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Autonomous Weapon Systems, Human Dignity and International Law
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Citation

Saxon, D. R. (2016, December 1). *Autonomous Weapon Systems, Human Dignity and International Law*. Retrieved from <https://hdl.handle.net/1887/44700>

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Title: Autonomous Weapon Systems, Human Dignity and International Law

Issue Date: 2016-12-01

Chapter Four

Autonomous Weapon Systems and Human Dignity

I. Introduction

This chapter addresses the argument that the autonomous exercise of lethal force offends human dignity, and, therefore, international law.¹ Proponents of this argument suggest that, by permitting lethal autonomous weapon systems to independently engage and kill human targets, operators of these systems, be they national armed forces, organized armed groups or law enforcement bodies, violate the human dignity of the persons killed.² I argue instead that by delegating to machines the fundamental right and responsibility to think about complex, value-based decisions, we violate the human dignity of *the living*.

This chapter demonstrates that the use of autonomous machines for warfighting and law enforcement activities per se does not undermine human dignity. However, the opportunity to exercise reason is an important evolutionary trait³ manifested as a human need.⁴

¹ '[I]nternational law must be rooted in a respect for human dignity.' P Capps, *Human Dignity and the Foundations of International Law* (Oxford: Hart Publishing, 2009), p. 9.

² C Heyns, 'Autonomous Weapon Systems and Human Rights Law,' Presentation Made at Informal Expert Meeting Organized by the State Parties to the Convention on Certain Conventional Weapons, Geneva, 13 - 16 May 2014, p. 7 - 9, <[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/DDB079530E4FFDDBC1257CF3003FFE4D/\\$file/Heyns_LAWS_otherlegal_2014.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/DDB079530E4FFDDBC1257CF3003FFE4D/$file/Heyns_LAWS_otherlegal_2014.pdf)>. S Goose, Statement by Human Rights Watch to the Convention on Conventional Weapons Informal Meeting of Experts on *Lethal Autonomous Weapon Systems*, 13 May 2014, p. 2,

<[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/6CF465B62841F177C1257CE8004F9E6B/\\$file/NGO_HRW_LAWS_GenStatement_2014.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/6CF465B62841F177C1257CE8004F9E6B/$file/NGO_HRW_LAWS_GenStatement_2014.pdf)>. P. Asaro, 'On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making,' 94 *International Review of the Red Cross*, 886 (2012), 687 and 708.,

³ Charles Darwin postulated that thinking was an inherited characteristic. 'Evolution, he believed, explained every mental tic, ... peoples's habits, instincts, thoughts, feelings, conscience and morality.' A Desmond & J Moore, *Darwin* (London: Penguin Books, 1992), pp. 243 and 250. Daniel Dennett concludes that evolutionary processes gradually brought purposes and reasons into (human) existence. 'The Evolution of Reasons' in B Bashour & H Muller (eds.) *Contemporary Philosophical Naturalism and Its Implications* (New York: Routledge, 2014), p. 49. Contemporary researchers of human cognition suggest that genetic adaptations combine with experiences derived from social interactions and culturally transmitted information to influence thought processes. C Frith, 'The Role of Metacognition in Human Social Interactions,' *Philosophical Transactions* (August 2012), <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385688/>> and N Shea, 'New Thinking, Innateness and Inherited Representation,' *Philosophical Transactions* (August 2012), <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385690/>>.

⁴ H Arendt, *The Life of the Mind* (New York: Harcourt, 1978), pp. 99-100. Professor Allott concluded that 'such human progress as there has been, over the last several thousand years, has been due to three strange accidents of evolution or gifts of God: rationality (the capacity to order our consciousness); morality (the capacity to take

Consequently, there are fundamental areas of life where humans – to preserve their value as persons, their autonomy and hence their dignity – must retain their responsibility to think and express reason. The increasing speed of communications, data processing and autonomous weapon technology shortens the time available for manned and unmanned weapon systems to react to events and, when necessary, attack enemy combatants and objectives. The inevitable velocity of autonomous military engagements will obstruct the development of sound human judgment that arises from opportunities for human reflection on one’s own important experiences and those of others. This dynamic *will* violate human dignity, as the ability of humans to fully develop their personalities – including the capacity to respect the rights of others - will inevitably diminish.⁵

Furthermore, as discussed in Chapter five, situations arise in the battlespace where humans can negotiate changing conditions more effectively than machines. Due to the greater speed of autonomous warfare, however, the ability of human combatants and security forces to become aware of these changing circumstances, as well as the need for their intervention, will decline. Thus, the advancing speed of autonomous weapons technologies will reduce the capacity for humans to use the judgment they *have* developed, to address, when necessary, the uncertainties and contradictions that inevitably arise during hostilities and law enforcement actions.⁶ This limitation of the expression of personal autonomy and identity will constitute a violation of human dignity – that of the individuals charged with the responsibility for the conduct of hostilities and law enforcement.

responsibility for our future); and imagination (the capacity to create a reality for ourselves).’ P Allott, ‘The Concept of International Law,’ 10 *European Journal of International Law*, 31 (1999) 50.

⁵ Renaissance writers commonly understood man’s unique ability to understand ideas and to act upon his judgment as his ‘real dignity.’ H Baker, *The Image of Man: A Study of the Idea of Human Dignity in Classical Antiquity, the Middle Ages, and the Renaissance* (New York: Harper and Row, 1961), p. 299.

⁶ G. Pico della Mirandola, *Oration on the Dignity of Man* (1486), <http://en.wikipedia.org/wiki/Oration_on_the_Dignity_of_Man>. Pico della Mirandola warned that humans should never ‘through slothful inaction to lose our power of reason, that faculty by which the mind examines, judges and measures all things.’ Erasmus believed that man’s ability to use his faculties of reason was crucial to human dignity. Baker, *The Image of Man*, p. 267. Similarly, Immanuel Kant argued that man ‘has both the opportunity and the responsibility to make use of his mind in the spirit of criticism.’ ‘The Contest of Faculties,’ in Hans Reiss (ed), *Kant’s Political Writings* (Cambridge University Press, 1979), p. 15.

II. Human Dignity and Autonomous Weapon Systems

A. *Autonomous Weapon Systems, Human Dignity and the Dead*

Professor Asaro, a leader of the International Committee for Robot Arms Control,⁷ offers a compellingly simple argument in support of a ban on lethal autonomous weapons: When we permit a machine to take human life, we demean the value of life.⁸ People deserve respect, Asaro argues, *before* they are deprived of their rights.⁹ As the taking of life is irrevocable, Asaro contends that humans who are killed deserve a valid reason for their loss of life.¹⁰

Asaro claims that when computers/machines make the decision to take a human life, the result is an affront to the dignity/respect owed to the person who is killed.¹¹ Algorithmic calculations by artificial intelligence software, however, are not the same as a human review

⁷ See <<http://icrac.net/who/>>.

⁸ P Asaro, 'Human Dignity and Autonomous Weapon Systems,' Presentation to Conference on *Autonomous Weapon Systems – Law, Ethics, Policy*, European University Institute, Academy of European Law, 24 April 2014.

⁹ Professor McDougal described respect as 'an indispensable component and determinant in all human rights.' M McDougal, et al., *Human Rights and World Public Order: The Basic Policies of an International Law of Human Dignity* (New Haven: Yale University Press, 1980), pp. 7 and 451 - 455. Importantly for the use of lethal force by autonomous weapons, respect can include a number of values such as: 'protection of respect even under conditions of crisis; ... the availability of processes of authoritative decision and effective power to defend and fulfill respect; ... freedom to employ the different instruments of policy (diplomatic, ideological, economic, military) in the protection of respect; ... freedom from imposition of disrespect by the use of different instruments of policy;' *Ibid*, pp. 7 – 8. Moreover, respect can entail the ability to 'participate in all value processes in accordance with capability, that is, without discrimination for reasons irrelevant to capability. *Ibid* p. 452.

