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## **Autonomous Weapon Systems, Human Dignity and International Law**

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## Chapter Seven

### Autonomous Weapon Systems and International Criminal Law

#### I. Introduction

The goal of the rules of international criminal law is to proscribe serious violations of international law and to hold those persons who participate in such conduct criminally responsible.<sup>1</sup> The fundamental legal principle of individual responsibility, however, stipulates that persons are only responsible for their own acts or those of their agents.<sup>2</sup> This chapter will discuss whether international criminal justice mechanisms provide an adequate and effective system of accountability for violations of the laws of war and gross violations of international human rights law perpetrated with autonomous weapon systems.

Preliminarily, if, as I argued previously, human dignity serves as a legal point of departure for our decision-making, we see that exclusive reliance on criminal prosecutions as a method of accountability for the use of autonomous weapon systems is a poor strategy. International criminal law (generally) looks backward.<sup>3</sup> Efforts to hold persons responsible for crimes occur *after* the tragic events – and their concomitant violence and human suffering -- have occurred. A more effective model would use the rules of state responsibility in international law (discussed in the following chapter) to complement efforts at accountability and individual criminal responsibility. This more proactive approach serves the interests of human dignity by reducing the levels of criminal conduct using autonomous weapon systems.

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<sup>1</sup> A Cassese, *International Criminal Law*, 2<sup>nd</sup> ed. (Oxford University Press, 2008), p. 3. ‘The law is a living growing, thing. In no other sphere is it more necessary to affirm that the rights and duties of States are the rights and duties of men and that unless they bind individuals they bind no one.’ H Shawcross, ‘Closing Speech,’ *The Trial of German Major War Criminals: Proceedings of the International Military Tribunal Sitting at Nuremburg Germany*, Part 19, 16 July 1946 – 27 July 1946, London, His Majesty’s Stationery Office, 1949, p. 427.

<sup>2</sup> B Cheng, *General Principles of Law as Applied by International Courts and Tribunals* (London, Stevens & Sons Limited, 1953), pp. 208 and 212. ‘Individual criminal responsibility reflects the particular degree of blameworthiness of an act committed by a moral agent.’ H. Decoeur, ‘Avoiding Strict Liability in Mixed Conflicts: A Subjectivist Approach to the Contextual Element of War Crimes,’ 13 *International Criminal Law Review* (2013), 473, 480.

<sup>3</sup> I am grateful to Louise Arbour for this point.

When crimes or accidents occur during and/or due to the use of autonomous weapons systems, the actions and decisions of human commanders and operators must form part of any accountability analysis.<sup>4</sup> Once the speed of autonomous technology reaches levels that preclude effective human supervision and control, however, proof of the existence of the mental element of crimes, the *mens rea*, may be illusory and/or impossible to establish. Arguably, this could result in an ‘accountability gap’ as the underlying rationale for the *mens rea* requirement in criminal law is that a sense of personal blame is absent if the accused did not in some way intend her action or omission.<sup>5</sup>

But concerns about ‘accountability gaps’<sup>6</sup> for particular crimes or modes of criminal responsibility only reflect part of the problem. If our over-arching goal is to promote and protect human dignity, then logically ‘accountability’ for the (mis)use of autonomous weapon systems means something more than individual punishment for violations of narrowly defined rules of treaty and customary law. The fact that a particular autonomous weapon functions within the ‘black letter’ prescriptions of international law is secondary because the human designer, operator, commander, etc. can still function outside the scope of human dignity. ‘Accountability’ in this sense includes a commitment by states and non-state actors to ensure that humans will not abdicate their responsibility for decisions implicating complex values to autonomous weapon systems. By adopting a co-active design, for example, we better ensure

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<sup>4</sup> ‘Accountability’ refers to the duty to account for the exercise of power. ‘Accountability of International Organisations,’ International Law Association, Berlin (2004), p. 5, <[file:///Users/danielsaxon/Downloads/final\\_report\\_2004.pdf](file:///Users/danielsaxon/Downloads/final_report_2004.pdf)>. This duty does not insist on perfection, ‘as there is no such thing as a perfect decision in war, where complexity, friction, uncertainty, the interlocking effects of the actions of independent individuals, and the enemy all affect the outcome of events.’ Gen. C. Campbell, ‘Army Action on the Re-Investigation into the Combat Action of Wanat Village, Wygal District, Nuristan Province, Afghanistan on 13 July 2008,’ Department of the Army, 13 May 2010, <<http://web.archive.org/web/20110716075735/http://usarmy.vo.llnwd.net/e1/wanat/downloads/campbellWanatReportRedacted.pdf>>.

<sup>5</sup> *R v. Finta*, [1994] (Supreme Court of Canada) 1 SCR 701, at 760. ‘In all advanced legal systems liability to conviction for serious crimes is made dependent, not only on the offender having done those outward acts which the law forbids, but on his having done them in a certain frame of mind or with a certain will.’ H Hart, ‘Changing Conceptions of Responsibility,’ in *Punishment and Responsibility: Essays in the Philosophy of Law* (Oxford: Clarendon Press, 1963), p. 187.

<sup>6</sup> ‘Mind the Gap: The Lack of Accountability for Killer Robots,’ Human Rights Watch, 9 April 2015, <<https://www.hrw.org/report/2015/04/09/mind-gap/lack-accountability-killer-robots>>.

that ‘accountability’ encompasses the full protection of human dignity, and not ‘only’ the important exercise of holding individuals responsible for serious violations of customary and treaty law after they occur.

I argue that the use of co-active designs for lethal autonomous weapon systems permits teamwork between humans and autonomous technologies that can result in lower levels of criminality and higher levels of accountability when crimes occur. This policy serves to preserve the human dignity of all members of society, including participants in armed conflict and law enforcement operations. Nevertheless, concerns for human dignity also compel us to accept that systems of criminal law have limits based on fairness, and that these limits should not be extended in ways that impair the dignity of accused. Given these limits to the scope of international criminal justice, rules of state responsibility also must be enforced to ensure that accountability for the (mis)use of autonomous weapon systems is as broad as possible.

This chapter begins with a brief review of the sources of international criminal law followed by an analysis of the relationship of human dignity to this body of law. It continues with a discussion of the theories of individual criminal responsibility relevant to the use of autonomous weapon systems. It reviews how the deployment of these weapons simultaneously will facilitate and complicate efforts to ensure accountability for serious violations of international law, and describes the effect of these dynamics on the preservation of human dignity. Finally, this chapter explains why a co-active design of autonomous weapon systems provides greater opportunities to hold individuals criminally responsible for the misuse of lethal autonomous weapons, while simultaneously preserving the dignity of the operators of these machines.

## I. Sources of International Criminal Law

Whilst the concept of ‘international crimes’ has existed for centuries,<sup>7</sup> sources of modern international criminal law include special agreements of states (or special agreements between states and international institutions such as the United Nations and the European Union), international treaties, the Security Council’s exercise of its powers under the United Nations Charter, customary international law, and other bodies of law such as international humanitarian law and international human rights law. This section briefly reviews each of these sources of international criminal law.

### A. *Agreements of States*

At the close of World War II, the victorious powers created the Nuremberg and Tokyo courts by the 1945 London Agreement for the International Military Tribunal, and the 1946 Special Proclamation by General MacArthur for the Tokyo Tribunal, respectively.<sup>8</sup> Each agreement was supplemented by a Charter which defined the constitutional powers and responsibilities of the court, such as their jurisdiction and the fair trial rights of the accused.<sup>9</sup> More recently, the Government of Kosovo, at the ‘urging’ of the European Union and the United States, established a special war crimes court that will prosecute former members of the Kosovo Liberation Army for international crimes committed in Kosovo between 1998 and 2000.<sup>10</sup>

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<sup>7</sup> For example, the repression of piracy, committed at sea, contained an international dimension. W Schabas, *An Introduction to the International Criminal Court*, 4<sup>th</sup> ed. (Cambridge University Press, 2011), p. 89.

<sup>8</sup> London Agreement of 8 August 1945, <[http://www.icls.de/dokumente/imt\\_london\\_agreement.pdf](http://www.icls.de/dokumente/imt_london_agreement.pdf)>; Special Proclamation by the Supreme Commander of the Allied Powers, 19 January 1946, <<https://www.loc.gov/law/help/us-treaties/bevans/m-ust000004-0020.pdf>>.

<sup>9</sup> Charter of the International Military Tribunal, <http://avalon.law.yale.edu/imt/imtconst.asp>; Charter of the International Military Tribunal for the Far East, 19 January 1946, <<https://www.loc.gov/law/help/us-treaties/bevans/m-ust000004-0020.pdf>>.

<sup>10</sup> Draft Law on the Specialist Chambers (English), <<https://www.docdroid.net/14op8/draft-law-on-the-specialist-chambers-eng.pdf.html>>.

## B. *International Treaties*

International conventions are also important sources of international criminal law. For example, the 1919 Versailles Treaty stipulated that the Allied powers could prosecute persons responsible for violations of the laws and customs of war.<sup>11</sup> The 1948 Genocide Convention on the Prevention and Punishment of the Crime of Genocide confirms that genocide is a crime under international law, which the state parties must undertake to prevent and punish.<sup>12</sup> Moreover, the Convention Against Torture obliges state parties to ensure that all acts of torture (as well as attempted acts and complicity in torture) are offenses under their criminal law.<sup>13</sup> The Rome Statute to the International Criminal Court ('ICC') codifies a comprehensive list of crimes that are punishable under international law.<sup>14</sup>

## C. *The United Nations Security Council*

Pursuant to its powers under Chapter VII of the United Nations Charter, the United Nations Security Council has established several international or 'hybrid' criminal tribunals. In 1993 and 1994 respectively, the Security Council established the International Criminal Tribunal for the Former Yugoslavia ('ICTY') and the International Criminal Tribunal for Rwanda ('ICTR').<sup>15</sup> Moreover, in 2005, the Security Council established an Independent International Investigation Commission ('IIIC') tasked with investigating the terrorist attack

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<sup>11</sup> Arts. 227 – 230, Versailles Treaty of 28 June 1919. Eventually, only a small number of individuals were prosecuted pursuant to these provisions. A Cassese, *International Criminal Law*, pp. 317 – 319.

<sup>12</sup> Arts. I, IV -VI, Adopted by the General Assembly of the United Nations on 9 December 1948.

<sup>13</sup> Art. 4, Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment (the 'CAT'), Adopted by General Assembly Resolution 39/46 of 10 December 1984. The CAT also provides that state parties should ensure the possibility of 'universal' jurisdiction over alleged offenders present in their territories whom they do not intend to extradite. *Ibid*, Art. 5 (2).

<sup>14</sup> Articles 5 – 8 *bis*, Done at Rome 17 July 1998.

<sup>15</sup> The Security Council ('UNSC') established the ICTY to prosecute persons responsible for serious violations of international humanitarian law committed in the territory of the former Yugoslavia after 1 January 1991. UNSC Resolution 827, S/RES/827, 25 May 1993, <[http://www.icty.org/x/file/Legal%20Library/Statute/statute\\_827\\_1993\\_en.pdf](http://www.icty.org/x/file/Legal%20Library/Statute/statute_827_1993_en.pdf)>. The ICTR was established to prosecute persons responsible for genocide and other serious violations of international humanitarian law committed in the territory of Rwanda and Rwandan citizens responsible for genocide and other such violations committed in the territory of neighbouring States, between 1 January 1994 and 31 December 1994. UNSC Resolution 955, S/RES/955 (1994), <<https://www1.umn.edu/humanrts/peace/docs/scres955.html>>.

that killed former Lebanese Prime Minister Hariri in February 2005.<sup>16</sup> Subsequently, pursuant to its Chapter VII powers and an agreement between United Nations and the Government of Lebanon, the Security Council created the Special Tribunal for Lebanon in 2007.<sup>17</sup>

#### *D. Customary International Law and Other Bodies of Law*

The post-Second World War international criminal tribunals expressed a number of principles that have become part of customary international criminal law.<sup>18</sup> The seven ‘Nuremberg Principles’<sup>19</sup> are reflected, for example, in the statutes of modern international criminal tribunals such as the ICTY, ICTR and the ICC. In addition to identifying specific crimes, fair trial rights of the accused, the existence (or not) of particular defences, customary law also informs the modes of individual liability for criminal behavior.<sup>20</sup>

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<sup>16</sup> Resolution 1595 (2005), S/RES/1595 (2005), <<https://www.treasury.gov/resource-center/sanctions/Programs/Documents/1595.pdf>>.

