the ICJ' [203]. It conceded that ICJ advisory opinions cannot be considered legally binding [202], but nevertheless can provide 'an authoritative statement of international law on the questions with which it deals.' [203] The Chamber emphasized that 'judicial determinations made in advisory opinions carry no less weight and authority than those in judgments because they are made with the same rigour and scrutiny by the "principal judicial organ" of the United Nations with competence in matters of international law.' [203] It concluded that the ICJ's determination that the Chagos Archipelago is part of

Mauritius [243] and the UK's 'continued administration of the Chagos Archipelago to be an unlawful act of a continuing character' [245] had 'legal effect' [205] and allowed the Chamber to proceed on the basis that Mauritius was (and is) the coastal state for the purpose of the proceedings without having to make a determination to that effect in the case itself. The Chamber further stated that post 2019, any UK claim to sovereignty over the Chagos Archipelago was nothing more than a 'mere assertion' but 'such assertion does not prove the existence of a [sovereignty] dispute' between Mauritius and the UK [243]. This conclusion also permitted the Chamber to reject the first objection raised by the Maldives; that the UK is an indispensable third party whose rights would be affected by the case [80 – 100, 247].

The distinction between a legal act and a legal fact – both of which may give rise to legal effects – has growing resonance within international law where the boundaries between formal and informal law-making are increasingly permeable. This decision takes legal facts as determined in an *advisory* opinion and *recommendatory* UNGA resolution and, in effect, elevates them to a legal act, creating binding legal obligations for the states party to the dispute and the international community (including the UK) more generally. The centrality of the advisory opinion to the decision is demonstrated by the distinction drawn between this case and the 2020 *Coastal States Rights Case* where, notwithstanding relevant UNGA resolutions, the Arbitral Tribunal found that it had no jurisdiction over Ukraine's claims to the extent that a ruling would necessarily require it to 'decide, directly or implicitly, on the sovereignty of either Party over Crimea' [492]. In *Mauritius/ Maldives*, the Special Chamber asserted that in the *Coastal States Rights Case* the Arbitral Tribunal 'did not have the benefit of prior authoritative determination of the

main issues relating to sovereignty claims to Crimea by any judicial body. However, that does not seem to be the case in the present proceedings' [244].

This decision represents the latest challenge to international law as a system of law largely based on the consent of its primary actors: states. On the one hand, it can be said to reflect a maturing system of law whereby a state cannot simply refuse to be bound by law by failing to consent to or recognise relevant authoritative decisions. On the other hand, it risks undermining the authoritative nature of the law itself. The UK has rejected both the ICJ Advisory Opinion and UNGA Res. 73/295 and does not 'merely assert' a claim to the Chagos Archipelago (as stated by the Special Tribunal) but in fact continues to administer the territory to the exclusion of Mauritius. The finding that there was but, post 2019, is no longer a sovereignty dispute between Mauritius and the UK [242 – 243] contradicts not only the facts as they existed immediately prior to Mauritius' submissions in this case, but also the ICJ assertion that it was *not* asked to 'resolve a territorial dispute between two States' [*Chagos Advisory Opinion*, [86]). The conclusion of the Special Chamber that the UK is no longer sovereign in respect of the Chagos Archipelago in the absence of any judicial or other determination (such as by the UN Security Council) that is formally *binding* on the UK creates significant uncertainty not just for the parties involved (including the Maldives and, arguably, the US) but for the international community more generally, including international organisations such as relevant regional fisheries organisations and the UNCLOS Commission on the Continental Shelf. On 8 February 2021, in response to a question in Parliament, the British Secretary of State for Defence asserted that the Mauritius/ Maldives decision has 'no effect for the UK or for maritime delimitation between the UK (in respect of the British Indian Ocean Territory) and the Republic of the Maldives' as the UK was not a party to the proceedings.

The next stage in the proceedings in the Mauritius/ Maldives maritime boundary dispute will begin in mid-2021 when Mauritius is due to submit its Memorial.

About the author: Karen N. Scott is a Professor of Law at the University of Canterbury, New Zealand and President of ANZSIL. She is the current President of ANZSIL and Editor-in-Chief of Ocean Development and International Law. She researches and teaches in the areas of the law of the sea, international environmental law and Antarctic law and policy.
This *Perspective* is developed in a longer work on the *Mauritius/ Maldives* dispute, currently under preparation.