¹⁰ Asaro, 'Human Dignity and Autonomous Weapon Systems.' Francis Fitzgerald describes how the Vietnamese 'on-the-ground' experienced the United States' bombing campaigns during the 1960's: 'For the other people the war would come one out of a clear blue sky. In a few minutes it would be over: the bombs, released by an invisible pilot with incomprehensible intentions, would leave only the debris and the dead behind.' F FitzGerald, *Fire in the Lake: the Vietnamese and the Americans in Vietnam* (Boston: Little, Brown and Company, 1972), p. 5 (emphasis added).

¹¹ Asaro, 'Human Dignity and Autonomous Weapon Systems.' Similarly, Professor Heyns acknowledges the argument that '[h]uman life can only be taken as part of a process that is potentially deliberative and involving human decision-making.' C Heyns, 'Autonomous Weapon Systems: Living a Dignified Life and Dying a Dignified Death,' in *Autonomous Weapon Systems – Law, Ethics, Policy*, N Bhuta, et. al (eds.) (Cambridge University Press, 2016). R Moyes, 'Meaningful Human Control Over Individual Attacks: A Framework for Debate on Autonomous Weapons,' Conference on Weapons, Technology and Human Control, United Nations Institute for Disarmament Research, New York, 16 October 2014.

and thus, cannot fulfill this right to respect.¹² Asaro argues that algorithmic reviews are deficient because they are ‘locked in; they preclude moral growth.’¹³ Humans may develop new moral values¹⁴ and forms of reasoning but machines will not.

In chapter 3, I adopted a definition of human dignity that accords with Asaro’s emphasis on the importance of respect for human rights, and there is some merit to his argument in opposition to the use of autonomous weapon systems to take human life. For instance, history contains examples of persons who, as Asaro suggests, demonstrate moral growth even in the midst of armed conflict. The violence of war is brutal and often degrading¹⁵ and usually requires the suppression of much in our nature that is human and humane.¹⁶ Nevertheless, during warfare, the suppression of humanity,¹⁷ identity¹⁸ and meaning¹⁹ by human combatants is occasionally offset by (often irrational) expressions of compassion and illogical, even

¹² Asaro, ‘Human Dignity and Autonomous Weapon Systems,’ Presentation to Conference on Autonomous Weapon Systems – Law, Ethics, Policy, European University Institute, Academy of European Law, 24 April 2014. Professor Christoph Heyns, United Nations Special Rapporteur for Extrajudicial Executions, argues, but with little support, that a determination of life and death by a machine is inherently arbitrary, due to an unspoken assumption of international human rights law that the final decision to use lethal force must be reasonable and made by a human. Machines cannot ‘reason’ in the way that humans do and thus cannot make ‘reasonable’ decisions on their own. Presentation at annual meeting of State Parties to the Convention on Certain Conventional Weapons, Geneva, 13 – 16 May 2014, p. 6.

¹³ Asaro, ‘Human Dignity and Autonomous Weapon Systems,’ Presentation to Conference on Autonomous Weapon Systems – Law, Ethics, Policy, European University Institute, Academy of European Law, 24 April 2014.

¹⁴ Immanuel Kant observed that ‘... man has a moral character, or at least the makings of one.’ Kant, ‘The Contest of Faculties’, p. 182.

¹⁵ Many soldiers of the First and Second World War expressed ‘their sense of littleness, almost of nothingness, of their abandonment in a physical wilderness, dominated by vast impersonal forces from which even such normalities as the passage of time had been eliminated.’ J Keegan, *The Face of Battle* (New York: Penguin Books, 1978), p. 328. Battlefield conditions ‘reduced his subjective role, objectively vital though it was, to that of a mere victim.’ *Ibid.*

¹⁶ J Hatzfeld, *A Time for Machetes: The Rwandan Genocide: The Killers Speak* (London: Serpent’s Tail, 2008), pp. 98 and 136; J Hatzfeld, *Into the Quick of Life: The Rwandan Genocide Survivors Speak* (London, Serpent’s Tail, 2008), pp. 164 – 165.

¹⁷ Lt. Col. D Grossman observes that ‘there is within most men an intense resistance to killing their fellow man.’ *On Killing: The Psychological Cost of Learning to Kill in War and Society* (Boston: Little, Brown & Company, 1996), pp. 4 and 39.

¹⁸ ‘[A]n identity – that is, dignity – is necessary’ in order to live. Primo Levi, *The Drowned and the Saved* (New York: Vintage International, 1989), p. 128.

¹⁹ ‘Meaning came out of living.’ K Marlantes, *Matterhorn* (London: Corvus, 2010), p. 664; ‘Man conceals mysterious reasons for wishing to go on surviving. The more we died, the more ready we were to die, and yet the faster we ran to gain an extra moment of life.’ Hatzfeld, *Into the Quick of Life*, p. 72.

irresponsible acts of courage.²⁰ Consequently, examples of soldiers declining to use all of their powers of violence – their ‘moral force’²¹ – during wartime are common.²² This ability to empathize with human beings, whether soldier or civilian, would be absent from robotic weapons.²³

Nevertheless, further reflection reveals a number of legal and philosophical weaknesses in Asaro’s dignity-based argument. First, human beings have killed other human beings for millennia without necessarily providing a ‘reason’ for the use of lethal force to the victim. A requirement of a reason would alter important rules of, inter alia, international humanitarian law, which permits combatants to kill other combatants with no duty to provide a reason for their use of lethal force.²⁴ For example, the principle of proportionality permits loss of civilian life that is incidental to an otherwise lawful attack, if it is not excessive in relation to

²⁰ See R Chantler, ‘Translator’s Introduction’ to V. Grossman, *Life and Fate* (London: Flamingo, 1985), pp. 12; D Avery, *De Man Die Naar Auschwitz Wilde (The Auschwitz Volunteer)* (Antwerp: The House of Books, 2011), pp. 162 – 163. Some philosophers argue that this may be reasoned, even obligatory behavior. Amartya Sen contends that “effective power” to assist others in need creates an obligation to at least consider taking action. *The Idea of Justice*, pp. 205 - 207, 270 – 271 and 372 - 376.

²¹ Keegan, *The Face of Battle*, p. 280.

²² During the American Civil War in December 1862, for example, after Confederate forces repulsed the attacking Union army at Fredericksburg, Virginia, the Confederate forces declined to counter-attack the weakened and vulnerable Union divisions. A Confederate officer who was present explained later that this decision had no basis in strategy or military necessity but rather, lack of appetite for further bloodshed. ‘We had no want of it.’ General G Moxley Sorrel, *Recollections of a Confederate Staff Officer* (New York: The Neale Publishing Company, 1905), pp. 144. In 1871, Prussian forces invaded France and closed the entrances to Paris. When angry civilians demonstrated against these measures, Prussian commanders ordered their subordinates ‘to shoot in the last resort.’ This was a step too far for one officer who recalled: ‘I did not care to give that order, and preferred to go out and give some blows with the flat of my sabre.’ U Wilamowitz-Moellendorf, *My Recollections: 1848 – 1914* (London: Chatto & Windus, 1930), pp. 144. During the Second World War, even hardened Nazi leaders recognized the value of compassion, albeit only for (certain) Germans. Writing on 16 December 1941, Hans Frank, Reich-Commissar for the Coordination of Justice and Governor General of Poland, stated: “[a]s a matter of principle we shall have pity only for the German people – and for no one else in the world.’ H Shawcross, ‘Closing Speech,’ 27 July 1946, *The Trial of German Major War Criminals, Proceedings of The International Military Tribunal Sitting at Nuremberg, Germany*, Part 19 (1949), p. 440. Near the end of the war, mourning the combat death of a friend and colleague, Joseph Goebbels wrote (apparently without a trace of irony) that he ‘shall treasure his memory. How much valuable blood has been spilt in this war!’ *Final Entries 1945: The Diaries of Joseph Goebbels*, H Trevor-Roper (ed.) (New York: G.P. Putnam’s Sons, 1978), p. 27 (entry of 2 March 1945).