<sup>17</sup> Security Council Resolution 1757 (2007), <<http://news.specialtribunalforlebanon.com/en/component/k2/225-security-council-resolution-1757?Itemid=213>>. In 2003, an agreement between the United Nations and the Government of Cambodia facilitated the creation of the Extraordinary Chambers in the Courts of Cambodia for the purpose of prosecuting senior leaders of Democratic Kampuchea and those who were most responsible for the crimes and serious violations of Cambodian penal law, international humanitarian law and custom, and international conventions recognized by Cambodia, that were committed during the period from 17 April 1975 to 6 January 1979. Agreement Between the United Nations and the Royal Government of Cambodia Concerning the Prosecution Under Cambodian Law of Crimes Committed During the Period of Democratic Kampuchea, <[http://www.eccc.gov.kh/sites/default/files/legaldocuments/Agreement\\_between\\_UN\\_and\\_RGC.pdf](http://www.eccc.gov.kh/sites/default/files/legaldocuments/Agreement_between_UN_and_RGC.pdf)>.

<sup>18</sup> G Werle, *Principles of International Criminal Law* (The Hague: T.M.C. Asser Press, 2005), p. 11.

<sup>19</sup> 1. Any person who commits an act which constitutes a crime under international law is responsible therefore and liable to punishment; 2. The fact that internal law does not impose a penalty for an act which constitutes a crime under international law does not relieve the person who committed the act from responsibility under international law; 3. The fact that a person who committed an act which constitutes a crime under international law acted as Head of State or responsible Government official does not relieve him from responsibility under international law (provided a moral choice was in fact possible); 4. The fact that a person acted pursuant to an order of his government or of a superior does not relieve him of responsibility under international law; 5. Any person charged with a crime under international law has a right to a fair trial on the facts and law; 6. Crimes Against International Law include crimes against peace (aggression), crimes against humanity and war crimes; 7. Complicity in the commission of a crime against peace, a war crime, or a crime against humanity as set forth in principle 6 is a crime under international law. International Law Commission, *Principles of International Law Recognised in the Charter of the Nürnberg Tribunal and the Judgment of the Tribunal*, International Law Commission, 1950, <[http://legal.un.org/ilc/texts/instruments/english/draft\\_articles/7\\_1\\_1950.pdf](http://legal.un.org/ilc/texts/instruments/english/draft_articles/7_1_1950.pdf)>.

<sup>20</sup> *Prosecutor v. Zejnil Delalić, et. al.*, Judgment, IT-96-21-A, Appeals Chamber, 20 February 2001, para. 266 (holding that, for the purposes of determining superior responsibility, customary law specifies a standard of effective control).



As a matter of customary law, serious violations of international humanitarian law constitute war crimes.<sup>21</sup> Furthermore, the violation of international humanitarian law rules and principles concerning means and methods of warfare during international armed conflicts have gradually extended to civil wars.<sup>22</sup> Thus, customary international law criminalizes violations of the laws or customs of war whether committed in international or non-international armed conflicts.<sup>23</sup>

International criminal law also addresses serious violations of international human rights law. For example, international criminal law concerning crimes against humanity generally is predicated on human rights law.<sup>24</sup> Furthermore, at the ICC, human rights law guides the application and interpretation of law:<sup>25</sup> '[h]uman rights underpins the Statute; every aspect of it, including the exercise of the jurisdiction of the Court.'<sup>26</sup>

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<sup>21</sup> Rule 156, J Henckaerts & L Doswald-Beck, *Customary International Humanitarian Law*, Vol. I: Rules, International Committee of the Red Cross (Cambridge University Press, 2005)

<sup>22</sup> *Prosecutor v. Duško Tadić a/k/a 'Dule*, Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction, IT-94-1-AR72, Appeals Chamber, 2 October 1995, para. 119.

<sup>23</sup> *Prosecutor v. Stanislav Galić*, Judgment, No. IT-98-29-A, 2006, Appeals Chamber, para. 120. Previously, the International Criminal Tribunal for the Former Yugoslavia held that the rules of treaty and customary international humanitarian law attempt to guarantee the 'basic human rights' of life, dignity and humane treatment of persons taking no active part in armed conflicts 'and their enforcement by criminal prosecution is an integral part of their effectiveness.' *Prosecutor v. Zejnil Delalić, et. al.*, Judgment, No. IT-96-21-T, 16 November 1998, para. 200.

<sup>24</sup> Cassese, *International Criminal Law*, p. 99. Crimes against humanity are particular criminal acts 'committed as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack.' Art. 7, Rome Statute of the ICC. Art. 7 of the 'Elements of Crimes' contained in the ICC statute clarifies that the attack against the civilian population must be carried out pursuant to a policy or plan of a state or organization. <https://www.icc-cpi.int/NR/rdonlyres/336923D8-A6AD-40EC-AD7B-45BF9DE73D56/0/ElementsOfCrimesEng.pdf>.

<sup>25</sup> 'The application and interpretation of law [by the Court] must be consistent with internationally recognized human rights, ....' Art. 21 (3), Rome Statute of the ICC.

<sup>26</sup> *The Prosecutor v. Thomas Lubanga Dyilo*, Judgment on the Appeal of Mr. Thomas Lubanga Dyilo against the Decision on the Defence Challenge to the Jurisdiction of the Court pursuant to article 19 (2) (a) of the Statute of 3 October 2006, ICC-01/04-01/06 (OA4), 14 December 2006, para. 37.

### *E. Judicial Decisions as a Subsidiary Source of International Criminal Law*

Judicial decisions (as well as the teachings of highly qualified publicists) are useful to determine applicable rules of international law.<sup>27</sup> Jurisprudence is particularly helpful to define and clarify rules of international criminal law. In addition to defining elements of substantive crimes,<sup>28</sup> the case law of modern international criminal tribunals has clarified the components of different forms of individual criminal responsibility such as ordering<sup>29</sup> and superior responsibility.<sup>30</sup>

## **II. Human Dignity and Individual Criminal Responsibility**

A central argument of this dissertation is that the use of fully autonomous weapon systems in situations that require analysis of complex (and conflicting) values will violate human dignity. When humans delegate responsibility for these decisions to machines, they abdicate an important part of their value as persons: their autonomy.

If, as I demonstrate in chapters three and four, human dignity is the foundation and starting point of international law, it must also be the foundation and point of departure of international criminal law.<sup>31</sup> From a Kantian perspective, when individuals use other persons (and/or society as a whole) merely as a means to their own ends, they violate human dignity<sup>32</sup>

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<sup>27</sup> General Counsel of the United States Department of Defence, *Law of War Manual* 2015, section 1.9, <http://www.defense.gov/Portals/1/Documents/pubs/Law-of-War-Manual-June-2015.pdf>.

<sup>28</sup> *Prosecutor v. Anto Furundija*, Judgment, IT-95-17/1-T, 10 December 1998, paras. 174 – 186 (defining the elements of the crime of rape).

<sup>29</sup> *Prosecutor v. Ljube Bošković & Johan Tarčulovski*, Judgment, IT-04-02-A, Appeals Chamber, 19 May 2010, para. 160.

<sup>30</sup> *Prosecutor v. Zejnil Delalić, et. al*, Judgment, Appeals Chamber, paras. 192 – 198, 222 – 241 and 248 – 267.

<sup>31</sup> Benton Heath describes how international criminal law is an attempt to enforce the community's most basic values via the threat of sanctions against persons bearing individual responsibility. 'Human Dignity at Trial: Hard Cases and Broad Concepts in International Criminal Law,' 44 *George Washington International Law Review* (2012), 317 and 354.

<sup>32</sup> Every human being bears an obligation to respect 'the dignity of humanity' that must be shown to every other human being. I Kant, *The Metaphysics of Morals*, Mary Gregor, ed. (Cambridge University Press, 2005), pp. 186 and 209.

and society, consequently, is justified in imposing a penalty.<sup>33</sup> Thus, the use of so-called criminal ‘hate speech,’ for example, by self-interested politicians and other leaders is a discriminatory form of aggression that destroys the dignity of the members of the group under attack. ‘It creates a lesser status not only in the eyes of the group members themselves but also in the eyes of others who perceive and treat them as less than human.’<sup>34</sup>

Accordingly, the Preamble to the Rome Statute of the ICC – a significant expression of the aspirations and goals of global society -- affirms ‘that the most serious crimes of concern to the international community must not go unpunished ....’ Punishment for such crimes must express the international community’s condemnation of the behaviour and demonstrate that it will not tolerate serious violations of international humanitarian and human rights law.<sup>35</sup> On a more micro level, punishment counteracts the power of the criminal over the victim and seeks to restore the dignity that predated the crime.<sup>36</sup> Thus, international criminal law serves to protect the dignity of society and its members by holding perpetrators *fully* accountable for their misdeeds.<sup>37</sup> Forms of ‘civil responsibility,’ therefore, limited to fines or other kinds of economic penalties, are insufficient, by themselves, to redress these particularly egregious wrongs.<sup>38</sup>

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<sup>33</sup> D Maxwell Fyfe, ‘Speech at the Close of the Case Against the Indicted Organizations’ (19 August 1946), in *The Trial of German Major War Criminals: Proceedings of the International Military Tribunal Sitting at Nuremberg, Germany, 1945 – 1946*, London, 1946, p. 3. Similarly, in the Judgment of the Cour de Cassation in the case of Klaus Barbie, M. Le Gunehec observed that the crime against humanity of persecution offends ‘the fundamental rights of mankind ....’ and such crimes ‘are aggravated by the voluntary, deliberate and gratuitous violation of the dignity of all men and women: ...’ *Prosecutor v. Duško Tadić a/k/a ‘Dule,’* Judgment, IT-94-1-T, 7 May 1997, para. 696 (quoting A Cassese, *Violence and Law in the Modern Age* (Cambridge, Polity, 1988), p. 112).

<sup>34</sup> *Prosecutor v. Ferdinand Nahimana, et. al.* Judgment, ICTR-99-52-T, 3 December 2003, para. 1072. See also the Judgment on Appeal, para 986 (holding that ‘hate speech targeting a population on the basis of ethnicity, or any other discriminatory ground, violates the right to respect for the dignity of the members of the targeted group as human beings’).

<sup>35</sup> *Prosecutor v. Zlatko Aleksovski*, Judgment, IT-95-14/1-A, Appeals Chamber, 24 March 2000, para. 185.

<sup>36</sup> G Fletcher, ‘What is Punishment Imposed For?’ in Russell Christopher (ed.), *Fletcher’s Essays on Criminal Law* (Oxford University Press, 2013), p. 51.

<sup>37</sup> *Prosecutor v. Zejnil Delalić, et. al*, Judgment, para. 200.

<sup>38</sup> At the International Criminal Court, the tribunal can impose fines and or forfeiture of proceeds, property and assets derived from crimes, but only ‘[i]n addition to imprisonment.’ Rome Statute, Art. 2 (a) and (b).

Conversely, a failure to address past crimes leaves open the wounds in a community<sup>39</sup> as ‘the failure to punish implies continuity of the criminal’s dominance over the victim.’<sup>40</sup> The existence of impunity, therefore, serves as an affirmation and renewal of this loss of dignity.<sup>41</sup> Indeed, the goal of reducing and/or ending impunity, often voiced as an objective of this body of law,<sup>42</sup> is another dimension of the protection and restoration of human dignity.<sup>43</sup>

Thus, international criminal law sources often refer to the violated dignity of victims and the need to punish those responsible.<sup>44</sup> However, this body of law also speaks to the dignity of *perpetrators* and others allegedly responsible for crimes and/or the actions of subordinates.<sup>45</sup> Antony Duff argues that criminal trials should engage accused in a

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<sup>39</sup> S Ratner & J Abrams, *Accountability for Human Rights Atrocities in International Law: Beyond the Nuremberg Legacy*, 2<sup>nd</sup> ed. (Oxford University Press, 2001), p. 336.

<sup>40</sup> Fletcher, ‘What is Punishment Imposed For?’ p. 52.

<sup>41</sup> *Questions Relating to the Obligation to Prosecute or Extradite (Belgium v Senegal)*, Separate Opinion of Judge Cançado Trindade, I.C.J. Reports 2012, 20 July 2012, para. 108 (re-printed in A Cançado Trindade, *The Construction of a Humanized International Law: A Collection of Individual Opinions* (1991 – 2013) (Leiden, Brill Nijhoff, 2015), p. 1568). *Case of Goiburú et. al. v. Paraguay*, Judgment, Inter-American Court of Human Rights, 22 September 2006, paras. 158 and 164 (holding that continued impunity for persons responsible for gross violations of human rights constitutes a source of additional suffering and anguish for the victim’s relatives and that ‘impunity fosters the chronic repetition of human rights violations and the total defenselessness of the victims and their next of kin, who have the right to know the truth about the facts’).