Leadership Liability for Torture: Complementarity and the age-old problem with complicity in the UK and Australia

By Dr Elies Sliedregt and Felicity Gerry QC

Recently ANZSIL member Douglas Guilfoyle discussed the concern that the Brereton report into war crimes by Australians in Afghanistan apparently finds no evidence that "there was knowledge of, or reckless indifference to, the commission of war crimes, on the part of Troop, Squadron and Task Group Commanders, or higher commanders." The report foreshadowed disciplinary and administrative consequences for leaders and commanders but not criminal prosecution. **This article questions whether Australia and the UK are willing and able to prosecute public officials for torture which took place overseas when there is no clear route to establishing complicity or superior liability.**

As Melanie O'Brien observed in the November edition of ANZSIL Perspective, this is an area fraught with complication with differing modes of liability for complicity in international and domestic law. Although, it may be appropriate to observe that the newly appointed War Crimes Investigator Justice Mark Weinberg is well versed in the field, recently contributing to Edited Edition *Accessorial Liability After Jogee* to which we both also penned chapters.

It is a concern that the law on complicity may not have been understood by the fact-finding exercise that produced the Brereton Report. We are also concerned that whilst the report considered command responsibility for war crimes, there may not have been a specific focus on the *ability* to prosecute domestically for torture which has taken place overseas which in turn reflects on willingness.

This piece therefore explores whether the common law of complicity, provides for a sufficient legal framework for ICC state parties to meet obligations under the complementarity regime.

Complementarity

Central to the ICC system of international criminal justice is the complementarity principle. Article 17(1)(a) of the ICC Statute stipulates that a case is inadmissible where it is being investigated or prosecuted by a State which has jurisdiction over it unless the State is "*unwilling* or *unable* genuinely" to carry out the investigation or prosecution. State Parties retain the primary responsibility to investigate and prosecute crimes falling under the jurisdiction of the Court. The ICC only deals with cases under very limited circumstances. This is to ensure accused persons are not subject to double jeopardy for the same alleged crime, to prioritise national sovereignty in the exercise of criminal prosecution including for the most serious of crimes, to limit those matters brought before the ICC but at the same time place a burden on states to be demonstrably willing and able to prosecute international crimes.

Two recent events have brought this issue to international attention: Firstly, the Brereton Report in Australia, which exposed significant issues over the conduct of the Australian military which has led to the appointment of the war crimes investigator. Secondly, the ICC prosecutor with significant reservation decided to end a preliminary investigation into alleged war crimes and torture by British forces in Iraq and not to seek authorisation to open an investigation for the purposes of ICC proceedings, on the basis that it could not be concluded that the UK authorities have been *unwilling* genuinely to carry out relevant investigative inquiries and/or prosecutions. In relation to the latter,

Human Rights Watch have stated that the ICC prosecutor's decision is "likely to fuel the perception of a double standard in international justice" where leaders in certain states appear to have more chance of being prosecuted than others. This perception may well be fuelled if states (here Australia and the UK) investigate and that is sufficient to end ICC involvement.

Torture

The International Criminal Tribunal for the Former Yugoslavia (ICTY) in the case of *Furundzjia* held that the prohibition of torture "has evolved into a peremptory norm or jus cogens, that is, a norm that enjoys a higher rank in the international hierarchy than treaty law and even "ordinary" customary rule". As a result of ratification of the Convention Against Torture (CAT), torture has been criminalized in both Australia and the jurisdiction of England and Wales and has developed into a self-standing international crime with universal jurisdiction.

Torture, unlike 'fully-fledged' international crimes - war crimes, genocide and crimes against humanity - is not part of the international criminal law '*acquis*'. As such it does not come with international modes of liability such as command/superior responsibility, applicable to these fully-fledged crimes and criminalized in separate legislation. For participation in torture, prosecutors will charge defendants/leaders under the 'ordinary' domestic modes of liability in the criminal law, i.e. complicity. Only when torture is committed in the context of an armed conflict or as part of a widespread or systematic attack on a civilian population, does it constitute a war crime or crime against humanity, respectively. As such there is an obligation on both Australia and the UK, under the ICC's

complementarity regime, to investigate and prosecute domestically and to do so genuinely, aligned as much as possible to the ICC's legal framework.