²³ ‘Losing Humanity, the Case Against Killer Robots,’ *Human Rights Watch and the International Human Rights Clinic of Harvard Law School* (2012), p. 38.

²⁴ Art. 48, Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (‘API’), 8 June 1977.

the anticipated military advantage.²⁵ Civilians who die during a proportionate attack are unlikely to be aware of the reasoning process that resulted in the attack.

Second, today international humanitarian law and international human rights law provide a framework for armed forces to navigate ‘the moral limits of war.’²⁶ Accordingly, although dignity is a fundamental quality of human beings, there are exceptional circumstances where international law permits armed forces to violate the dignity of persons in areas of armed conflict. In extreme cases of imperative military necessity, for example, during an invasion, belligerent parties in retreat may destroy objects that are indispensable to the survival of the civilian population under its control in its own territory.²⁷ Any subsequent loss of dignity resulting from the destruction of such objects may be balanced against, and justified by, the imperative strategic or military necessity at stake.²⁸ The commentary to this rule of international humanitarian law does not reveal any suggestion of a duty to explain to the affected civilian population the reason for the destruction of these indispensable objects.²⁹ Therefore, neither rigid concerns about strategic consequences nor dogmatic views on morality and human dignity should control soldiers’ decisions in time of conflict.³⁰

²⁵ API, Art. 57 (2) (a) (iii).

²⁶ J Witt, *Lincoln’s Code: The Laws of War in American History* (New York: Free Press, 2012), pp. 280.

²⁷ API, Art. 54 (5). This might include, for example, the flooding of low-lying areas to obstruct attacking forces. *JSP 383, The Joint Service Manual of the Law of Armed Conflict*, U.K. Ministry of Defence, para. 5.27.1.

²⁸ During the American civil war, Abraham Lincoln, more famous for his service to humanity than for cold-blooded calculations, instituted policies directed to the victory of Union forces over Southern secessionists and for eventual racial justice for African-Americans. One of Lincoln’s policies was a refusal to return freed slaves to their owners in exchange for the parole of Union prisoners-of-war languishing in miserable Southern camps. The cost of this policy was extended and severe suffering for thousands of Union prisoners-of-war. Lincoln, however, was compelled to balance ‘conflicting dignities,’ i.e. racial justice for freed slaves versus humane treatment for Union prisoners. Witt, *Lincoln’s Code*, p. 262.

²⁹ ICRC Commentary to Art. 54, API, para. 2122, <<http://www.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?viewComments=LookUpCOMART&articleUNID=C5F28CACC22458EAC12563CD0051DD00>>; L Green, *The Contemporary Law of Armed Conflict*, 2nd ed. (Manchester University Press, 2000), pp. 144; Y Dinstein, *The Conduct of Hostilities Under the Law of International Armed Conflict*, 2nd. ed. (Cambridge University Press, 2010), pp. 219 – 220; S Oeter, ‘Methods and Means of Combat’, in Dieter Fleck (ed.) *The Handbook of International Humanitarian Law*, (Oxford University Press, 2009), p. 220; Commentary to Rule 54, ‘Attacks Against Objects Indispensable to the Survival of the Civilian Population,’ *ICRC Customary International Humanitarian Law Study*, <https://www.icrc.org/customary-ihl/eng/docs/v1_cha_chapter17_rule54>.

³⁰ M Ignatieff, *The Lesser Evil: Political Ethics in an Age of Terror* (Princeton University Press, 2004), p. 8.

Third, Asaro partially conflates the loss of human life during wartime with the loss of dignity. These processes, however, are not the same and should be addressed separately. The importance of dignity often lies more in how we live rather than how we die. For example, at the end of the Second World War, survivors of Nazi extermination camps told Soviet journalist Vasily Grossman that ‘it was many times more terrible to live in Treblinka than to die there.’³¹ The 1943 uprising by the inhabitants of the Warsaw Ghetto ‘was not about preserving Jewish life but about rescuing human dignity.’³² Previously, in occupied Soviet territory on the Eastern front, conditions at one prisoner-of-war camp were so awful that Soviet prisoners submitted written requests to their German captors asking to be shot.³³ As Asaro observes, our dignity is injured when we are treated disrespectfully. What is crucial, therefore, is *how* we are treated and *why*, not *who* or *what* is treating us.³⁴

Indeed, conceptually, some international criminal tribunals and human rights courts separate the protection of the right to life from the preservation of human dignity. The International Criminal Tribunal for the Former Yugoslavia held that:

‘... [M]urder in and of itself cannot be characterized as an outrage upon personal dignity. *Murder causes death, which is different from concepts of serious humiliation, degradation or attacks on human dignity.* The focus of violations of dignity is primarily on acts, omission, or words that do not necessarily involve long-term physical harm, but which nevertheless are serious offences deserving of punishment.’³⁵

³¹ Grossman, *On Killing*, p. 303.

³² T Snyder, *Bloodlands: Europe Between Hitler and Stalin* (London: Random House, 2010), p. 291.

³³ *Ibid*, p. 179.

³⁴ Marco Sassóli notes that ‘International Humanitarian Law does not seek to promote ‘love, mercy or *human* empathy (a robot is indeed unable to have such feelings), but respect based upon objective criteria.’ ‘Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified’, 90 *International Law Studies* (2014), 308 and 318.

³⁵ *Prosecutor v. Kvočka et. al.*, Judgment, IT-98-30/T, 2 November 2001, para. 172 (emphasis added) and para. 217. Cf Heyns, *supra* note 7. Cf. Judgment of the First Senate of 15 February 2006, 1 BvR 357/05, p. 18, <http://www.bundesverfassungsgericht.de/entscheidungen/rs20060215_1bvr035705en.html>. The Court observed that ‘human life is the vital basis of human dignity’ as the fundamental constitutive principle, and as the supreme value of the German Constitution. Thus, in Germany, when the State violates the right to life, it offends the ban on the disregard of human dignity. *Ibid*, pp. 6 and 18.

The European Court of Human Rights ('ECtHR') also conducts separate analyses of alleged violations of article two of the European Convention of Human Rights ('ECHR') (the right to life of the deceased) and alleged violations of article 3 (the right, of the deceased's next of kin, not to be subject to torture or inhuman or degrading treatment or punishment).³⁶ When considering whether treatment is "degrading" within the meaning of Article 3, the Court will evaluate 'whether its object is to humiliate and debase the person concerned and whether, as far as the consequences are concerned, it adversely affected his or her personality in a manner incompatible with Article 3.'³⁷

Similarly, the InterAmerican Court of Human Rights ('Inter-Am. Ct. H.R. '), makes a distinction between the right to life and the right to be treated with dignity. For example, in the case of *Durand and Ugarte v. Peru* the Court clarified that arbitrary deprivations of the right to life do not implicate the ACHR's prohibitions against cruel, inhumane or degrading treatment.³⁸

It is stating the obvious that when armed forces or other state agents (whether humans or autonomous machines) take human life, it would be nonsensical to worry about 'adverse

³⁶ See for example, *Case of Janowiec and Others v. Russia* Judgment, ECtHR, Application No. 55508/07 and 2952/09 (21 October 2013), paras. 152 - 189.

³⁷ *Case of Savenkovas v. Lithuania* Judgment, ECtHR, Application No 871/02, 18 November 2002, para. 78. In *El Masri v. Macedonia*, the Court reiterated that "any recourse to physical force which has not been made strictly necessary by the applicant's own conduct diminishes human dignity and is in principle an infringement of the right set forth in Article 3 of the Convention." Importantly, the issue is the *use* of unnecessary force, *not the source of the force*. Judgment, Application No. 39630/09 12 December 2012, para. 207.