<sup>42</sup> In his closing speech at the end of the trial of the leading German war criminals, Sir Hartley Shawcross referred to that ‘natural justice which demands that these crimes should not go unpunished, ....’ ‘Speeches of the Chief Prosecutors at the Close of the Case Against the Individual Defendants,’ *The Trial of German Major War Criminals By the International Military Tribunal Sitting at Nuremberg, Germany*, London, 1946, p. 34 (26 – 27 July, 1946). The preamble to the Rome Statute of the ICC emphasises the determination of the drafters ‘to put an end to impunity for the perpetrators of these crimes and thus to contribute to the prevention of such crimes.’ The Commission of Inquiry on Human Rights in the Democratic People’s Republic of Korea concluded that the perpetrators of crimes against humanity in North Korea enjoy impunity and recommended that those most responsible be held accountable by an international tribunal. Report, A/HRC/25/63, 7 February 2014, para. 85.

<sup>43</sup> N Roht-Arriaza, ‘Introduction,’ in N Roht-Arriaza (ed.), *Impunity and Human Rights in International Law and Practice* (Oxford University Press, 1995), pp. 8 – 9. (‘[T]he pursuit of accountability can be highly significant to the victims of atrocities – and their relatives and friends – by giving them a sense of justice and closure.’). Ratner & Abrams, *Accountability for Human Rights Atrocities in International Law: Beyond the Nuremberg Legacy*, p. 155. C.f. Benton Heath, ‘Human Dignity at Trial: Hard Cases and Broad Concepts in International Criminal Law,’ 348 (arguing that international criminal law jurisprudence ‘maintains a delicate balance between the fight against impunity and the need to safeguard the defendant’s rights – a balance the concept of dignity threatens to destabilize’).

<sup>44</sup> Art. 8(2)(b)(xxi), ‘War Crime of Outrages Upon Personal Dignity,’ *Elements of Crimes of the International Criminal Court*, p. 27, <<http://www.icc-cpi.int/NR/rdonlyres/336923D8-A6AD-40EC-AD7B-45BF9DE73D56/0/ElementsOfCrimesEng.pdf>>. *The Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, Decision on the Confirmation of Charges, ICC-01/04-01/7, 30 September 2008, paras. 371, 376, 377, and 385. *The Prosecutor v. Jean-Paul Akayesu*, Judgment, ICTR-96-4-T, 2 September 1998, para. 597; *Prosecutor v. Zlatko Aleksovski*, Judgment, paras. 25 and 37. *Prosecutor v. Dragoljub Kunarac*, Judgment, IT-96-23-T & IT-96-23/1-T, 22 February 2001, paras. 408, 500 – 501 and 756.

<sup>45</sup> *S v. Williams and Others*, Judgment, (CCT/20/94), [1995] paras. 11 and 89.

communicative enterprise. By calling them to account for the wrongs committed, society treats defendants as responsible agents and ‘members of the normative community of humanity.’<sup>46</sup> In addition, mechanisms for ‘restorative’ criminal justice, in addition to returning some measure of dignity lost to victims of crimes and their survivors, can renew the human values of decency and respect for others that perpetrators discard when they commit their offences.<sup>47</sup> Similarly, an emphasis on rehabilitation in sentencing decisions reflects society’s belief that criminals can and should rebuild their personalities – the manifestation of their human dignity.<sup>48</sup>

Furthermore, international criminal law arguably preserves the human dignity of both perpetrators and victims via its (aspirational) goal of the prevention and deterrence of crime.<sup>49</sup> Although there is a great deal of overlap between these concepts, the two terms are not synonymous. ‘Deterrence’ refers to the processes within criminal justice systems that result in a rational cost/benefit analysis by potential offenders who decide that the expected costs of punishment are likely to surpass the possible benefits of the crime.<sup>50</sup> Stated more simply, deterrence rests on the premise that the fear and pain of punishment discourages crime in

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<sup>46</sup> ‘Authority and Responsibility in International Criminal Law,’ in Samantha Besson & John Tasioulas (eds.), *The Philosophy of International Law* (Oxford University Press, 2010), pp. 593 – 604. ‘Traditional’ forms of justice also support these kinds of engagements between perpetrators and victims. P Clark, ‘The Rules and Politics of Engagement,’ in Phil Clark and Zachary Kaufman (eds.), *After Genocide: Transitional Justice, Post-Conflict Reconstruction and Reconciliation in Rwanda and Beyond* (London: Hurst & Company, 2009), pp. 300 – 301 and 314 – 315.

<sup>47</sup> *Prosecutor v. Dragan Obrenović*, Sentencing Judgment, IT-02-60/2-S, 10 December 2003, para. 145 - 146. *Report of the Truth and Reconciliation Commission of South Africa*, 29 October 1998, Volume 5, Chapter 5, para. 101, Chapter 9, paras. 33 – 37.

<sup>48</sup> *Prosecutor v. Dragan Obrenović*, Sentencing Judgment, paras. 145 - 146.

<sup>49</sup> Juan Mendez, then the Special Advisor on the Prevention of Genocide to the United Nations, observed in 2004 that the idea that criminal punishment plays a role in the prevention of crimes was ‘an act of faith.’ M Mennecke, ‘Punishing Genocidaires: A Deterrent Effect or Not?’ *Human Rights Review*, July 2007, 319. In 2009, Mendez was more sanguine, remarking that ‘we have the expectation, and I would say the promise, that the [prosecutorial] actions we take with difficulty today will have a preventive effect in the future.’ ‘Justice as Prevention of Mass Atrocities,’ Presentation at the Carr Center for Human Rights, John F. Kennedy School of Government, Harvard University, 23 November 2009. <[http://www.youtube.com/watch?v=yQSLeru\\_n8o](http://www.youtube.com/watch?v=yQSLeru_n8o)>. No comprehensive data exists, yet, that clearly demonstrates the ability of international criminal courts to prevent and/or deter crimes. However, in very specific situations, the ICC may prevent/deter potential offenders from participating in or committing the crimes under the tribunal’s jurisdiction. D Saxon, ‘The International Criminal Court and the Prevention of Crimes,’ in S Sharma & J Welsh (eds.), *The Responsibility to Protect: Overcoming the Challenges to Atrocity Prevention* (Oxford University Press, 2015), pp. 122 – 123 and 139 – 146.

<sup>50</sup> M Langer, ‘The Diplomacy of Universal Jurisdiction: The Political Branches and the Transnational Prosecution of International Crimes,’ 105 *American Journal of International Law*, No. 1 (2011), 1, 47-48.

potential offenders.<sup>51</sup> ‘Prevention’ is a much broader, systemic concept which, while it includes deterrence, also spans the generational processes of education, economic progress, law-making and institutional development that can lead to reduction of crime.<sup>52</sup> If one or both processes reduce the incidence of crime, the result is the conservation of dignity.

Moreover, international criminal law supports another dimension of human dignity. As explained in chapters three and four, one facet of human dignity is the ability of persons to fulfill their responsibilities. Members of the armed forces of states, organised armed groups and law enforcement authorities must comply with the obligations of customary international humanitarian law, customary international human rights law, as well as international treaties.<sup>53</sup> International criminal law expresses and codifies the duty of individuals to assume their responsibilities under international law.<sup>54</sup> Consequently, courts can find individuals to be criminally liable should they fail to exercise their duties.

Therefore, a functioning system of international criminal law reinforces the social and professional expectations that commanders, combatants and members of state security forces will take responsibility and hold themselves accountable for their actions related to war and law enforcement actions.<sup>55</sup> The same principle applies to members of non-state organized

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<sup>51</sup> L Kercher, *The Kenya Penal System: Past, Present and Prospect* (Washington, D.C.: University Press of America, 1981), p. 238.

<sup>52</sup> Essentially, the prevention of crime requires three elements: 1) moral and legal norms for acceptable behaviour, 2) institutions that make those norms credible, and 3) a culture that permits those norms to exist. Author interview with Matias Hellman, External Relations Advisor, Office of the President, International Criminal Court, The Hague, 1 April 2011, in Saxon, ‘The International Criminal Court and the Prevention of Crimes,’ p. 120, nte. 4.

<sup>53</sup> *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Judgment, I.C.J. Reports 2005, para. 211; *Prosecutor v. Dusko Tadić a/k/a ‘Dule,’* Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction, 2 October 1995, paras. 79 – 142.

<sup>54</sup> ‘The law is a living growing, thing. In no other sphere is it more necessary to affirm that the rights and duties of States are the rights and duties of men and that unless they bind individuals they bind no one.’ H Shawcross, ‘Closing Speech,’ p. 427. Hence, art. 87 of API requires commanders who are aware that subordinates will commit or have committed grave breaches of the Protocol to prevent the occurrence of additional crimes and/or punish the perpetrators. Individual criminal responsibility for failing to fulfill this obligation is enshrined in art. 28 of the Rome Statute of the ICC.

<sup>55</sup> In the U.K. armed forces, ‘responsibility’ entails a professional obligation held by a superior who ultimately takes credit for success and blame for failure. ‘Accountability’ comprises a liability and an obligation to answer to a superior for the (im)proper use of authority and resources. ‘Army Doctrine Publications’ Operations,

armed groups.<sup>56</sup> Conversely, by failing to perform their duties to uphold the law, law enforcement (and military) officials can legitimize criminal conduct by others.<sup>57</sup>

Hence, international criminal law works to preserve the human dignity of *potential* perpetrators by compelling them to fulfill the responsibilities accorded to them by their governments and international law. During his closing address to the International Military Tribunal at Nuremberg, at the end of the case against the indicted organizations, British prosecutor David Maxwell Fyfe reminded the judges that, when confronted with moral problems '[g]reat captains are not automata to be weighed against a rubber stamp.'<sup>58</sup> At a deeper level, Maxwell Fyfe was referring to the importance of individual autonomy. In chapter three we saw that personal autonomy is an important component of human dignity.

However, freedom 'makes us accountable for what we do'<sup>59</sup> and so personal autonomy would be an empty shell if it was unaccompanied by responsibility.<sup>60</sup> Consequently, the legal obligations of soldiers and/or members of security forces exist even in times of turmoil or armed conflict where they find themselves 'torn between different views of right and

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Ministry of Defence, 2010, para. 0619, <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/33695/ADPOperationsDec10.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/33695/ADPOperationsDec10.pdf)>.

<sup>56</sup> Rule 139, ICRC Customary International Humanitarian Law Study, <[https://www.icrc.org/customary-ihl/eng/docs/v1\\_cha\\_chapter40\\_rule139](https://www.icrc.org/customary-ihl/eng/docs/v1_cha_chapter40_rule139)>; Common Art. 3 to 1949 Geneva Conventions; 2016 Commentary to Art. 3, Geneva Convention I, paras. 520 – 528, <<https://www.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=59F6CDFA490736C1C1257F7D004BA0EC>>; *Prosecutor v. Thomas Lubanga Dyilo*, Judgment Pursuant to Article 74 of the Statute, ICC-01/04-01/06, 14 March 2012, paras. 1176 and 1222; *Prosecutor v. Thomas Lubanga Dyilo*, Decision on Sentence Pursuant to Art. 76 of the Statute, ICC-01/04-01/06, 10 July 2012, para. 97; See L Zegveld, *The Accountability of Armed Opposition Groups in International Law* (Cambridge University Press, 2002), pp. 111 – 132.

<sup>57</sup> *Prosecutor v. Miroslav Kvočka*, et. al., Judgment, IT-98-30/1-T, 2 November 2001, para. 716; *Prosecutor v. Zlatko Aleksovski*, Judgment, IT-95-14/1-T, 25 June 1999, para. 88.

<sup>58</sup> D Maxwell Fyfe, 'Speech at the Close of the Case Against the Indicted Organizations' (19 August 1946), in *The Trial of German Major War Criminals: Proceedings of the International Military Tribunal Sitting at Nuremberg, Germany, 1945 – 1946*, London, 1946, p. 58.

<sup>59</sup> A Sen, *The Idea of Justice* (London: Penguin Books, 2010), p. 19.