Both the UK and Australia have enacted legislation to prosecute torture and have frameworks for complicity liability but each appears to lack a framework for superior liability.

Complicity liability

The law on complicity took an interesting turn when the UK Supreme Court in *R v Jogee* [2016] UKSC expunged parasitic accessory liability and restated the common law on complicity. There can be individual or shared intention amongst parties to the crime and conditional intention – I will assist you if torture becomes necessary. There also needs to be some knowledge or belief that torture would be committed as an accused person cannot intend something or intend to assist something they do not know about. Statute provides for a separate form of liability for what used to be incitement which carries a lower threshold but still requires conduct. Post *Jogee* the prosecution also has to prove that what actually happened was not beyond the contemplation of someone in the accused person's shoes (*Jogee* calls this overwhelming supervening acts but it is more properly a test for remoteness). Of course, it depends on specific facts but, if there is evidence a person in a leadership position contemplated what in fact happened this provides a sufficient basis for a connection to the crime subject to proof of conduct and fault as a principal or as a secondary party in torture.

The High Court of Australia in *Miller, Presley and Smith* declined to follow *Jogee* and retained extended common purpose. In Australia, complicity in the Commonwealth

Criminal Code allows for intentional or reckless liability but causation and remoteness are less clearly specified.

Complicity Liability will be easier to prove where there is a close connection to the crime but in either jurisdiction, a causative link to an absent leader does become harder to prove. Such issues depend on the quality of the investigation, the available direct and circumstantial evidence and the correct application of law.

Superior Responsibility

However, a more complex issue relates to omission liability. In international law, this type of liability is captured in the theory of command or superior responsibility. Superior responsibility, which applies to military and non-military superiors, is premised on the idea that those in leadership positions who fail in their duty to prevent or punish the commission of crimes by subordinates, are criminally liable *for those crimes*. Control must be effective, which means there must have been a material ability to prevent or punish direct perpetrators. Also, there must be knowledge on the part of the superior that crimes were about to be committed or had been committed. This can be a 'must have known test' based on circumstantial evidence (nature of crimes, number of crimes, geographical location). Article 28(a) of the ICC Statute stipulates that the military superior who *should have known* that forces under his/her effective command and control were committing or about to commit crimes is criminally responsible. For non-military superiors, who are responsible for and in charge of 'subordinates' (employees for instance) in an analogous way as military commanders, the knowledge threshold is higher effectively requiring intent. Art. 28(b) requires that the non-military superior

consciously disregarded information which clearly indicated subordinates were committing or about to commit crimes.

The theory of superior responsibility is a *sui generis* theory of liability that sits between complicity liability and co-perpetration. The superior is liable for crimes committed by subordinates as a result of his/her failure to supervise subordinates. Superior responsibility as a liability theory has an international pedigree. Developed originally in military law it has been applied and shaped in the case law of international courts and features in statutes of these courts. There have been debates around its nature: is it a separate offence of a failure to supervise or a type of accomplice liability? The ICC in the *Bemba* case has decided in favour of the latter interpretation. It has a more practical function than trying to extend an alleged common purpose. Superior responsibility does not apply to torture in either the jurisdiction of England and Wales nor Australia.

Conclusion

According to Benzing, ICC membership requires State Parties to make their system of criminal law enforcement more effective. The question is to what extent does this affect substantive criminal law? Does it require State Parties to incorporate the crime definitions of the ICC Statute? Robinson answers this question in the affirmative and adds that States by incorporating international crime definitions are less likely to be found "unwilling" when definitions in domestic law are broader rather than more narrow than the international definitions.

For complementarity to work, superior responsibility is a concept that has an international source and pedigree and therefore, we suggest, domestic implementation is required. It is not enough that modes of liability as codified in art. 25(3) of the ICC

Statute mirror domestic concepts of complicity liability. Criminal responsibility of commanders in such internationally recognised crimes requires separate modes of liability for those with superior duties. The application of general criminal law principles means that conduct of others may be too remote even where leaders must have known what was happening on the ground and they omit to act.