³⁸ Judgment, Inter-Am. Ct. H.R., 16 August 2000, para. 78, citing *Neiral Alegria & Others v. Peru*, Judgment, Inter-Am. Ct. H.R., 19 January 1995, para. 86. In the case of *Juan Humberto Sánchez v. Honduras*, the Inter-American Court of Human Rights ruled that the state violated Sánchez' right to life because, inter alia, his death was due to an extra-legal execution perpetrated by military agents and because Honduras failed to establish what happened to Sánchez during his detention. *Juan Humberto Sánchez v. Honduras*, Judgement, Inter-Am. Ct. H.R. 2003, paras. 109 and 111. In parallel, the Court found that Sánchez' next of kin were victims of cruel, inhuman and degrading treatment pursuant to article 5 of the ACHR as they suffered from, inter alia, the uncertainty of not knowing the whereabouts of Sánchez for over a week, the signs of extreme violence on Sánchez's body, and the lack of investigation and punishment of those responsible for these circumstances. *Ibid*, para. 101. Also see *Case of Bámaca Velásquez v. Guatemala*, Judgement, Inter-Am. Ct. H.R. 25 November 2000, paras. 145 and 150 (holding that incommunicado detention may constitute an act against human dignity and the forced disappearance of Efraín Bámaca Velásquez and his confinement in a clandestine prison constituted cruel and inhuman treatment that damaged his physical and moral integrity as well as his dignity). In addition, the state violated the right to humane treatment of the victim's next of kin. *Ibid*, and para. 165. Separately, the InterAmerican Court of Human Rights concluded that Guatemala violated Bámaca Velásquez' right to life. *Ibid*, para. 175.

affects' to the deceased's personality. Such concerns are salient while a person is alive.³⁹ Indeed, 'the human quality' terminates upon death and, therefore, the prohibition of degrading treatment – at least in international human rights law - will not apply to deceased persons.⁴⁰

Pursuant to this jurisprudence, the question remains whether an autonomous weapon system's 'decision' to take human life might have the additional objective to humiliate and degrade the person concerned. This scenario is unlikely because the artificial intelligence computer software that controls autonomous weapons is designed to carry out specific missions and respond, or decline to respond, to particular circumstances. Modern states with the economic resources and technical sophistication to develop and field autonomous weapon systems will have little incentive to 'design in' base artificial emotions such as the desire to humiliate and degrade human targets. Furthermore, the deployment and use of any such artificial intelligence in a weapon would violate international humanitarian law's prohibition of the infliction of unnecessary suffering.⁴¹

The International Criminal Court ('ICC') generally has followed the jurisprudence of the ad-hoc international criminal tribunals by separating the protection of the right to life from the right to dignity. According to the *Katanga* pre-trial chamber, the war crime of 'committing outrages upon personal dignity, in particular humiliating and degrading

³⁹ In *Öcalan v. Turkey*, the European Court of Human Rights held that the fear and uncertainty caused by a death sentence imposed after an unfair trial could constitute inhuman and degrading treatment. Judgment, Application No. 46221/99, 12 May 2005, paras. 168 – 169. The same is true for prolonged periods of solitary confinement. 'Complete sensory isolation coupled with total social isolation can destroy the personality and constitutes a form of inhuman treatment that cannot be justified by the requirements of security or any other reason. *Ibid*, para. 191.

⁴⁰ *Akinpar & Altun v. Turkey*, Judgment, 27 February 2007, Application No. 56760/00, para. 82. In the same case, a Chamber of the European Court of Human Rights held that a violation of article 3 of the ECHR had occurred when the father of one of the deceased 'was presented with the mutilated body of his son,' an insurgent who was killed by Turkish security forces. In this case, however, *the surviving father* was a victim of degrading treatment, not the deceased. *Ibid*, para. 84. Also see Judgment, *Khashiyev and Akayeva v. Russia*, Application No. 57942/00 and 57945/00, 24 February 2005, paras. 172 and 179 - 180 (holding that the Court could not conclude beyond a reasonable doubt that the applicants' relatives, *before being killed*, had been subject to torture and/or inhuman or degrading treatment).

⁴¹ According to customary International Humanitarian Law (as well as treaty law), the 'use of means and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering is prohibited. J Henckaerts & L Doswald-Beck, *ICRC Customary International Humanitarian Law* (Cambridge University Press, 2005), Rule 70, <http://www.icrc.org/customary-ihl/eng/docs/v1_cha_chapter20_rule70>; Art. 35, API.

treatment’ requires that the perpetrator, by action or omission, caused the humiliation, degradation, or violation of the personal dignity of individuals: (i) who are aligned or whose allegiance is to a party to the conflict who is adverse or hostile to the perpetrator; and (ii) who are in the hands of the party to the conflict to which the perpetrator belongs.’⁴² This definition of the crime does not include actions that cause the death of the victim. Moreover, criteria (i) and (ii) suggest that this offence refers to mistreatment of prisoners-of-war or other detainees rather than the killing of persons.

However, one of the basic legal texts of the ICC is the ‘Elements of Crimes.’ According to article 9 (1) of the Rome Statute, the Elements of Crimes shall assist the tribunal in the interpretation and application of the articles that contain the crimes falling within the court’s jurisdiction. The first element of the war crime of outrages upon personal dignity requires that the ‘perpetrator humiliated, degraded or otherwise violated the dignity of one or more persons.’⁴³ It is understood that the victim need not personally be aware of the existence of the humiliation or degradation or other violation. The first element also contains a footnote: ‘[f]or this crime, “persons” can include dead persons. This element takes into account relevant aspects of the cultural background of the victim.’⁴⁴ Thus, in the Katanga proceedings, the pre-trial chamber observed that ‘burying corpses in latrine pits’ constituted an outrage upon personal dignity.⁴⁵

⁴² *The Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, Decision on the Confirmation of Charges, ICC-01/04-01/07, 30 September 2008, para. 368 (emphasis added).

⁴³ ‘Elements of Crimes’, International Criminal Court, 2011, <<http://www.icc-cpi.int/NR/rdonlyres/336923D8-A6AD-40EC-AD7B-45BF9DE73D56/0/ElementsOfCrimesEng.pdf>>.

⁴⁴ *Ibid.* Justice Barak takes a similar view, arguing that the body of a deceased and her memory are entitled to human dignity. A Barak, *Human Dignity: The Constitutional Value and the Constitutional Right*, D Kayros (trans.) (Cambridge University Press, 2015), p. 239.

⁴⁵ *The Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, Decision on the Confirmation of Charges, para. 371. See art. 34 of API, which requires state parties to treat the remains of deceased with respect and provide access to the relatives of the deceased, where circumstances permit, to the graves of persons who died during combat or due to conditions of occupation. The Supreme Court of Israel has observed that ‘human dignity is the dignity of the living and dignity of the dead.’ *President A Barak, Physicians for Human Rights v. IDF Commander*, Judgement, HCJ 4764/04 [2004] IsrL 200, para. 27. Similarly, the *Report of the Commission of Inquiry for the Democratic People’s Republic of Korea* describe how bodies of political prisoners who died in labor camps were ‘disposed of with no respect for cultural tradition and the dignity of the dead.’

Although the ICC case-law extends the scope of ‘outrages upon personal dignity’ to the mistreatment of dead bodies, this finding – consistent with the jurisprudence from Kvočka et. al. above - does not include the *killing* of human beings as a form of the offence. Furthermore, the elements and case-law from the international courts concerning this offence speaks to the *kinds of mistreatment* inflicted upon the victim as opposed to whether a human being or a machine perpetrated the abuse.⁴⁶ Consequently, overall this body of legal doctrine does not support Professor Asaro’s argument that ‘decisions’ by an autonomous weapon system to kill humans are per se a violation of human dignity.