<sup>60</sup> Responsibility should not be confused with accuracy. A person acts responsibly if she accepts moral and legal integrity and makes a reasonable effort towards achieving them. The end result is secondary. R Dworkin, *Justice for Hedgehogs* (Cambridge, Massachusetts: Harvard University Press, 2011), pp. 100 and 109.

wrong.’<sup>61</sup> It is precisely at those moments where the values of personal autonomy and responsibility combine to strengthen human dignity.

#### **IV. Theories of Individual Criminal Responsibility for Unlawful Attacks with Autonomous Weapon Systems**

This section continues with a discussion of the modes of individual criminal responsibility most relevant to holding perpetrators accountable for the misuse of autonomous weapon systems. It describes how the deployment of these weapons simultaneously facilitate and complicate efforts to ensure accountability for serious violations of international law and protect the value of human dignity.

##### *A. Theories of Individual Criminal Responsibility for Unlawful Attacks with Autonomous Weapons*

Preliminarily, two general kinds of individual criminal responsibility may arise when soldiers and/or their commanders violate international humanitarian and/or international human rights law. First, ‘direct’ responsibility arises from an individual’s acts or omissions that contribute to the commission of crimes.<sup>62</sup> Second, ‘superior’ or ‘command’ responsibility emanates from the failure of military or civilian superiors to perform their duty to prevent their subordinates from committing such crimes, and/or the failure to fulfill the obligation to punish the perpetrators thereafter.<sup>63</sup> Thus, in the ‘Čelebići’ case, the ICTY Appeals Chamber held that the superior ‘would be tried for failure to act in respect of the offences of his subordinates *in the perpetration of which he did not directly participate*.’<sup>64</sup>

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<sup>61</sup> *Prosecutor v. Ljube Boškoski & Johan Tarčulovski*, Judgment, IT-04-82-T, 10 July 2008, paras. 601 and 607 – 608. Similarly, when sentencing Sreten Lukić, former Minister of Interior for the Federal Republic of Yugoslavia, for his responsibility for, inter alia, crimes against humanity that occurred in Kosovo, the Trial Chamber recognized that Lukić acted ‘in the midst of a complicated situation, including the defence of the country against NATO bombing and some combat operations against the KLA.’ *Prosecutor v. Milan Milutinović, et. al.*, Judgment, IT-05-87-T, 26 February 2009, para. 1201.

<sup>62</sup> *Prosecutor v. Stanislav Galić*, Judgment, IT-98-29, Trial Chamber, 3 December 2003, para. 169.

<sup>63</sup> *Prosecutor v. Momčilo Perišić*, Judgment, IT-04-81-A, Appeals Chamber, 28 February 2013, paras. 86 – 87.

<sup>64</sup> *Prosecutor v. Zejnil Delalić, et. al.*, Judgment, Appeals Chamber, para. 225 (emphasis added).



Moreover, each theory of individual criminal liability contains objective and subjective elements:<sup>65</sup> the *actus reus* – the physical act necessary for the offence -- and the *mens rea* – the necessary mental element.<sup>66</sup> The principle of individual guilt requires that an accused can be convicted of a crime only if her *mens rea* comprises the *actus reus* of the crime.<sup>67</sup> A conviction absent *mens rea* would violate the presumption of innocence.<sup>68</sup> Thus, to convict an accused of a crime, she must, at a minimum, have had knowledge of the facts that made her conduct criminal.<sup>69</sup> Similarly, at the ICC conviction can occur ‘only if the material elements are committed with intent and knowledge.’<sup>70</sup> This conjunctive approach requires the accused to possess a volitional element encompassing two possible situations: 1) she knows that her actions or omissions will bring about the objective elements of the crimes, and she undertakes such actions or omissions with the express intent to bring about the objective elements of the crime, or 2) although she does not have the intent to accomplish the objective elements of the crime, she is nonetheless aware that the consequence will occur in the ordinary course of events.<sup>71</sup>

### *1. Theories of Direct Responsibility*

The use of autonomous weapon systems for the perpetration of crimes can involve one of six modes of direct responsibility: commission, planning, ordering, instigation/inducement, aiding and abetting, or attempt.

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<sup>65</sup> *Prosecutor v. Duško Tadić*, Judgment, IT-94-1-A, Appeals Chamber, 15 July 1999, para. 194.

<sup>66</sup> *Prosecutor v. Zejnil Delalić, et. al.*, Judgment, paras. 424 and 425.

<sup>67</sup> *Prosecutor v. Mladen Naletilić, a.k.a. ‘Tuta’ & Vinko Martinović, a.k.a. ‘Štela,’* Judgment, IT-98-34-A, Appeals Chamber, 3 May 2006, para. 114.

<sup>68</sup> *Ibid.*

<sup>69</sup> *Ibid.*

<sup>70</sup> Art. 30 ICCSt.

<sup>71</sup> *The Prosecutor v. Germain Katanga & Mathieu Ngudjolo Chui*, Decision on the Confirmation of Charges, para. 529; *The Prosecutor v. Abdallah Banda & Saleh Jerbo*, Corrigendum to Decision on Confirmation of Charges, ICC-02/05-03/09, Pre-Trial Chamber I, 7 March 2011, para. 153.

Individual ‘commission’ of a crime entails the physical perpetration of a crime or engendering a culpable omission in violation of criminal law.<sup>72</sup> The actus reus of this mode of criminal liability is that the accused participated, physically or otherwise directly, in the material elements of a crime, through positive acts or omissions, whether individually or jointly with others.<sup>73</sup> At the ad hoc tribunals, the requisite mens rea for commission is that the perpetrator acted with the intent to commit the crime, or with an awareness of the probability, in the sense of the substantial likelihood, that the crime would occur as a consequence of his/her conduct.<sup>74</sup> The Rome Statute of the ICC, however, excludes the application of the dolus eventualis standard, as well as the mens rea of recklessness.<sup>75</sup> Instead, the criminal mens rea exists if the accused means to commit the crime, or, she is aware that by her actions or omissions, the crime will occur in the ordinary course of events.<sup>76</sup>

In addition, at the ICC, criminal responsibility may accrue when accused make an essential contribution to a plurality of persons acting with a common criminal purpose. The accused must be aware of her essential contribution, and must act with the intention that the crime occur, or with the awareness that by implementing the common plan, the crime ‘will occur in the ordinary course of events.’<sup>77</sup> At the ad-hoc tribunals, culpable participation in a common criminal purpose is referred to as ‘joint criminal enterprise’ and requires a significant contribution to the realization of the crime.<sup>78</sup>

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<sup>72</sup> *Prosecutor v. Fatmir Limaj*, Judgment, IT-03-66-T, 30 November 2005, para. 509.

<sup>73</sup> *Ibid.*

<sup>74</sup> *Ibid.*

<sup>75</sup> *Prosecutor v. Thomas Lubanga Dyilo*, Judgment Pursuant to Article 74 of the Statute, para. 1011.

<sup>76</sup> *Ibid.*, para. 1018.

<sup>77</sup> Rome Statute, art. 25 (3) (d); *Prosecutor v. Thomas Lubanga Dyilo*, Judgment Pursuant to Article 74 of the Statute para. 1018.

<sup>78</sup> *Prosecutor v. Vujadin Popović, et. al.*, Judgment, IT-85-88-T, 10 June 2010, para. 1027, citing *Prosecutor v. Momčilo Krajišnik*, Judgment, IT-00-39-A, Appeals Chamber, 17 March 2009, para. 215; Judgment, *Prosecutor v. Radoslav Brdanin*, Judgment, IT-99-37-A, Appeals Chamber, 3 April 2007, para. 430; *Prosecutor v. Miroslav Kvočka, et. al.*, Judgment, IT-98-30/1-A, Appeals Chamber, 28 February 2007, para. 97.

At the ad hoc tribunals, the actus reus of ‘planning’ requires that one or more persons design the criminal conduct constituting one or more statutory crimes that are later perpetrated.<sup>79</sup> It is sufficient to demonstrate that the planning was a factor substantially contributing to such criminal conduct.<sup>80</sup> The mens rea for this mode of responsibility is the intent to plan the commission of a crime or, at a minimum, the awareness of a substantial likelihood that a crime will be committed in the execution of the acts or omissions planned.<sup>81</sup>

Responsibility under the mode of ‘ordering’ ensues when a person in a position of authority orders an act or omission with the awareness of the substantial likelihood that a crime will be committed in execution of that order, and, if the person receiving the order subsequently commits the crime.<sup>82</sup> Orders need not take a particular form and the existence of orders may be established using circumstantial evidence.<sup>83</sup> Liability ensues if the evidence demonstrates that the order substantially contributed to the perpetrator’s criminal conduct.<sup>84</sup>

The modes of liability of soliciting and inducing fall into the broader category of ‘instigation’ ‘or ‘prompting another to commit a crime,’ in the sense that they refer to conduct by which a person influences another to commit a crime.<sup>85</sup> The instigating acts or omissions must clearly contribute to the conduct of the persons who subsequently commit the crimes.<sup>86</sup>

Proof must also exist that the defendant intended to provoke or induce the commission of the

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<sup>79</sup> *Prosecutor v. Ferdinand Nahimana*, Judgment, ICTR-99-52-A, Appeals Chamber, 28 November 2007, para. 479.

<sup>80</sup> *Ibid.*

<sup>81</sup> *Ibid.* Article 25 of the Rome Statute does not recognize ‘planning’ as a mode of liability. The drafters of Article 25 wished to include modes of liability accepted by most major legal traditions and ‘planning’ as a mode of liability does not commonly appear in the continental legal system. Email communication with Dr. Fabricio Guariglia, Senior Appeals Counsel, Office of the Prosecutor, International Criminal Court, 29 January 2012. However, most conduct recognized as ‘planning’ at the ad hoc tribunals would incur liability under the broad categories of responsibility described in Art. 25 (3) (c) and (d). ‘Forms of Responsibility in International Criminal Law,’ in G Boas e. al., (eds.) *International Criminal Law Practitioners Library*, Vol. I (Cambridge University Press, 2007), p. 371.

<sup>82</sup> *Prosecutor v. Ferdinand Nahimana, et. al.*, Judgment, Appeals Chamber, para. 481; *Prosecutor v. Boškoski & Tarčulovski*, Judgment, IT-04-02-A, Appeals Chamber, 19 May 2010, para. 160.

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

<sup>85</sup> *The Prosecutor v. Laurent Gbagbo*, Decision on the Confirmation of Charges Against Laurent Gbagbo, ICC-02/11-01/11, 12 June 2014, para. 243.

<sup>86</sup> *Prosecutor v. Radoslav Brđanin*, Judgment, IT-99-36-T, 1 September 2004, para. 269.

crime, or was aware of the substantial likelihood that the commission of a crime would be a probable consequence of his acts.<sup>87</sup>

In recent years, the requirements of ‘aiding and abetting’ have been a contested area of international criminal law. At the ICTY, Appeals Chambers have divided over the question whether this mode of criminal responsibility requires that assistance to perpetrators be “specifically directed” to the execution of specific crimes. In *Prosecutor v. Momčilo Perišić*, one Chamber held that specific direction is an element of the actus reus of aiding and abetting.<sup>88</sup> Subsequently, however, a differently constituted Chamber emphatically and ‘unequivocally’ rejected the *Perišić* approach.<sup>89</sup> In *Prosecutor v. Šainović, et. al.*, the majority held that, under customary international law, the actus reus of aiding and abetting is ‘practical assistance, encouragement, or moral support which has a substantial effect on the perpetration of the crime.’<sup>90</sup> The mens rea is the knowledge that the acts assist the commission of the crime.<sup>91</sup> Likewise, at the Special Court for Sierra Leone, the Appeals Chamber also rejected any ‘specific direction’ requirement as part of the actus reus of aiding and abetting.<sup>92</sup> Thus, it appears that (for now) the actus reus of aiding and abetting does not contain a ‘specific direction’ component.

The Rome Statute of the ICC includes ‘attempt’ as one mode of individual criminal responsibility.<sup>93</sup> An ‘attempt’ occurs with the commencement of execution of a crime within

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<sup>87</sup> *Ibid.*

<sup>88</sup> *Prosecutor v. Momčilo Perišić*, Judgment, IT-04-81-A, Appeals Chamber, 28 February 2013, paras. 25 – 36.

<sup>89</sup> *Prosecutor v. Nikola Šainović et. al.* Judgment IT-05-87-A, Appeals Chamber, 23 January 2014, paras. 1617 – 1650.