Intentional, 'approving' presence can, under certain circumstances, be characterized as moral encouragement i.e. active conduct. As such it could be dealt with under complicity law. Reliance on 'ordinary' modes of liability, however, remains problematic as it does not cover leadership negligent omission liability.

The Brereton report's findings with regard to military commanders seems to indicate liability was more in the sphere of negligence rather than an active contribution. It is not clear if the UK investigation was affected by domestic modes of liability and stopped short of failure to supervise.

In order to be willing and able to prosecute torture, in particular complicity to torture by leaders, both present and absent, the scope and purpose of the domestic law needs to be both understood and applied and the inconsistency with international law needs to be considered.

As both Melanie O'Brien and Douglas Gilfoyle have suggested, superior responsibility is distinct from complicity liability and progress on domestic prosecutions for torture may be inhibited by the legal framework and the application of the law on complicity. We suggest in turn that this has a knock-on effect to willingness and ability to prosecute war crimes and torture. For complementarity to work there has to be a practical

understanding of complicity in torture by leaders. In both the UK and Australia, the legal frameworks, at least when it comes to liability of commanders/superiors, are not sufficient to demonstrate ability under the complementarity regime of the ICC. Accordingly, both willingness and ability remain a challenge in bringing domestic prosecutions for torture overseas.

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Felicity's profile is on our editorial team page here

BOOK REVIEWS

Review of Petulant and Contrary: Approaches by the Permanent Five Members of the UN Security Council to the Concept of "Threat to the Peace" Under Article 39 of the UN Charter by Dr Tamsin Paige

Review by Dr Anna Hood

One of the key issues in the UN system that has bedevilled international lawyers since 1945 is how the term 'a threat to the peace' in article 39 of the *UN Charter* should be understood. When invoked, the term unlocks the Security Council's extensive Chapter VII powers and enables the Council to take an array of actions including authorising the use of force, imposing sanctions and issuing international legislation for the world. However, precisely what amounts to a threat to the peace – or indeed whether the term can be legally defined at all – is unclear. There are two broad schools of thought: the first holds that the term does have a legal definition (although the definition is contested), while the second maintains that the term is legally undefinable and instead a threat to the peace is whatever the Council determines a threat to the peace to be.

In her innovative and highly valuable book, *Petulant and Contrary: Approaches by the Permanent Five Members of the UN Security Council to the Concept of "Threat to the Peace" Under Article 39 of the UN Charter*, Dr Paige argues that, from a black letter law perspective, the second school of thought is correct: the term is undefinable. However, she asserts that if we break out from the strictures of doctrinal approaches and adopt a legal sociology methodology it is possible to see that each permanent member of the

Council has an internal working definition of a threat to the peace which guides their actions in the Council.

To identify the internal working definitions of each of the permanent members, Dr Paige meticulously works through many of the Council communications that touched on the concept of a threat to the peace between 1945 and 2013. Specifically, she uses critical discourse analysis to identify the 'justificatory discourse' each permanent member employed when determining whether a particular situation amounted to a threat to the peace and then, through a process of mega-synthesis, establishes the patterns, values and factors that characterised the approaches of each of the permanent members to the term over the 68-year period.

The results of this detailed work are incredibly rich and provide fascinating and useful insights for comprehending how the permanent members understand the scope of article 39. Further, Dr Paige points out an array of further research questions that arise from the findings. For example, what can explain the shift in the US approach to a threat to the peace from legal formalism in the Cold War period to a more emotive approach in recent decades?

The book is a treasure-trove of information and anyone with an interest in the Council has a lot of gain not only from its substantive chapters but also from the tables and graphs in the book's annexes that set out the key data on which Dr Paige's analysis is built. As I read it though, I wondered about Dr Paige's assertion that her work was separate from, and had no purchase for, doctrinal approaches to the Council's work. Throughout the book, Dr Paige highlights the fact that the Council's permanent members have frequently justified their decisions about whether a particular situation

amounts to a threat to the peace by using international legal language and reasoning. This suggests that far from seeing a threat to the peace as an 'undefinable' term, the permanent members understand it as a concept that has legal content and parameters.