Finally, a contradiction exists in Asaro’s concerns that the fixed algorithms in artificial intelligence systems that guide robotic weapons preclude moral growth.⁴⁷ Although technically that statement may be correct, it proves little because the nature of many human beings, unfortunately, also precludes moral growth.⁴⁸ Immanuel Kant, for example, described the unpredictable aspects of human morality:

‘If it were possible to credit human beings with even a limited will of innate and unvarying goodness, we could certainly predict a generally improvement of mankind, for this would involve events which man could himself control. But if man’s natural

A/HRC/25/CRP.1, 7 February 2014, <<http://www.ohchr.org/EN/HRBodies/HRC/CoIDPRK/Pages/CommissionInquiryonHRinDPRK.aspx>>.

⁴⁶ For example, according to the Katanga pre-trial chamber: ‘the following acts constitute outrages upon personal dignity: compelling victims to dance naked on a table using detainees as human shields or trench diggers; forcing detainees to relieve bodily functions in their clothing; imposing conditions of constant fear of being subjected to physical, mental, or sexual violence on detainees; forced incest, burying corpses in latrine pits; and leaving infants without care after killing their guardians.’ *Ibid.* Similarly, Rule 113 of the ICRC Customary International Humanitarian Law Study provides: ‘[e]ach party to the conflict must take all possible measures to prevent the dead from being despoiled. Mutilation of dead bodies is prohibited.’ <https://www.icrc.org/customary-ihl/eng/docs/v1_rul_rule113>.

⁴⁷ As an example of ‘moral growth,’ Cicero believed that self-control is the ultimate virtue of man: ‘[t]o overcome emotion, restrain anger, be temperate in victory, not just lift up a prostrate foe, but enhance his former dignitas – the man who has done this I do not compare with the greatest men, but I judge most like God.’ M. Tulli Ciceronis, *Pro M. Marcello Oratio*, quoted in H Gotoff, ‘Cicero’s Caesarian Orations,’ in J May (ed.) *Brill’s Companion to Cicero: Oratory and Rhetoric*, (Leiden: Brill, 2002), p. 228.

⁴⁸ George Kateb observes that human identity rests on unique characteristics which make human beings capable of commendable works and ways of being as well as misdeeds of every kind and degree. *Human Dignity* (Cambridge: Harvard University Press, 2011), p. 18.

endowments consist of a mixture of evil and goodness in unknown proportions, no-one can tell what effects he should expect from his own actions.’⁴⁹

Hence, Kant cautioned against high expectations of progressive moral improvements in human beings,⁵⁰ and he was not alone.⁵¹ Reflecting upon the Holocaust, Primo Levi concluded that ‘the true crime, the collective general crime of almost all Germans of that time was that of lacking the courage to speak.’⁵² Hannah Arendt observed that perfectly normal persons may be completely incapable of distinguishing right from wrong, or skilled in colouring wrongful behaviour in benign terms.⁵³ According to Ervin Staub, ‘[e]vil that arises out of ordinary thinking and is committed by ordinary people is the norm, not the exception.’⁵⁴ This perversion of ideas of ‘normal’ human behaviour is especially trenchant

⁴⁹ I Kant, ‘The Contest for Faculties’, in *Kant’s Political Writings*, H Reis (ed.) (Cambridge: Cambridge University Press, 1970), pp. 181. Observing the behavior of his contemporaries, Kant noted that ‘the main difference between the savage nations of Europe and those of America is that while some American tribes have been entirely eaten up by their enemies, the Europeans know how to make better use of those they have defeated than merely by making a meal of them. They would rather use them to increase the number of their own subjects, thereby augmenting their stock of instruments for conducting even more expensive wars.’ I Kant, ‘Perpetual Peace’, in Hans Reis (ed.) *Kant’s Political Writings* (Cambridge, Cambridge University Press, 1970), p. 103.

⁵⁰ *Ibid*, 188; cf p.184 where Kant also predicted that ‘the human race will ... henceforth progressively improve without any more total reversals.’

⁵¹ In his history of the North American Indian wars during the late eighteenth century, U.S. President Theodore Roosevelt observed how ‘the iron times brought out all that was best and all that was basest in the human breast.’ *The Winning of the West: Part II, In the Current of the Revolution* (New York: The Current Literature Publishing Co., 1905), p. 289.

⁵² Levi, *The Drowned and the Saved*, p. 182. For example, before he was tried, convicted and hung at Nuremburg, Oswald Pohl, who directed the collection of valuables from Jews taken to concentration camps, including the production of gold bars made from melted gold teeth, explained why his conscience was clear: ‘[w]hat could I do? I never ordered these things to be taken. It was not my responsibility. ... All I did was follow orders.’ L Goldensohn, *Nuremburg Interviews*, R Gellately (ed.) (New York: Vintage Books, 2005), pp. 402 – 405.

⁵³ H Arendt, *Eichmann in Jerusalem: A Report on the Banality of Evil* (New York: Penguin Books, 1977), pp. 26 and 69. For example, Otto Ohlendorf commanded Einsatzgruppe D on the Eastern front during the Second World War and oversaw the execution of approximately 90,000 Jews. Subsequently, Ohlendorf attempted to describe his participation in these events in honourable terms: ‘[t]hose Jews stood up, were lined up and shot in true military fashion. I saw to it that no atrocities or brutalities occurred.’ Goldensohn, *Nuremburg Interviews*, p. 390.

⁵⁴ C Browning, *Ordinary Men: Reserve Police Battalion 101 and the Final Solution in Poland* (New York: Harper Collins Publishers, 1992), p. 167, citing E Staub, *The Roots of Evil: The Origins of Genocide and Other Group Violence* (Cambridge: Cambridge University Press), p. 126. Daniel Goldhagen takes a more optimistic view of human nature. ‘Something profound must happen to people before they become willing perpetrators of enormous mass slaughter.’ *Hitler’s Willing Executioners: Ordinary Germans and the Holocaust* (London: Abacus, 1997), p. 414. For Goldhagen, the profound event of the Nazi German revolution ‘was primarily the transformation of consciousness – the inculcation in the Germans of a new ethos.’ *Ibid*, 456. During his closing speech at the trial of German Major War Criminals, Sir Hartley Shawcross described German as ‘a nation trained in brutality.’ Proceedings of the International Military Tribunal Sitting at Nuremberg, Germany, Part 19, 26 July 1946, p. 410. If Goldhagen’s perspective on history and human nature is correct, this suggests that artificial

when we consider the survival instincts of soldiers and armies: '[we] are filled with a terrible hate. Our actions are born of a terrible fear, the will to survive. Some of the Germans were getting out of their trenches, their hands up in surrender; others were running back to their reserve trenches. To us they had to be killed. Kill or be killed. You are not normal.'⁵⁵

More recently, members of the so-called Islamic State have executed hundreds of captured Iraqi and Syrian soldiers and Shia prison inmates, kidnapped and forced thousands of Yezidi women and girls into sexual slavery and expelled Syrian Kurdish communities from their homes.⁵⁶ '[O]bviously, being inhuman is also quite human'⁵⁷ Thus, it is not surprising that, in 2011, Jacob Kellenberger, then President of the International Committee of the Red Cross, observed that a 'robot could be programmed to behave more ethically and far more cautiously on the battlefield than a human being.'⁵⁸

B. Autonomous Weapon Systems, Human Dignity and the Living

Up to now I have demonstrated that it is incorrect to argue that the otherwise lawful exercise of lethal force by an autonomous weapon system violates the human dignity of the person killed. However, the analysis should not stop there. As science advances, the principle of human dignity compels us to consider the scope and meaning of our humanity, particularly with respect to transformations of this humanity brought about by technological

intelligence, if programmed 'correctly,' has the potential to be more consistently moral and lawful than the pliable human consciousness.