<sup>90</sup> *Ibid.*, paras. 1626 and 1649. Subsequently, the ICTY Appeals Chamber affirmed the Šainović holding in *Prosecutor v. Vujadin Popović, et. al.*, Judgment, IT-05-88-A, Appeals Chamber, 30 January 2015, para. 1758 and *Prosecutor v. Jovica Stanišić & Franko Simatović*, Judgment, IT-03-69/A, 9 December 2015, paras. 104 – 106.

<sup>91</sup> *Ibid.*, para. 1649.

<sup>92</sup> M Milanović, ‘SCSL Appeals Chamber Affirms Charles Taylor Conviction,’ *EJIL: Talk!* 26 September 2013, <<http://www.ejiltalk.org/scsl-appeals-chamber-affirms-charles-taylors-conviction/>>.

<sup>93</sup> Art. 25 (3) (f). The ‘attempt to commit a crime is a crime ....’ *The Prosecutor v. Germain Katanga & Mathieu Ngudjolo Chui*, Decision on the Confirmation of Charges, para. 460.

the court's jurisdiction 'by means of a substantial step.'<sup>94</sup> The statutory term 'substantial step' requires that the perpetrator's conduct reach a more definite and concrete stage beyond mere preparatory acts.<sup>95</sup> The adequacy of this conduct requires that, in the ordinary course of events, the accused's conduct would have resulted in the completion of the crime, had circumstances outside the accused's control not intervened.<sup>96</sup> The mens rea or dolus that embodies an attempt is the same as the mens rea that embodies the consummated act.<sup>97</sup>

## 2. *The Theory of Superior Responsibility*

When crimes occur due to the misuse of autonomous weapons systems, the theory of superior responsibility also may be appropriate to hold commanders accountable. The superior-subordinate relationship lies at the heart of the doctrine of a commander's liability for the crimes committed by her subordinates. The role of commanders is decisive<sup>98</sup> and it is the position of command over subordinates and the power to control their actions (and comply with international law) that form the legal basis for the superior's duty to act, and for her corollary liability for a failure to do so.<sup>99</sup> As a tenet of customary international law, the doctrine of superior responsibility applies to both international and non-international armed conflicts.<sup>100</sup>

In general terms, pursuant to the statute and jurisprudence of the ad-hoc tribunals, a military or civilian superior may be held accountable if the superior knew or had reason to know that her subordinates were committing or about to commit criminal acts and failed to

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<sup>94</sup> Art. 25 (3) (f).

<sup>95</sup> The Prosecutor v. Abdallah Banda & Saleh Jerbo, Corrigendum to Decision on Confirmation of Charges, para. 97.

<sup>96</sup> *Ibid*, para. 96. For example, in a case including charges of 'attempted murder,' 'the provision of medical assistance to the wounded by a person other than the one responsible for causing the injuries qualifies as circumstances outside the perpetrator's control.' *Ibid*, para. 99.

<sup>97</sup> The Prosecutor v. Germain Katanga & Mathieu Ngudjolo Chui, Decision on the Confirmation of Charges, para. 460.

<sup>98</sup> ICRC Commentary to Art. 87, API, para. 3550.

<sup>99</sup> Prosecutor v. Fatmir Limaj, Judgment, para. 76.

<sup>100</sup> *Prosecutor v. Enver Hadžihasanović, et. al.*, Decision on Joint Challenge to Jurisdiction, IT-01-47-PT, 12 November 2002, paras. 167 – 179.

take necessary and reasonable measures to prevent the crimes and/or punish the perpetrators.<sup>101</sup> The Rome Statute of the ICC alters the evidentiary thresholds for holding civilian and military commanders accountable under the theory of superior responsibility. In addition to the three elements found in the law of the ad-hoc tribunals, prosecutors at the ICC must establish that the crimes committed by subordinates occurred as a result of the superior's 'failure to exercise control properly over such forces.'<sup>102</sup> In short, it is necessary to prove that the superior's omission increased the risk of the commission of the crimes charged.<sup>103</sup>

*a. The Superior/Subordinate Relationship*

A superior-subordinate relationship exists when a superior exercises effective control over her subordinates, i.e. when she has the material ability to prevent or punish their acts.<sup>104</sup> Factors indicative of an accused's position of authority and effective control include the official position she held, her capacity to issue orders, whether *de jure* or *de facto*, the procedure for appointment, the position of the accused within the military or political structure and the actual tasks that she performed.<sup>105</sup> The indicators of effective control are more a matter of evidence than of substantive law and depend on the specific circumstances of each case.<sup>106</sup> More than one superior may be held responsible for her failure to prevent or punish crimes committed by a subordinate, regardless of whether the subordinate is immediately answerable to the superior or more distantly under her command.<sup>107</sup>

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<sup>101</sup> Art. 7 (3), Statute of the ICTY, 25 May 1993, and Art. 6 (3), Statute of the International Criminal Tribunal for Rwanda, 8 November 1994; Prosecutor v. Momčilo Perišić, Judgment, Appeals Chamber, para. 86.

<sup>102</sup> Art. 28(1)ICCSt.

<sup>103</sup> *The Prosecutor v. Jean Pierre Bemba Gombo*, Decision Pursuant to Article 61 (7) (a) and (b) of the Rome Statute on the Charges of the Prosecutor v. Jean-Pierre Bemba Gombo, ('Decision on Confirmation of Charges'), ICC 01/05-01/08, 15 June 2009, para. 425. This standard requires more of an active duty on the part of the commander to take the necessary measures *to secure knowledge* of the conduct of her troops and to inquire, regardless of the availability of information at the time on the commission of the crime. *Ibid*, para. 433.

<sup>104</sup> *Prosecutor v. Enver Hadžihasanović & Amir Kubura*, Judgment, IT-01-47-T, 15 March 2006, paras. 76 – 77.

<sup>105</sup> *Prosecutor v. Sefer Halilović*, Judgment, IT-01-48-T, 16 November 2005, para. 58.

<sup>106</sup> *Ibid*, and para. 63 and nte. 150.

<sup>107</sup> *Ibid*, para. 63. The concept of superior is broader than immediate and direct command 'and should be seen in terms of a hierarchy encompassing the concept of control.' ICRC Commentary to Art. 86, API, para. 3544,

*b. The Superior's Knowledge of the Criminal Acts of Her Subordinates*

A superior's men's *rea*, i.e. her knowledge that her subordinates were about to commit or had committed crimes may be actual knowledge or the availability of 'sufficiently alarming' information that would put her on notice of these events.<sup>108</sup> Such knowledge may be presumed if the superior had the means to obtain the knowledge but deliberately refrained from doing so.<sup>109</sup> An assessment of the mental element (knowledge) required for superior responsibility must be performed in the specific circumstances of each case, 'taking into account the specific situation of the superior concerned at the time in question.'<sup>110</sup>

At the ICC, instead of requiring proof that the superior 'had reason to know' that her forces were committing or had committed crimes, the tribunal's 'knowledge' standard for military commanders compels prosecutors to establish that she 'should have known' about such crimes.<sup>111</sup> This standard requires the commander 'to ha[ve] merely been negligent in failing to acquire knowledge' of her subordinates unlawful conduct.<sup>112</sup> The 'knowledge' requirement for demonstrating liability of civilian superiors is higher: 'the superior either knew, *or consciously disregarded* information which clearly indicated that the subordinates were committing or about to commit such crimes.'<sup>113</sup>

*c. Necessary and Reasonable Measures to Prevent the Crimes and/or Punish the Perpetrators*

'Necessary' measures are the measures appropriate for the superior to discharge her obligation (showing that she genuinely tried to prevent or punish) and 'reasonable' measures

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<<https://www.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=BA2C2393DA08B951C12563CD00437A1C>>.

<sup>108</sup> *Prosecutor v. Pavle Strugar*, Judgment, IT-01-42-A, Appeals Chamber, 17 July 2008, paras. 297 - 304, *Prosecutor v. Fatmir Limaj*, Judgment, para. 525.

<sup>109</sup> *Prosecutor v. Zejnil Delalić et. al*, Judgment, Appeals Chamber, para. 226.

<sup>110</sup> *Prosecutor v. Pavle Strugar*, Judgment, para. 299 (citing *Prosecutor v. Milorad Krnojelac et. al.*, Judgment, IT-97-25-A, Appeals Chamber, 17 September, 2003, para. 156, citing *Prosecutor v. Zejnil Delalić* Judgment, Appeals Chamber, para, 239).

<sup>111</sup> Art. 28(1)(a)ICCSt.

<sup>112</sup> *The Prosecutor v. Jean Pierre Bemba Gombo*, Decision on Confirmation of Charges, para. 432.

<sup>113</sup> Art. 28(2)(a)ICCSt (emphasis added).

are those reasonably falling within the material powers of the superior.<sup>114</sup> A superior will be held responsible if she failed to take such measures that are within her material ability and the superior's explicit legal capacity to do so is immaterial provided that she had the material ability to act.<sup>115</sup>

“The determination of what constitutes “necessary and reasonable measures” is not a matter of substantive law but of fact, to be determined on a case-by-case basis.’<sup>116</sup> This assessment depends upon the superior's level of effective control over her subordinate(s).<sup>117</sup> Depending upon the circumstances of the case, “necessary and reasonable” measures can include carrying out an investigation, providing information in a superior's possession to the proper administrative or prosecutorial authorities, issuing orders aimed at bringing unlawful conduct of subordinates in compliance with the international humanitarian law and securing the implementation of these orders, expressing criticism of criminal activity, imposing disciplinary measures against the commission of crimes, reporting the matter to the competent authorities, and/or insisting before superior authorities that immediate action be taken.<sup>118</sup>

### *3. Application of the Theories of Individual Criminal Responsibility to the Design and Use of Autonomous Weapon Systems*

#### *a. Application of Theories of Direct Responsibility*

In cases involving deliberate, unlawful attacks with the use of autonomous weapon systems, proof of a commander's individual criminal responsibility under the direct modes, inter alia, of commission, planning and ordering will be relatively simple. For example, if, during armed conflict, a tactical commander<sup>119</sup> intentionally employs an autonomous weapon

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<sup>114</sup> Prosecutor v. Sefer Halilović, Judgment, para. 63.

<sup>115</sup> Prosecutor v. Fatmir Limaj, Judgment, para. 526.

<sup>116</sup> Prosecutor v. Vujadin Popović, et. al. Judgment, para. 1044.

<sup>117</sup> *Ibid.*

<sup>118</sup> *Ibid.*, para. 1045.

<sup>119</sup> In modern warfare, the term ‘tactical level’ refers to the ‘level at which activities, battles and engagements are planned and executed to accomplish military objectives assigned to tactical formations and units.’ Thus, a ‘tactical commander’ exercises the authority ‘to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority.’ *NATO Glossary of Terms and Definitions*, AAP-



system in circumstances where the system's capabilities for compliance with international humanitarian law are inadequate (such as within a densely-populated urban area where civilians are known to be present), and death and injuries to civilians occur, that commander is culpable for the commission of a war crime.<sup>120</sup>

In addition, as mentioned above, at the ICC, under the mode of 'commission,' criminal responsibility may accrue when accused make an essential contribution to a plurality of persons acting with a common criminal purpose.<sup>121</sup> Thus, a commander can make an essential contribution to a common criminal design by, for example, by providing an autonomous weapon system for use in the perpetration of crimes.

Similarly, if a tactical commander orders or plans the use of an autonomous weapon system in similar circumstances, with knowledge that the system's capabilities for international humanitarian law compliance are inadequate, and damage to civilian objects or injuries to civilians subsequently occurs, she incurs liability under these theories of responsibility.

Moreover, under the 'reasonable commander' standard enunciated in international criminal law jurisprudence,<sup>122</sup> individual criminal responsibility should accrue when commanders and operators of lethal autonomous weapon systems clearly fail to consider relevant elements of the targeting rules *and/or* when they disregard the necessity for human-machine interdependence for complex military tasks, and serious violations of international

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<[http://nso.nato.int/nso/ZPUBLIC/\\_BRANCHINFO/TERMINOLOGY\\_PUBLIC/NON-CLASSIFIED%20NATO%20GLOSSARIES/AAP-6.PDF](http://nso.nato.int/nso/ZPUBLIC/_BRANCHINFO/TERMINOLOGY_PUBLIC/NON-CLASSIFIED%20NATO%20GLOSSARIES/AAP-6.PDF)>.

<sup>120</sup> M Schmitt, Remarks during panel discussion on 'The International Legal Context,' at 'Autonomous Military Technologies: Policy and Governance for Next Generation Defence Systems,' Chatham House, London, 25 February 2014. Permission to cite provided in electronic mail message to author, 15 March 2014.