One of the reasons Dr Paige suggests that her work does not help with black letter law attempts to define a threat to the peace is that the Security Council documents she analyses - such as the Council's debate transcripts - are not a formal source of law under article 38(1) of the *ICJ Statute*. While I agree that documents such as the Council debate transcripts do fall outside the scope of the sources in article 38(1) of the *ICJ Statute*, I am not so sure that they cannot assist with doctrinal analyses of article 39. Article 39 is a term in a treaty that is subject to the rules of treaty interpretation in articles 31 and 32 of the *Vienna Convention on the Law of Treaties*. Pursuant to those rules, it is possible to have regard to the subsequent practice of the states parties when determining the meaning of a treaty term and, in many ways, it makes sense to see the debates of the Security Council as evidence of subsequent practice in this context.

The utility of relying on the Council debates as subsequent practice is potentially undercut by Dr Paige's conclusion that while it is possible to discern patterns within each of the permanent members' approaches to a threat to the peace, there are no clear patterns across all five members' approaches to the term. However, this conclusion is reached when looking at all of the permanent members' thoughts on a threat to the peace over the lifespan of the Council. A slightly different approach would be to consider whether it is possible to distil some common ideas about the legal content of a threat to the peace in particular periods of time in the UN's history. Patterns might not necessarily emerge in a single Council debate but similar ideas and reasoning might appear across a series of debates in a certain period. Further, it might

be possible to explore the idea that a definitional element that is repeatedly put forward by a number of states, and that is not objected to by other states, is able to amount to relevant subsequent practice. If patterns could be discerned from this process, it might suggest that it is possible to legally define the content of a threat to the peace but that exactly what that definition consists of is liable to change over time.

The idea that Dr Paige's work may have implications for doctrinal approaches to article 39 of the *UN Charter* in no way undermines the analysis and conclusions she puts forward in the book; it simply opens up further spheres where her original, thoughtful work might be applied. Regardless of whether the work is extended to such spheres, it has much to offer and I look forward to seeing the conversations and research projects it inspires in the years ahead.

Dr Anna Hood is a senior lecturer at the University of Auckland. Her work focuses on disarmament law, security law, and Aotearoa New Zealand and international law. Her work draws on critical and historical approaches to international law.

Neuroscience and the Problem of Dual Use: Neuroethics in the New Brain Research Projects

Malcolm Dando; Springer, 2020; PAGES 210; €155,99; ISBN 978-3-030-53790-0

Review By Dr Kobi Leins

In many scientific fields, dual use is seen as an opportunity, not a risk. As limitations on the development and use of biological and chemical weapons have developed over the years, one of the last frontiers is the human brain. Rapid advances in the ability to manipulate the human brain pose many opportunities, but as these opportunities are explored, the risks of potentially disastrous hostile applications, or their use on the battlefield, are very real and present.

Dando is well placed to set these risks in the broader context of chemical and biological non-proliferation regimes over the past century, having participated in many of them personally. Dando extends our knowledge by looking forward to analyse the risks that rapid advances in brain technologies might pose, and how they might evolve in the future, in realistic and concrete ways, based on current research and significant funding for this area.

This book discusses recent brain research and the potentially dangerous dual-use applications of the findings of these research projects. The book is divided into three sections. Part I examines the rise in dual-use concerns within various States' chemical and biological non-proliferation regimes during the 21st century, as well as the rapid technologically-driven advances in neuroscience and the associated possible misuse

considerations in the same period. Part II reviews the brain research projects in the EU, USA, Japan, China and several other countries with regard to their objectives, achievements and measures to deal with the problem of dual use. Part III assesses the extent to which the results of this civil neuroscience work, which is intended to be benign, are being and could be protected against future hostile applications in the development of novel chemical and biological weapons. Such hostile applications raise the spectre of science applications previously only possible in the realm of science fiction.

Any hostile use of neuroscience, manipulating brain matter at the nanoscale, would be prohibited under the 1972 Biological Weapons Convention (BWC)[1] and the 1997 Chemical Weapons Convention (CWC).[2] The risk of hostile use of recent brain research needs to be emphasized and included at the meetings of experts of these bodies, and by States.