⁵⁵ M Middlebrook, *The First Day on the Somme: 1 July 1916* (London: Penguin Books, 1984), p.184.

⁵⁶ 'Iraq: Islamic State Executions in Tikrit,' Human Rights Watch, 2 September 2014, <<http://www.hrw.org/news/2014/09/02/iraq-islamic-state-executions-tikrit>>; 'Iraq: ISIS Executed Hundreds of Prison Inmates,' Human Rights Watch, 30 October 2014, <<http://www.hrw.org/news/2014/10/30/iraq-isis-executed-hundreds-prison-inmates>>; 'Rule of Terror: Living Under ISIS in Syria', Report of the Independent International Commission of Inquiry on the Syrian Arab Republic, 14 November 2014, paras. 14, 28 – 29 and 53 – 57, <http://www.ohchr.org/Documents/HRBodies/HRCouncil/CoISyria/HRC_CRP_ISIS_14Nov2014.pdf>.

⁵⁷ Kateb, *Human Dignity*, p. 114.

⁵⁸ 'Keynote Address,' *International Humanitarian Law and New Weapon Technologies*, 34th Round Table on Current Issues of International Humanitarian Law, San Remo, 8 September 2011, <<https://www.icrc.org/eng/resources/documents/statement/new-weapon-technologies-statement-2011-09-08.htm>>. 'Only humans can be inhuman and only human beings can deliberately choose not to comply with the rules they were instructed to follow.' Sassóli, 'Autonomous Weapons and International Humanitarian Law,' 310.

change.⁵⁹ ‘The question is really whether we foresee that human kind will cause less harm to itself and coming generations by relying on machines or relying on humans and their judgment. This is where we need to converge our opinions further.’⁶⁰ Accordingly, this section explores the impact of employment of autonomous weapon systems on living members of society.

First, humans, via experience, also develop instincts (our ‘sixth sense’) that often assist them to navigate difficult situations where strict rules may not suffice.⁶¹ This ‘ultimate test of experience’ provides an essential contribution to the human realm of ideas.⁶² Furthermore the development of ‘good’ human judgment often requires divergence from absolute values to find solutions to value-based problems.⁶³ Instead of using our ability to deliberate about matters of importance, however, the employment of autonomous technology compels humans to transfer this power to a machine.⁶⁴ It is wholly inconsistent with human dignity to propose that these human attributes, knowledge and experience be alienable or transferable to artificial intelligence software for decisions implicating important values and responsibilities.⁶⁵ There are limits to a state’s power to serve its interests through science at the expense of the dignity and personality of human beings.⁶⁶

⁵⁹ C Byk, ‘Is Human Dignity a Useless Concept? Legal Perspectives,’ in *The Cambridge Handbook of Human Dignity: Interdisciplinary Perspectives*, M Düwell et. al. (eds.) (Cambridge University Press, 2014), p. 364.

⁶⁰ Concluding Remarks of Finland, 2015 Meeting of Experts on Lethal Autonomous Weapon Systems, Convention on Certain Conventional Weapons, 17 April 2015, <[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/06EE5826D66D6B58C1257E2D002C3ED4/\\$file/2015_LAWS_MX_Finland_W.A.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/06EE5826D66D6B58C1257E2D002C3ED4/$file/2015_LAWS_MX_Finland_W.A.pdf)>.

⁶¹ For example, human soldiers can enter an environment and ‘get a feeling about it’ that often is correct. Machines cannot do that. Author interview with Allen Borelli, former Intelligence Specialist, U.S. Army, The Hague, 15 July 2015.

⁶² H Lauterpacht, *An International Bill of the Rights of Man* (1945) (Oxford University Press, 2013), p. 39.

⁶³ H Kelsen, ‘What Is Justice?’ in *What Is Justice: Justice, Law and Politics in the Mirror of Science: Collected Essays by Hans Kelsen* (Berkeley: University of California, 1957), p. 10.

⁶⁴ Author Interview with Gianfranco Visentin, Head, Automation and Robotics Section, European Space Research and Technology Centre, European Space Agency, Noordwijk, The Netherlands, 4 November 2013.

⁶⁵ R Dworkin, *Justice for Hedgehogs* (Cambridge, Massachusetts: Harvard University Press, 2011), p. 212. The protection of human dignity, for example, requires states to look ‘to the evolving standards of decency that mark the progress of a maturing society.’ *Hall v. Florida*, 572 U.S. (2014), 5 (citing *Trop v. Dulles*, 356 U.S. 86 (1958), 101, concerning the scope of ‘cruel and unusual punishment’).

⁶⁶ *Skinner v. Oklahoma ex rel. Williamson*, 316 U.S. 535 (1942), 546, Justice Jackson Concurring.

Logically, the use of autonomous weapons involves the delegation of responsibility from humans to machines for determinations about the use of lethal force. It is hard to identify a decision more momentous than the determination to take human life. When a reasoned and complex decision to use deadly force shifts from the political and military officials in whose name it is done to a computer, the individuals ‘cease to be moral agents: people who take a decision and assume responsibility for it.’⁶⁷ Therefore, the transfer of this important role and responsibility for the use of lethal force from humans to machines reduces personal autonomy and therefore, violates human dignity. It is also true that, in some circumstances, a requirement to leave such decisions with more vulnerable human soldiers may result in increased loss of life. Nevertheless, ‘the right to life properly understood is the right to a *dignified* life.’⁶⁸ Thus, if dignity is to be a meaningful right, it ‘must in some cases be able to trump other rights, including the right to life.’⁶⁹

One obvious response to my argument is that it ignores the natural tendencies of states and militaries to further their own interests,⁷⁰ in particular their security needs.⁷¹ Writing in 1955 about the legality of the United States’ testing of the Hydrogen Bomb, Professor McDougal argued that ‘proponents of the dignity of man cannot rationally expect, by writing self-inhibiting meanings into the concepts of “military necessity,” “legitimate objectives,” and “humanitarianism,” that ‘totalitarians’ would respect these limitations.’⁷² It is true, consistent with McDougal’s point, that today large numbers of states are developing

⁶⁷ C Heyns, ‘Comments to Informal Meeting of Experts on Lethal Autonomous Weapons: Convention on Conventional Weapons,’ 16 April 2015, p. 6, <[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/1869331AFF45728BC1257E2D0050EFE0/\\$file/2015_LAWS_MX_Heyns_Transcript.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/1869331AFF45728BC1257E2D0050EFE0/$file/2015_LAWS_MX_Heyns_Transcript.pdf)>.

⁶⁸ *Ibid.*, 9.

⁶⁹ C Heyns, ‘Autonomous Weapon Systems: Living a Dignified Life and Dying a Dignified Death’, in Bhuta, et al., *Autonomous Weapon Systems – Law, Ethics, Policy*, p. 69.

⁷⁰ J Goldsmith & E Posner, *The Limits of International Law* (Oxford University Press, 2005), pp. 3, 26, 169 and 225.

⁷¹ Historically and to the present, considerations of self-defence and self-preservation play an important role in the rule-making processes of an ‘imperfectly organized world community.’ M McDougal and N Schlei, ‘The Hydrogen Bomb Tests in Perspective: Lawful Measures for Security,’ 64 *Yale Law Journal* (1955) nte 145.