<sup>121</sup> Rome Statute, art. 25 (3) (d); Prosecutor v. Thomas Lubanga Dyilo, Judgment Pursuant to Article 74 of the Statute, para. 1018.

<sup>122</sup> For example, when 'determining whether an attack was proportionate, it is necessary to examine whether a reasonably well-informed person in the circumstances of the actual perpetrator, making reasonable use of the information available to him or her, could have expected excessive civilian casualties to result from the attack.' Prosecutor v. Stanislav Galić, Judgment, para. 58.

law consequently occur. More limited autonomous technology, for example, will signal a demand for greater input of human judgment (as well as communication and accountability) during the mission. At the same time, ignorance of a system's capabilities cannot permit the avoidance of accountability.<sup>123</sup> Therefore, to avoid criminal culpability, a sound understanding of the function, capabilities and limitations of the semi-autonomous and autonomous weapon technologies available to armed forces will become a prerequisite for command of modern military units that operate lethal autonomous weapon systems.<sup>124</sup>

These hypothetical scenarios represent relatively clear-cut examples where findings of direct criminal responsibility for employing lethal autonomous weapon systems to carry out unlawful attacks are possible. More complex issues arise, however, when the tactical commander conducts herself reasonably in the selection of potential targets, the choice of an appropriate autonomous weapon system, as well as the programming of the system, yet the weapon nevertheless attacks civilians or performs outside the confines of international humanitarian/human rights law.<sup>125</sup> Given the lack of any criminal intent on her part, no criminal culpability accrues to the field commander.<sup>126</sup> Thus, the 'close cases' involving hard moral, legal and military choices by military commanders will not easily produce the culpable mens rea required for individual criminal responsibility.

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<sup>123</sup> This principle does not imply a new, onerous duty for professional commanders: 'As you deploy weapons as a commander, you're accountable. We are always at the forefront of new weapons technology. As we were in Iraq in 2003; but we were confident that they were consistent with international humanitarian law. There's no difference with autonomous weapon systems. So commanders won't take their reliability as a matter of trust. So there is no "accountability gap."' Air Marshal (ret.) Sir Brian Burridge, former commander of U.K. forces in Iraq, Remarks during panel on 'The International Legal Context' at 'Autonomous Military Technologies: Policy and Governance for Next Generation Defence Systems,' Chatham House, London, 24 February 2014; Permission to cite provided in electronic mail message to author, 6 March 2014.

<sup>124</sup> Colonel R Jackson, Special Assistant to Judge Advocate General of U.S. Army for Law of War Matters, Remarks in Panel on 'Autonomous Weaponry and Armed Conflict,' *Annual Meeting of American Society of International Law*, 10 April 2014, <<https://www.youtube.com/watch?v=duq3DtFJtWg&list=PLYp0ZUypbrnevQlBfMUSDG0IanrvJ3J6z&index=4>>; Electronic mail message to author, 7 May 2014.

<sup>125</sup> For discussions of the 'predictability' challenges of autonomous weapon systems and the potential for 'emergent behaviour,' see H Liu, 'Refining Responsibility: Differentiating Two Types of Responsibility Issues Raised by Autonomous Weapon Systems,' in N Bhuta, et. al. (eds.) *Autonomous Weapon Systems: Law, Ethics, Policy*, Cambridge University Press, 2016), and in the same volume: N Jain, 'Autonomous Weapons Systems: New Frameworks for Individual Responsibility.'

<sup>126</sup> I am grateful to Professor Geoffrey Corn for his insights on this topic.

In addition, the development of ‘moral remoteness’ on account of increased reliance on computerised systems can create challenges to the establishment of criminal intent in military commanders. The tendency for human beings to depend on their computers at moments of (stressful) decision-making can lead to ‘moral buffering’ and a reduced sense of responsibility for the consequences of those decisions.<sup>127</sup> As artificial intelligence computer software for autonomous weapon systems improves, the risk increases that, subjectively, commanders will transfer their accountability for stressful decisions to the computer.<sup>128</sup> This risk will be particularly high if states follow an ‘appropriate level of human judgment’ or other semantic standard for human interaction with lethal autonomous weapon systems as commanders and operators can ‘hide’ behind such designated ‘levels’ rather than taking responsibility for ensuring sufficient human oversight of the weapon in specific circumstances. That moral shift confuses efforts to determine the existence of a criminal *mens rea*, and, consequently, a legal basis for individual responsibility.<sup>129</sup>

An implied or express delegation of responsibility for complex, value-based decisions from a human superior to the artificial intelligence software of an autonomous weapon system reduces the human dignity of the superior as well as the victim of unlawful conduct. The superior forfeits her moral and professional accountability for her actions, in addition to the opportunity to fully develop her personality.<sup>130</sup> The victim, of course, loses the possibility of

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<sup>127</sup> M Cummings, ‘Automation and Accountability in Decision Support System Interface Design,’ *MIT Human and Automation Laboratory* (2006), 10 – 11 and 18 – 19, <[http://web.mit.edu/aeroastro/labs/halab/papers/Cummings\\_JTS.pdf](http://web.mit.edu/aeroastro/labs/halab/papers/Cummings_JTS.pdf)>. Professor Cummings uses the term ‘moral buffer’ to describe the sense of distance and remoteness that computer interfaces create for their users. It is this moral buffer that permits individuals ‘to morally and ethically distance themselves from their actions’ while ‘operating’ machines. *Ibid.* ‘Too much trust can lead to disastrous consequences,’ just as a skeptical attitude towards technology does not permit full exploitation of modern weapon systems. Electronic mail message to Author, General B.A. Fabio Giunchi, Commander of Air Cooperation School, Guidonia Airport, Italian Air Force, 27 January 2015.

<sup>128</sup> Cummings, ‘Automation and Accountability in Decision Support System Interface Design,’ 19.

<sup>129</sup> This shift also undermines the ability of criminal law and the criminal justice system to supplement the moral standards acquired through education and other non-legal processes. D Saxon, ‘The International Criminal Court and the Prevention of Crimes,’ p. 36.

<sup>130</sup> In *Bloody Constraint: War and Chivalry in Shakespeare*, Professor Meron illustrates how one form of human reflection, conscience, works as a powerful instrument for ensuring accountability, when we pay attention to it.

redress for the wrong suffered. Preservation of accountability – and human dignity – therefore, require human-machine interdependence for decisions implicating complex and/or contradictory values.

As the speed of autonomous weapon technologies increases, however, opportunities for interdependence will decline while, in parallel, perceptions of how a ‘reasonable commander’ should perform in particular circumstances will change, and, perhaps paradoxically, may become more demanding. Computer technologies, especially those linked to virtual information resources, are reshaping legal obligations related to overall attack planning.’<sup>131</sup> The scope of what is legally feasible has been altered by what is now operationally *required*.<sup>132</sup>

These scenarios will produce accountability dichotomies rather than ‘accountability gaps.’ The employment of ‘co-active’ autonomous weapon systems, however, can reduce these contradictions by permitting (if not requiring) greater human-machine teamwork. For example, when systems are co-active, it will be unreasonable for commanders to not consider whether a particular autonomous weapon system may provide a more discriminate and/or proportionate option when planning and executing attacks.

#### *b. Application of Superior Responsibility*

In certain scenarios, the theory of superior responsibility may be appropriate to hold military commanders and/or civilian superiors responsible failing to prevent and/or punish

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T Meron, (New York: Oxford University Press, 1998), pp. 194 – 197. Adam Smith also described the important influence of ‘the tribunal’ of man’s conscience,’ and the power of this ‘supposed impartial and well-informed spectator, [...] the man within the breast, the great judge and arbiter of their conduct.’ *The Theory of Moral Sentiments* (1759), K Haakonssen (ed.) (Cambridge University Press, 2004), p. 150.

<sup>131</sup> J Beard, ‘Law and War in the Virtual Era,’ 103 *American Journal of International Law* 3 (2009), 409, 436.

<sup>132</sup> *Ibid*, paras. 435 – 437. For example, during proportionality assessments, many western militaries utilize sophisticated ‘collateral damage modeling algorithms’ which estimate anticipated damage by incorporating data on weapon guidance systems. D Stewart, ‘Maximising Compliance with IHL and the Utility of Data in an Age of Unlimited Information: Operational Issues,’ in D Saxon (ed.) *International Humanitarian Law and the Changing Technology of War* (Leiden: Martinus Nijhoff, 2013), p. 185.

crimes perpetrated with autonomous weapon systems. For example, if a commander at the operational level becomes aware that a subordinate officer at the tactical level is using autonomous weapon systems to perpetrate unlawful attacks, the operational commander has a duty to prevent further misconduct and punish his subordinate.<sup>133</sup> As long as evidence exists demonstrating the three essential elements of a commander's effective control over subordinates who commit crimes, the commander's knowledge and a failure to take necessary and reasonable measures to prevent/repress<sup>134</sup> further crimes and punish the perpetrators, criminal liability should ensue.

However, the advances in technology may require reassessments of the 'knowledge' and 'reasonable measures' pillars of superior responsibility. With respect to the 'knowledge' element, at first blush, commanders of forces operating autonomous weapon systems will not easily convince a court that they were unaware that their subordinates operated autonomous weapon systems unlawfully.<sup>135</sup> Any state or organized armed group with the resources and ability to field autonomous weapons systems will also have the means and the communications technology to constantly monitor how these weapons are used. Furthermore, any competent commander utilises all possible methods to observe the progress and operations of her subordinate units.<sup>136</sup> Indeed, to ensure compliance with international law,

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<sup>133</sup> Art. 86 (2) and 87, API.

<sup>134</sup> The 'failure to punish' prong common to the law of the ad-hoc tribunals is replaced at the ICC by a 'failure to repress' element, which encompasses the two distinct duties, arising at different stages of criminal conduct, to stop ongoing crimes and to punish subordinates after the commission of crimes. The Prosecutor v. Jean Pierre Bemba Gombo, Decision on Confirmation of Charges, para. 439.

<sup>135</sup> This premise should hold true regardless of whether courts apply the 'had reason to know' standard of the ad-hoc tribunals or the 'should have known' standard of the ICC.

<sup>136</sup> For example, during multi-national NATO operations, the Supreme Allied Commander for Europe ('SACEUR') must '[e]stablish an intelligence architecture linking NATO Headquarters with national intelligence centres to provide the [Joint Force Commander] with a common, timely and accurate picture of the situation during all phases of the campaign.' 'AJP-01D,' *Allied Joint Doctrine*, North Atlantic Treaty Organization, 21 December 2010, at 0615 (e), <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/33694/AJP01D.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/33694/AJP01D.pdf)>.

this full-time and real-time monitoring capability should be an obligatory aspect of every autonomous weapon system at the design and procurement stage.<sup>137</sup>

The availability of electronic records also will minimise the challenge that physical and/or temporal ‘remoteness’ poses to the accountability of superiors.<sup>138</sup> Modern communications, however, increasingly provide superiors with real-or-nearly-real-time access to circumstances and events, including combat occurring far from command centres and headquarters.<sup>139</sup> Furthermore, the internet and social-media technology create virtual links between front-line areas and all parts of the world. These connections, combined with electronic records of commanders’ decision-making processes, ‘shorten’ the physical and temporal distances between a superior and events in the battlespace and reveal much about a superior’s mental state. This evidence of the superior’s intent and knowledge is far more relevant to individual criminal responsibility analysis than concerns about temporal or geographic ‘remoteness.’<sup>140</sup>

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<sup>137</sup> K Trapp, ‘Great Resources Mean Great Responsibility: A Framework of Analysis for Assessing Compliance with API Obligations in the Information Age,’ D Saxon (ed.), *International Humanitarian Law and the Changing Technology of War*, pp. 156 and 170.

<sup>138</sup> Physical ‘remoteness’ in this context refers to the geographical distance between the acts or omissions of a superior and the location of the criminal conduct. Temporal ‘remoteness’ refers to the time elapsed between the accused’s acts or omissions and the execution of the crimes. Trial Chambers at the ICTY and the ICC have held that: ‘(...) The more physically distant the superior was from the commission of the crimes, the more additional indicia are necessary to prove that he knew them.’ *The Prosecutor v. Jean Pierre Bemba Gombo*, Decision on Confirmation of Charges, para. 484, citing *Prosecutor v. Milomir Stakić*, Judgment, IT-97-24-T, 31 July 2003, para. 460. In Bemba, the evidence established that Jean-Pierre Bemba, the President of the Mouvement de Libération du Congo (‘MLC’), in his effective role as commander of MLC troops, communicated directly with his commanders in the field, had access to a regular reporting system and regularly monitored international media reports about the events in the Central African Republic. Paras. 486 and 488 – 489.