The distinction between chemical and biological action blurs at the nanoscale, which is, in fact, the level on which much of our brain activity, and the study of neuroscience, takes place.[3] Experts from the BWC and the CWC meetings need to regularly reiterate that developments in the use of nanomaterials are included within the ambit of both the BWC and the CWC. Nanomaterials can asphyxiate without a chemical action (such as asbestos fibres, which occur on the nanoscale), or assemblies of atoms that can behave like a pathogen.[4] Beyond this blurring of behaviour, the properties of nanomaterials often

[1] Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, opened for signature 10 April 1972, 1015 UNTS 163 (entered into force 26 March 1975).

[2] Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, opened for signature 3 September 1992, 1974 UNTS 45 (entered into force 29 April 1997).

[3] Mark Wheelis and Malcolm Dando, 'Neurobiology: a case study for the imminent militarization of biology' (2005) 87(859) *International Review of the Red Cross* 560.

[4] Robert Mathews, 'Chemical and Biological Weapons' in Rain Liivoja and Tim McCormack (eds), *Routledge Handbook of the Law of Armed Conflict* (Routledge, 2016) 229-30.

differ from their regular-scale counterparts, sometimes even when only one component of a material is at the nanoscale.[5]

Neuroscience working with nanomaterials would also be captured by the language of the 1899 and 1907 Hague Conventions, as well as the Geneva Protocol which prohibits 'poison and poisoned weapons'. This approach is practical and in accordance with the existing customary international law prohibitions on poisons and chemical weapons. Arguing about whether a substance at the nanoscale acts on its chemical or physical properties will seldom change the outcome of the conclusion of a legal review: weaponisation of nanoparticles by any means flies in the face of existing customary international law standards regarding matter at regular scale, and therefore any use of matter in similar ways at the nanoscale would be prohibited.

Finally, damage to health does not need to be permanent to violate the prohibition on torture or cruel, inhuman or degrading punishment. In the case of *Antipenkov v Russia*, the use of rubber truncheons, despite not causing long-term damage to health, were found to have caused mental and physical suffering. It sufficed that the detainee had been subject to inhuman and degrading treatment by Russian officials.[6] This decision highlights that the reversibility of damage does not mitigate the prohibition on torture. If neuroscience were to be used to enable without the consent of individuals during peacetime, this would also violate the prohibition on torture.[7] An example would be

[5] Vladimir Pitschmann and Zdenek Hon, 'Military Importance of Natural Toxins and their Analogs' (2016) 21 *Molecules* 556 <www.mdpi.com/1420-3049/21/5/556/html>.

[6] *Antipenkov v Russia* (European Court of Human Rights, Chamber, Application No 33470/03, 15 October 2009) [54], [60], [61].

[7] This standard is upheld under the *Convention against Torture*. For further discussion of relevant literature and jurisprudence, see Manfred Nowak and Elizabeth McArthur, *The United Nations Convention against Torture: A Commentary* (Oxford University Press, 2008). Under the *Optional Protocol to the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*, opened for signature 4 February 2003, 2375 UNTS 237 (entered into force 22 June 2006), States are also required to established 'national preventative mechanisms' against torture.

where nanomaterials were used to alter human behavior temporarily, which may still constitute torture.

The book concludes that greater neuro-ethics is needed – I think it could go a step further. Although the work of Gregor Noll, such as 'Weaponising neurotechnology: international humanitarian law and the loss of language', is mentioned it would have been good to see more references to his work, as well as some other more critical work by Filippa Lentzos referenced as well, particularly her recent work on synthetic biology. Although the BWC and the CWC are referenced, and the machinations of some of the existing work outlined (Zagreb, and the Code of Conduct), the book could go further to make more concrete recommendations for additional strengthening of existing agreements, or ways in which misuse and dual use of emerging technologies are, or could be, more effectively limited, including those in the field of neuroscience more actively engaging in policy making. Nonetheless, this an excellent expose of brain research projects, as the book promises.

Ethics can go some way to addressing some of the issues that arise from recent brain research, and is of great interest, but just as significant are the hard limits and prohibitions that should prevent States from developing these technologies for dual and hostile use in the first place. This book provides a sound entry point into the history of the dual use issue in neuroscience, and in particular, to the existing legal frameworks. How they may be applied, and will be applied, further writing and time will tell.

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