⁷² *Ibid.*, p. 690. Historically, it is the commander’s task to bring her enemies to battle on her own terms and force them to fight by her rules not theirs. J Keegan, *The Face of Battle*, p. 23.

autonomous weapon systems. It is equally true that there is a certain arrogance in the suggestion that soldiers and law enforcement officers should not have weapons available that might reduce their exposure to danger.⁷³

However, ‘... numbers [and security] do not always add up to wisdom;’⁷⁴ It is folly to destroy human dignity and freedom in the pursuit of strategic advantages or stability. Both dignity and freedom encompass ‘the objective of keeping alive the creative, choosing, and purposive side of man’s nature.’⁷⁵ The responsibility implicit in personal autonomy and choice often generates anxiety and insecurity in human beings.⁷⁶ But unless we choose to degrade our human dignity and freedom, opportunity for these processes must be kept alive.⁷⁷

Human dignity has a ‘perplexing capacity’ to pull in several directions.⁷⁸ For example, a tension exists between the necessity to conserve our powers of thought and reason (our personal autonomy) as part of our human dignity, and the encouragement of the uniquely human capacity for ‘great achievements’ as another manifestation of our dignity.⁷⁹ The development of autonomous technologies for military and civilian use represents a dramatic leap in computer science, engineering and robotics. Restrictions on the use of this technology, however, can discourage further research, the realization of more ‘great achievements’ and, consequently, humankind’s advancement towards the full realisation of

⁷³ I am grateful to Geoffrey Corn for this insight.

⁷⁴ *Prosecutor v. Anto Furundija* Judgment, Declaration of Judge Shahabuddeen, IT-95-17/1-A, Appeals Chamber, 21 July 2000, para. 264.

⁷⁵ L Fuller, ‘Freedom – A Suggested Analysis,’ 68 *Harvard L. Rev.* (June 1955), 1305, 1311. There is thus, a chain of association that connects the concepts of dignity and freedom, the ideas of choice and agency, and the ability to maintain and express personal identity. M Ignatieff, ‘Response to Commentators,’ in *Human Rights as Politics and Idolatry* (Princeton University Press, 2001), pp. 165 – 166.

⁷⁶ G Colombo, *On Rules*, Amsterdam University Press, 2015, p. 130.

⁷⁷ *Ibid.*

⁷⁸ D Feldman, ‘Human Dignity As a Legal Value: Part 2’, *Public Law* (2000), 3. The concept of freedom within society possesses similar contradictions, as some form of order (i.e. constraint) is often essential to freedom. L. Fuller, ‘Means and Ends’, in Kenneth Winston (ed.) *The Principles of Social Order: Selected Essays of Lon L. Fuller*, (Durham: Duke University Press, 1981), p. 59.

⁷⁹ George Kateb argues that great achievements, which may derive from individuals or collectives, ‘are the central manifestation of the partway separation of the human species from nature and thus help to substantiate the special kind of human uniqueness and hence human dignity.’ *Human Dignity*, pp. 115 and 123 – 131.

her abilities.⁸⁰ Nevertheless, this risk to ‘human potentiality,’⁸¹ is limited by the dual use nature of autonomous technologies. The vast number of potential civilian applications of this technology ensures continued challenges and accomplishments for scientists and other professionals.⁸²

One also might argue that humans already delegate important responsibilities for certain tasks to machines with autonomous functions. For example, many commercial airplanes operate extensively on ‘autopilot’ where the pilot does not physically control the plane. Autonomously driven automobiles currently receive testing in the United States. Developers of the so-called ‘Google Self-Driving Car’ expect that, eventually, it will be self-sufficient without human-machine interdependence.⁸³ Recently, the unmanned New Horizons spacecraft flew autonomously for several hours, at 31,000 miles per hour, 3 billion miles away from Earth, pursuant to a computer program.⁸⁴ There is a major qualitative difference, however, between autonomous technology programmed to comply with ‘mechanical’ rules that under normal circumstances require little human thought -- such as altitude levels for airplane autopilots or speed limits for autonomous cars or receiving scientific data – and

⁸⁰ Writing in 1945 about the concept of natural rights, Professor Lauterpacht emphasised the importance of the state as the ‘absolute condition of the civilised existence of man and of his *progression toward the full realisation of his faculties.*’ An International Bill of the Rights of Man, p. 16 (emphasis added).

⁸¹ Human potentiality is an important human trait. Kateb, p. 124.

⁸² For example, the United States’ National Air and Space Agency (‘NASA’) sponsors an annual ‘Robotic Mining Competition’ to encourage the design and development of mining robots that can traverse simulated Martian terrain. Teams fielding robots that demonstrate the most autonomy receive a special award. ‘RMC – About the Competition,’ 17 May 2015, <<http://www.nasa.gov/offices/education/centers/kennedy/technology/nasarmc/about>>. Furthermore, in the future, swarms of miniature autonomous submarines could one day assist in underwater search operations. E. Ackerman, ‘World’s Largest Swarm of Miniature Robots’, IEEE Spectrum, 5 May 2015, <<http://spectrum.ieee.org/automaton/robotics/artificial-intelligence/worlds-largest-swarm-of-miniature-robot-submarines>>. Autonomous ground and air vehicles one day may join humans and dogs in emergency search and rescue teams. E Ackerman, ‘Emergency Response Teams Combine Mobile Robots, Drones and Dogs’, IEEE Spectrum, 6 May 2014, <<http://spectrum.ieee.org/automaton/robotics/military-robots/emergency-response-teams-combine-mobile-robots-drones-and-dogs>>.

⁸³ Electronic mail message from G Santhanam, Senior Engineer at Google X, 31 May 2015. Google employees believe that humans are unreliable partners for a driver-less car. D Bohn, ‘Astro Teller: Google X “Encouraged Too Much Attention” for Project Glass’, The Verge, 17 March 2015, <<http://www.theverge.com/2015/3/17/8235277/sxsw-astro-teller-google-x>>.

⁸⁴ J Achenbach, ‘After a Wait, Spacecraft Confirms That It Survived Its Close Pass of Pluto,’ The Washington Post, 14 July 2015, <http://www.washingtonpost.com/national/health-science/new-horizons-finally-makes-it-to-pluto-sees-craters-and-great-mounds/2015/07/14/9bcb0f04-2a1f-11e5-bd33-395c05608059_story.html?wpisrc=nl_evening&wpmm=1>.

autonomous technology that is ‘programmed ‘ to apply complex and sometimes contradictory principles and values in fluid circumstances, resulting in the destruction of life and infrastructure.

It is also obvious that in certain difficult and complex situations, many human beings prefer to delegate decision-making responsibilities to other persons or to computers:

‘The yearning that lies in men for clear vision, and a doubt-free knowledge of right and wrong, cannot be suppressed, though it may be assuaged for a time by the promise of early fulfilment. But for the most part, deep perplexities seem to be the price of awareness of our situation; and even when the perplexities are endured, judgment still remains tortured by uncertainty. The temptation is strong to run to easier courses which dispense with the need for understanding, which keep the task of adjusting human claims from men’s conscious decision, submitting it with resignation to some blind impersonal force’⁸⁵

For example, it is trite to observe that war often generates powerful and lasting emotions in its protagonists and victims.⁸⁶ Persons who suffer trauma – such as soldiers compelled to make decisions concerning life and death in the battlespace – often ‘try, usually in vain and at great expense of energy, to banish what has happened to them from their minds.’⁸⁷ The use of autonomous weapon systems has the potential to reduce the exposure of soldiers to violence and the responsibility to make decisions when all options are bad, helping to prevent ‘the anguish of memory,’⁸⁸ and the bitter and violent excesses that often result from such

⁸⁵ J Stone, *The Province and Function of Law* (Sydney: Associated General Publications, 1946), p. 782. This tendency towards indecision is prevalent particularly during armed conflict as ‘the decision-makers of the world community have never been able to become very precise about the “legitimate objectives” of violence or, hence, about the degree of destruction permissible under “military necessity.”’ McDougal & Schlei, ‘The Hydrogen Bomb Tests in Perspective: Lawful Measures for Security,’ 689.