<sup>139</sup> For example, in an iconic photograph taken in the White House ‘Situation Room’ in Washington, D.C. on 1 May 2011, U.S. President Obama and members of his staff are seen intently watching ‘live updates’ of ‘Operation Neptune Spear,’ which resulted in the death of Osama Bin Laden in Pakistan. ‘Situation Room,’ <[http://en.wikipedia.org/wiki/Situation\\_Room](http://en.wikipedia.org/wiki/Situation_Room)>. Moreover, the use of ‘Youtube’ by all sides of the Syria conflict provides a graphic video record of events in Syria within minutes of their occurrence. <[https://www.youtube.com/results?search\\_query=syria+bread+line+air+strike](https://www.youtube.com/results?search_query=syria+bread+line+air+strike)>; <[https://www.youtube.com/results?search\\_query=syria+rebels+linked+to+al+qaeda+apologize+for+beheading+fellow+fighter](https://www.youtube.com/results?search_query=syria+rebels+linked+to+al+qaeda+apologize+for+beheading+fellow+fighter)>.

<sup>140</sup> See *Trial of Bruno Tesch and Two Others* (‘The Zyklon B Case’), Judgment, British Military Court, Hamburg, 1 – 8 March 1946 (the defendant Tesch and an employee were convicted for knowingly acting as agents – over several years - for the supply of Zyklon B gas from the German manufacturer to the Auschwitz concentration camp in Poland, where the gas was used to exterminate prisoners). <[http://www.loc.gov/r/r/frd/Military\\_Law/pdf/Law-Reports\\_Vol-1.pdf](http://www.loc.gov/r/r/frd/Military_Law/pdf/Law-Reports_Vol-1.pdf)>. Temporal distance in another sense –

However, the vast and overwhelming amounts of data ‘available’ to commanders will not guarantee a superior’s actual or constructive knowledge of particular information concerning the conduct of her subordinates.<sup>141</sup> The ability of modern technology to acquire larger and larger amounts of data can, at times, compound the ‘fog of war.’<sup>142</sup> As Professor Cummings (an engineer and former fighter pilot) has observed: ‘command and control technology have outpaced human reasoning capabilities and traditional command structures.’<sup>143</sup> Thus, as we saw above in the section on direct theories of individual criminal responsibility, advances in technology may make it more difficult for commanders to be accountable for the misconduct of their subordinates.

The scope of ‘necessary and reasonable measures’ to prevent further crimes and punish the subordinates involved in misconduct may vary when autonomous weapon systems are used to carry out unlawful attacks. For example, the use of swarm technology will undoubtedly increase the tempo of military engagements.<sup>144</sup> The faster pace of combat – and unlawful conduct - will reduce a superior’s opportunities to prevent crimes.

However, unlike human soldiers, it is possible to design lethal autonomous weapon systems so that they can be switched off.<sup>145</sup> Thus, measures available to a commander to

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the time between the alleged crimes and the commencement of prosecution – will not bar prosecutions of persons responsible for unlawful attacks employing autonomous weapon systems, as the imprescriptibility of war crimes, crimes against humanity and genocide is part of customary law. B Simma and A L Paulus, ‘The Responsibility of Individuals for Human Rights Abuses in Internal Conflicts: A Positivist View,’ 93 *American Journal of International Law*, (April 1999), 302, 315.

<sup>141</sup> Much of this ‘ceaseless flow of information’ may consist of meaningless and irrelevant facts and figures. C Garraway, ‘The Application of Superior Responsibility in an Era of Unlimited Information,’ in D Saxon (ed.), *International Humanitarian Law and the Changing Technology of War*, pp. 201 – 205.

<sup>142</sup> Y Dinstein, *The Conduct of Hostilities Under the Law of International Armed Conflict*, 2<sup>nd</sup> ed. (Cambridge, Cambridge University Press, 2010) p. 139.

<sup>143</sup> M Cummings, ‘Automation and Accountability in Decision Support System Interface Design,’ 17.

<sup>144</sup> P Fiddian, ‘UAV Swarm Technology Trial Success,’ *Armed Forces International News*, 7 August 2012, <<http://www.armedforces-int.com/news/uav-swarm-technology-trial-success.html>>.

<sup>145</sup> One notable exception to this attribute may be certain autonomous cyber weapons which, once released into the internet, may lack a specific deactivation mechanism, or are encrypted to prevent outside deactivation. M Clayton, ‘More Telltale Signs of Cyber Spying and Cyber Attacks Arise in Middle East,’ *The Christian Science Monitor*, 21 August 2012, <<http://www.csmonitor.com/USA/2012/0821/More-telltale-signs-of-cyber-spying-and-cyber-attacks-arise-in-Middle-East-video>>. Contrast this characteristic with the infamous ‘Stuxnet’ malware, which was programmed to cease its operations in late June 2012. M Clayton, ‘Stuxnet Cyberweapon

prevent or repress unlawful attacks carried out with autonomous weapon systems should include efforts to electronically deactivate the machines. Indeed, part of the procurement process, including legal reviews of new weapon technologies conducted pursuant to Article 36 of API, should include a requirement for an ‘override’ mechanism permitting superiors to stop their subordinates’ misuse of autonomous weapon systems by taking control of, and/or shutting down, the machines. Use of override systems will constitute ‘necessary and reasonable’ measures to repress further unlawful conduct and a commander’s failure to make use of such mechanisms should result in criminal liability.

As Professor Heyns has observed, however, ‘[...] the power to override may in reality be limited because the decision-making processes of robots are often measured in nanoseconds and the information basis of those decisions may not be practically accessible to the supervisor. In such circumstances humans are de facto out of the loop ....’<sup>146</sup> Nevertheless, that scenario still will leave the commander with the duty to deactivate or override an autonomous weapon system as soon as practicable after becoming aware of its misuse.

## **V. Human Dignity and Individual Criminal Responsibility in the Hard Cases**

As outlined in the proceeding sections, situations will arise where establishment of individual criminal responsibility for events involving autonomous weapon systems will be very difficult if not impossible. Professor Corn argues forcefully that, in situations where no fault for civilian injury or damage lies with soldiers/operators, security forces or commanders operating lethal autonomous weapon systems, the “Compliance Commander,” i.e. the officer in charge of the procurement process of the new autonomous weapon system, should bear

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Set to Stop Operating,’ *The Christian Science Monitor*, 23 June 2012, <<http://www.csmonitor.com/USA/2012/0623/Stuxnet-cyberweapon-set-to-stop-operating>>.

<sup>146</sup> C Heyns, ‘Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions,’ A/HRC23/47, 9 April 2013, para. 41, <<https://documents-dds-ny.un.org/doc/UNDOC/GEN/G13/127/76/PDF/G1312776.pdf?OpenElement>>.



criminal responsibility for the ‘misconduct’ of the autonomous weapon system.<sup>147</sup> In Corn’s view, standards for validation of new autonomous weapon systems should be high enough to ensure their consistent functioning within their foreseen use and capacity. When the ‘Compliance Commander’ approves the new weapon system, the argument continues, she takes responsibility for ensuring that these standards have been met, and for failures that occur when the system does not operate according to these standards.<sup>148</sup>

Lex ferenda criminal responsibility for ‘Compliance Commanders’ may be appropriate if evidence exists that she intentionally and knowingly approved the procurement of a flawed autonomous weapon system, or did so recklessly without first validating the systems capabilities, all possible failsafe mechanisms, all sub-systems, etc. Similarly, designers who deliberately create autonomous weapon systems that will fail to comply with international law should incur criminal liability.

However, if no such evidence of intentional malfeasance exists, there would appear to be no basis – absent a ‘strict criminal liability’<sup>149</sup> standard - for penal responsibility for the ‘Compliance Commander’ or the weapon designer. Some commentators argue that strict criminal liability violates international human rights norms such as the rights to a fair trial, in particular the presumption of innocence.<sup>150</sup> Indeed, the ICTY Appeals Chamber implicitly

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<sup>147</sup> G Corn, ‘Autonomous Weapon Systems: Managing the Inevitability of “Taking the Man Out of the Loop,”’ draft paper presented to Conference on *Autonomous Weapon Systems – Law, Ethics, Policy*, Academy of European Law, European University Institute, Florence, 24 April 2014, 9 – 10 and 13 (concerning the duties of the ‘Compliance Commander’ vis a vis autonomous weapon systems).

<sup>148</sup> *Ibid.* The control algorithms that comprise artificial intelligence for autonomous systems are created and tested by teams of humans. ‘Unmanned Systems Integrated Roadmap FY2013-2038,’ United States Department of Defence, 67, <<http://www.defense.gov/Portals/1/Documents/pubs/DOD-USRM-2013.pdf>>. High testing and validation standards should detect negligent or intentional ‘mis-programming’ of component systems of autonomous weapon by computer programmers and designers of these weapon systems. Detection and correction of such mistakes before the autonomous weapon system reaches the battlespace reduce concerns about how to hold scientists, engineers, computer programmers, etc. accountable when the autonomous weapons systems that they help to design and manufacture subsequently are employed in violation of international law.

<sup>149</sup> One definition of ‘strict criminal liability’ refers to offences where, with respect to at least one element of the actus reus, ‘the offender’s mental state is irrelevant.’ D Prendergast, ‘The Constitutionality of Strict Liability in Criminal Law,’ 33 *Dublin University Law Journal* (2011), 285, 286.

<sup>150</sup> S. Salako, ‘Strict Criminal Liability: A Violation of the Convention?’ 70 *Journal of Criminal Law*, (2006), 531 at 537 and 549.

rejected the use of strict criminal liability when it observed that the principle of individual criminal responsibility ‘requires that fundamental characteristics of a war crime be mirrored in the perpetrator’s mind.’<sup>151</sup>

Furthermore, the mens rea requirement common to criminal law makes an important contribution to the fulfillment of human dignity. Implicit in the requirement that conduct, to be ‘criminal,’ must be intentional is the importance that humans develop powers of self-restraint.<sup>152</sup> Part of personal autonomy and the development of the human personality is the ability to make independent, moral judgments about one’s own conduct. Expansion of the strict liability doctrine to include conduct during armed conflict and/or civil strife will have the perverse result of undermining the sense of personal accountability that lies at the heart of international humanitarian and human rights law. ‘[P]rinciples of fundamental justice,’<sup>153</sup> as well as human dignity, therefore, militate against the application of a strict liability criminal standard to serious violations of international law.

Under the lex lata, therefore, cases will arise where assignment of individual criminal responsibility is impossible in the face of allegations of unlawful use of autonomous weapon systems. For the reasons described at the start of this chapter, this ‘accountability gap’<sup>154</sup> is

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<sup>151</sup> *Judgment*, Prosecutor v. Mladen Naletilić, a.k.a. ‘Tuta,’ & Vinko Martinović, a.k.a. ‘Štela,’ No. IT-98-34-A, 3 May 2006, para. 118. The Chamber held that, consequently, in cases involving allegations of responsibility for grave breaches of the Geneva Conventions, the principle of individual guilt requires that the Prosecution prove the accused’s awareness of factual circumstances establishing the armed conflict’s international character. *Ibid*, para. 121. Nevertheless, as Henri Decoeur observes, the introduction to the chapter called ‘Article 8, War Crimes’ in the ‘Elements of Crimes’ of the ICC provides that ‘there is no requirement for awareness by the perpetrator of the facts that established the character of the conflict as international or non-international.’ <<http://www.icc-cpi.int/NR/rdonlyres/336923D8-A6AD-40EC-AD7B-45BF9DE73D56/0/ElementsOfCrimesEng.pdf>>. Arguably, this provision, if it supersedes Article 30 of the Rome Statute, permits conviction of accused for war crimes although she lacks this particular mens rea. Decoeur, ‘Avoiding Strict Liability in Mixed Conflicts: A Subjectivist Approach to the Contextual Element of War Crimes,’ 490 – 491.

<sup>152</sup> H Hart, ‘Punishment and the Elimination of Responsibility,’ in *Punishment and Responsibility: Essays in the Philosophy of Law* (Oxford, Clarendon Press, 1963), pp. 182 – 183.

<sup>153</sup> R. v. Finta [1994], 815.

<sup>154</sup> Human Rights Watch argues that significant challenges exist, under both direct and superior theories of criminal liability, to establish individual criminal responsibility for offences that occur due to the employment of lethal autonomous weapon systems. ‘Mind the Gap: The Lack of Accountability for Killer Robots,’ 9 April 2015, <https://www.hrw.org/report/2015/04/09/mind-gap/lack-accountability-killer-robots>.

an affront to the dignity of (at least) victims of serious international crimes. To determine whether this accountability gap and loss of dignity is tolerable in a modern society, we must consider the consequences for the dignity interests of potential accused, i.e. persons who design, procure, use and/or programme lethal autonomous weapon systems, if society lowers the standards for liability for crimes perpetrated with these weapons.

Preliminarily, in the face of insufficient evidence of mens rea or other elements of crimes, ‘... the simplest way to overcome allegations of impunity is to over-extend individual responsibility.’<sup>155</sup> Nevertheless, as discussed above in the context of ‘strict liability,’ measures that lower the bar for criminal liability increase the risk that accused will be unable to fully exercise their rights; in particular the presumption of innocence.<sup>156</sup> Due to the potential for loss of liberty upon conviction, an accused ‘has at stake an interest of transcending value ....’<sup>157</sup> Thus, laws and legal proceedings that do not carefully protect the rights of accused are, by definition, unfair and the conviction of innocents are gross violations of their dignity.<sup>158</sup>

In essence, when we respect important criminal law principles, such as *nullum crimen, nulla poena sine lege*, we tacitly acknowledge the impossibility that criminal law today will meet every possible future contingency<sup>159</sup> and accept that some individuals will not be held accountable for aberrant behavior.<sup>160</sup> That helps to explain why no democratic system of justice is one hundred percent effective and well-documented *absences* of criminal

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<sup>155</sup> H Liu, ‘Refining Responsibility: Differentiating Two Types of Responsibility Issues Raised by Autonomous Weapon Systems,’ p. 342.

<sup>156</sup> This right is enshrined in numerous international human rights declarations and treaties. Art. 11 (1) UDHR; Art. 14 (2), ICCPR; Art. 8 (2), ACHR; Art. 7 (1), AChHPR. The presumption of innocence is a ‘bedrock “axiomatic and elementary” principle whose “enforcement lies at the foundation” of criminal law. *In re Winship*, 397 U.S. 358 (1970), 363, citing *Coffin v. United States*, 156 U.S. 432, (1895), 453.

<sup>157</sup> *Speiser v. Randall*, 357 U.S. 513, 525 – 526 (1958).

<sup>158</sup> *In re Winship*, p. 372 (Justice Harlan concurring) (holding that ‘it is far worse to convict an innocent man than to let a guilty man go free’).

<sup>159</sup> G Finch, ‘The Nuremberg Trial and International Law,’ 41 *American Journal of International Law* 1 (January 1947), 20, 36.

<sup>160</sup> Finch argued, correctly, that the proposition that all criminals of a class must be punished, or none at all, is untenable. *Ibid*, p. 28.

responsibility inevitably arise in modern warfare.<sup>161</sup> Without evidence of culpable mens rea for the field commander, the programmer, the Compliance Commander or designer, and absent a ‘strict criminal liability’ standard, an ‘unlawful attack’ perpetrated with the use of an autonomous weapon system will be analogous to other kinds of military incidents where there is no human criminal responsibility. A limited ‘accountability gap’ is the price society pays to avoid a substantial ‘dignity gap.’

## **VI. The Design of Autonomous Weapon Systems, Accountability and the Function of International Criminal Law**

Previously in this chapter I described how a functioning system of international criminal law protects the human dignity of persons who participate in armed conflict and/or law enforcement situations. The professional ethos of responsibility and accountability for one’s actions – essential qualities of superiors in modern militaries<sup>162</sup> – helps to preserve the dignity of all actors in times of war and civil strife. Concurrently, international criminal law assists society to re-affirm and re-adjust the rights of its members following violations of international law.<sup>163</sup> The increasing use of autonomous weapon systems presents advantages as well as challenges to systems of criminal responsibility.

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<sup>161</sup> For example, in September 2009, Colonel Georg Klein, a German commander serving in ISAF in Kunduz province in Afghanistan, ordered an airstrike on a fuel tanker that had been stolen by members of the Afghan Taliban. The strike allegedly killed over a hundred civilians. In April 2010, German prosecutors, citing Colonel Klein’s lack of knowledge of the presence of civilians at the bombing site, declined to charge Colonel Klein for criminal responsibility for the civilian deaths. Susan Houlton, ‘German Prosecutors Drop Case Against Kunduz Airstrike Colonel,’ *DW*, 19 April 2010, <<http://www.dw.de/german-prosecutors-drop-case-against-kunduz-airstrike-colonel/a-5483181-1>>.

<sup>162</sup> D Saxon, ‘A Human Touch: Autonomous Weapons, DOD Directive 3000.09 and the Interpretation of “Appropriate Levels of Human Judgment Over the Use of Force,”’ in N Bhuta, et. al. (eds.), *Autonomous Weapons – Law, Ethics, Policy*, pp. 196 and 200 - 201.

<sup>163</sup> Following World War II, the lead U.S. prosecutor told the judges at the International Military Tribunal at Nuremberg that ‘[t]he real complaining party at your bar is Civilisation.’<sup>163</sup> R Jackson, ‘Presentation of the Case by the Prosecution’ (21 November 1945), *The Trial of German Major War Criminals: Proceedings of the International Military Tribunal Sitting at Nuremberg, Germany*, Part I (20 November 1945 to 1 December 1945), London, 1946, p. 86.

Responsibility – in the sense of accountability for errors and criminal conduct – is also a design challenge.<sup>164</sup> This section explains why a co-active design strategy for lethal autonomous weapon systems will maximize the potential for accountability when these weapons are used in violation of international law.

A co-active design of lethal autonomous weapon systems advances efforts at accountability on two dimensions. First, by ‘building-in’ human-machine teamwork for complex decisions, it forces human commanders and operators to conserve, rather than abdicate, their own sense of moral and legal responsibility and accountability for the results of attacks using these weapons. In doing so, it permits the development and use of ‘tactical patience’ so that commanders may avoid mistakes and misconduct.<sup>165</sup> In addition, a co-active design provides more opportunities for soldiers and commanders to adjust the behavior of autonomous technologies, including, for example, the ability to modify artificial intelligence software.<sup>166</sup>

Second, a co-active design increases the possibility that a functioning system of international criminal justice will hold accountable those commanders or operators who use autonomous weapon systems for the commission of crimes. The violent and chaotic conditions of armed conflict and civil strife often reduce the quality and effectiveness of legal

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<sup>164</sup> J van den Hoven, et. al., ‘Why the Future Needs Us Today: Moral Responsibility and Engineering Autonomous Weapon Systems,’ Presentation to 2015 Meeting of Experts on Lethal Autonomous Weapon Systems, Convention on Certain Conventional Weapons, April 2015, p. 2, <[http://www.unog.ch/80256EE600585943/\(httpPages\)/6CE049BE22EC75A2C1257C8D00513E26?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/6CE049BE22EC75A2C1257C8D00513E26?OpenDocument)>.

<sup>165</sup> ‘Tactical patience’ refers to a commander’s capacity to delay engagement and/or the use of force until she has a more complete awareness of her battlespace and specific situation. See General T McHale, ‘Executive Summary for AR 15-6 Investigation, 21 February 2010 CIVCAS Incident in Uruzgan Province,’ Headquarters United States Forces – Afghanistan, p. 2, <<http://www.rs.nato.int/images/stories/File/April2010-Dari/May2010Revised/Uruzgan%20investigation%20findings.pdf>>.

<sup>166</sup> P Margulies, ‘Making Autonomous Weapons Accountable: Command Responsibility for Computer-Guided Lethal Force in Armed Conflict,’ in J Ohlin (ed.) *Research Handbook on Remote Warfare* (Northampton, Edward Elgar Press, Forthcoming 2016).

reviews of the conduct of soldiers and law enforcement personnel.<sup>167</sup> Situations arise, however, where judicial intervention is necessary while conflict is ongoing.<sup>168</sup> Absent a co-active design, high-speed autonomous weapon systems further limit the possibility for courts and lawyers to review compliance with international humanitarian law (and international human rights law) during hostilities.

A slower, co-active design that permits human-machine teamwork will produce opportunities for more effective legal review of the use of force during conflict or civil strife and provide more opportunities for intervention when necessary. If legal interventions are effective, fewer violations of international law should occur and, when they do, international criminal law mechanisms – the adjustment of rights – will be more successful.

Regardless of whether legal reviews occur during or subsequent to events, the electronic and virtual records of activities of autonomous weapon systems should increase the accuracy and fairness of the accountability process. Although the location of proof – particularly of mens rea - always represents a challenge for prosecutors, one advantage of the sophisticated technology found in autonomous weapon systems is that the systems can be designed to leave an electronic ‘footprint’ of important decisions by commanders and programmers.<sup>169</sup> The more interdependent the weapon system’s design, the larger the ‘footprint.’ Thus, although a review may occur after-the-fact, a co-active design facilitates the contemporaneous documentation of decisions and events that may constitute violations of international law.

Indeed, to ensure compliance with international law, designers of autonomous weapon technology must include a sub-system of electronic recording of commanders’ operational

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<sup>167</sup> *Physicians for Human Rights v. IDF Commander*, Separate Opinion of Justice D. Beinisch, HCJ 4764/04 [2004] IsrL 200, p. 227, <[http://elyon1.court.gov.il/Files\\_ENG/04/640/047/A03/04047640.a03.pdf](http://elyon1.court.gov.il/Files_ENG/04/640/047/A03/04047640.a03.pdf)>.

<sup>168</sup> *Ibid.*

<sup>169</sup> M Sassóli, ‘Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified,’ 90 *International Law Studies*, 308, 316 and 338.

and targeting decisions such as: 1) identity of target(s), 2) anticipated location of moving targets, 3), anticipated civilian injuries, 4) anticipated damage to civilian objects, 5) description of anticipated military advantage offered by neutralization of target, 6) precautionary measures (if any) taken to avoid civilian injuries and damage to civilian objects, 7) foreseeable capacities of the autonomous weapon system selected for use, etc.<sup>170</sup> In addition to the evidentiary trail produced by such electronic records, the creation of an obligatory record of human decisions and evaluations of international legal obligations – and the possibility of accountability - will focus the minds of field commanders and law enforcement officers so as to avoid criminal conduct.

Decisions about design, therefore, are directly related to future findings of individual criminal responsibility for misdeeds committed with lethal autonomous weapon systems. The preservation of human dignity is the value that runs from the design phase of the weapon systems through to criminal prosecutions and other accountability mechanisms. The use of a co-active design serves to protect and enhance the dignity of the users of these autonomous weapons as well as the victims of their misuse.

## **VII. Conclusions**

‘Combat involves both lawful and unlawful killing, injury and destruction.’<sup>171</sup> When armed forces, state security forces and organized armed groups employ lethal autonomous weapon systems, an effective international criminal law structure ensures that (most) operators of these systems will fulfill their independent legal duties, and, therefore, preserve their dignity. Similarly, when crimes do occur, a functioning system of international criminal law serves to restore, to some degree, the dignity of victims and, possibly, that of the alleged perpetrators as well. Superiors and operators of lethal autonomous weapon systems,

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<sup>170</sup> G Corn, ‘Autonomous Weapon Systems: Managing the Inevitability of “Taking the Man Out of the Loop.”’

<sup>171</sup> W Fenrick, ‘The Prosecution of Unlawful Attack Cases Before the ICTY,’ *7 Yearbook of International Humanitarian Law* (2004), 153, 156.

therefore, must be held accountable – to the greatest extent possible -- if they use these machines intentionally or recklessly to commit serious violations of international humanitarian law and/or international human rights law. Given the different ‘dignity interests’ at stake, limited situations where individual criminal responsibility is absent are tolerable, if not by public opinion, at least by international law.

Thus, the preservation of human dignity – both for potential and actual perpetrators as well as victims -- is an intrinsic part of international criminal law. The discussion in this chapter has demonstrated that the development and use of autonomous weapon systems will not result in a dramatic new ‘accountability gap’ for serious violations of international law. Indeed, due to the ability of advanced electronic technology to record the behaviour of humans and weapons, employment of autonomous technologies may provide new evidentiary avenues for determining the individual criminal responsibility of operators and commanders. Nevertheless, this advance in accountability can be sustained only as long as co-active designs for lethal autonomous weapon systems are the standard. As the speed of lethal autonomous weapon systems increases, however, and human-machine interdependence declines, it will be more difficult to use the value and process of accountability to protect the human dignity of combatants and victims of crimes.