⁸⁶ Writing in his World War I diary of life in the trenches of France, a British corporal recorded that he had ‘a slight fit about 12 o’clock (fists clenched, felt a desire to kill someone, and collapsed) Rested all day after.’ WWI War Diary Transcription of Acting Cpl. James Strangeway, S8922. No3 Section, 12th Platoon ‘C’ Co. 2nd Battn. Rifle Brigade, <<https://www.forces-war-records.co.uk/library/document/1980/wwi-war-diary-transcription-of-acting-cpl-james-strangeway-s8922-no3-section-12th-platoon-c-co-2nd-battn-rifle-brigade/page-8/?searchCategory=war+diary&searchTag=wwi&searchPage=1&filterPagesOnSearchQuery=False&filterPagesOnSearchQueryExact=True>>.

⁸⁷ W Sebald, *On the Natural History of Destruction* (London: Hamish Hamilton, 2003), p. 153. Primo Levi observed that it “... is easier to deny entry to a memory than to free oneself from it after it has been recorded.” *The Drowned and the Saved*, p. 31.

⁸⁸ *Ibid.*

trauma.⁸⁹ During armed conflict, this technological advance could reduce the suffering and loss of dignity to combatants and civilians alike.⁹⁰

As we have seen above, however, human dignity is more than the absence of suffering; it also speaks to the realisation and fulfillment of the human condition. Reflection about our actions is a significant feature of human life.⁹¹ ‘We think about which acts to perform and when to perform them.’⁹² Absent extraordinary circumstances such as the ‘capture or kill’ scenario discussed in chapter six), the long-term cost of delegating important decisions concerning the use of lethal force to autonomous weapon systems is not worth the price. The transfer of the responsibility to think and reason about important events to machines is an unacceptable surrender of human dignity that devalues the human person.⁹³ Over time, it disables the human autonomy and abilities to address difficult problems and exercise rights, which is the antithesis of a democratic society. International law’s foundational requirement for the protection of human dignity demands that limits be set to this transfer of responsibility

⁸⁹ For example, during the Second World War and in Vietnam, ‘[s]oldiers who were inured to violence, numbed to the taking of human life, embittered over their own casualties and frustrated over the tenacity of an insidious and seemingly inhuman enemy sometimes exploded and at other times grimly resolved to have their revenge at the first opportunity.’ Browning, *Ordinary Men*, p. 160. Following a battle in June 1862 during the American civil war, a Union soldier reflected on the dead and wounded that he saw on the battlefield: ‘[m]en get hardened seeing so much misery.’ A Davenport, Letter in *Soldiers’ Letters: Camp, Battlefield and Prison*, L Post (ed.) (New York: Bunce & Huntington, 1865), p. 90.

⁹⁰ However, it is also possible that the traumatic memories of warfare play a role in deterring additional armed conflicts. Surviving Japanese veterans of World War II argue that it is their ‘generation’s bitter experiences, and resulting aversion to war, that have kept Japan firmly on a pacifist path since 1945.’ M Fackler, ‘Japanese Ace in World War II Is Pacifist Voice,’ *The New York Times*, 4 April 2015, pp. A1 and A5.

⁹¹ Frith, ‘The Role of Metacognition in Human Social Interactions.’

⁹² *Ibid.*

⁹³ *Ibid.*

⁹³ George Kateb argues that human beings can never forfeit their dignity. *Human Dignity*, p. 13. Dan Zupan recognizes, with a confession of some philosophical discomfort, the possibility that, in some complex circumstances, such as on the battlefield, it may be justifiable for human beings to suspend their private judgments of other human beings. However, rather than a surrender of ‘moral autonomy,’ such decisions are a demonstration of ‘moral humility,’ i.e. an affirmation of human dignity because they acknowledge the possibility that judgments may be mistaken. ‘A Presumption of the Moral Equality of Combatants,’ in D Rodin & H Shue (eds.) *Just and Unjust Warriors: The Moral and Legal Status of Soldiers* (Oxford University Press, 2008), pp. 223 – 224.

from humans to lethal autonomous weapon systems – even if these restraints emanate from ‘principled paternalism or legal moralism.’⁹⁴

As mentioned at the start of this chapter, Asaro argues that the rights and dignity of humans will be disrespected when machines take their lives because computers cannot ‘reason’ the way humans can about such important decisions. This argument actually misses a finer point. Although human reasoning is often malevolent and immoral and one day artificial intelligence may equal or surpass the capacity of humans, the increasing speed of autonomous weapon systems will lead to a de facto absence of ‘reasons’ for lethal force. In a practical and strictly legal sense, if high-speed algorithms make the ‘right’ decisions under the law, no harm is done. The great speed, however, will make it impossible for humans to comprehend the development of ‘bad’ ‘reasoning’ by autonomous machines as it occurs and to intervene to stop the lethal exercise of that reasoning. Even worse, although in retrospect humans may review electronic records and data to observe the basis for a machine’s ‘decision,’ the meaning of that ‘decision’ is lost. The limited information that it conveys ceases ‘to suggest ideas, or suggest[s] only a small portion’ of the concepts and beliefs originally employed to shape the decision.⁹⁵ That loss of opportunity for human thought, when it arrives, will diminish the dignity of persons (be they operators of autonomous weapon systems or surviving victims of the use of force) that underlies international law and the function of law itself.

⁹⁴ D Feldman, ‘Human Dignity As a Legal Value: Part 2’, 9.

⁹⁵ J Mill, ‘On the Liberty of Thought and Discussion’, in *The Basic Writings of John Stuart Mill* (New York: The Modern Library, 2002), pp. 36 – 40 (describing the dangers of accepting what one is told as ‘truth’ and the absence of free discussion). Similarly, computational models leave out a great deal of information. ‘What we are really doing, most or all of the time with computations, is *approximating* the world.’ P Asaro, ‘Determinism, Machine Agency, and Responsibility,’ 2 *Politica & Societa*, 266, 273 and 275 (emphasis added).

III. The Function of Law, Autonomous Weapon Systems and Human Dignity

As explained in the introductory chapter, the fact that the use of weapons must occur within frameworks of legal norms⁹⁶ reflects the importance of law in society. But what is the function of law? In addition to discussions of specific international legal rules in subsequent chapters, a more foundational review is necessary of the function and application of law and reason and their relevance to autonomous weapon systems.

There is no single, accepted definition of the function of law. Lon Fuller contended that the function of law was ‘to subject human conduct to the governance of rules.’⁹⁷ John Finnis observes, more precisely, that ‘law brings definition, specificity, clarity and thus predictability into human interactions,’⁹⁸ Others view the law as an institution dedicated to the protection of the safety, order and moral welfare of States.⁹⁹ Lord Wright, referring to the Martens Clause¹⁰⁰ in international humanitarian law, opined, rather circularly, that: ‘... the object of all law is to secure as far as possible in the mutual relations of the human beings concerned the rule of law and of justice and humanity.’¹⁰¹

Law and its function, however, need not always be rule and state-centric.¹⁰² While some laws validly forbid or negate action, the law and must be dynamic and constructive.¹⁰³

⁹⁶ A ‘norm’ is the meaning of an act by which certain behavior is sanctioned, commanded, permitted, or authorized. H Kelsen, *Pure Theory of Law*, Max Knight (trans.) (Berkeley: University of California, 1978), pp. 5-6.

⁹⁷ L Fuller, *The Morality of Law* (New Haven: Yale University Press, 1964), p. 106. In this context, Professor Kelsen saw law as ‘a coercive order.’ *Pure Theory of Law*, pp. 38 and 62.

⁹⁸ J Finnis, *Natural Law and Natural Rights* (Oxford: Clarendon Press, 1980), p. 268.

⁹⁹ *Shaw v. Director of Public Prosecutions*, Opinion of Viscount Simonds House of Lords (4 May 1961), 7.

¹⁰⁰ This provision is a statement in the preamble to the 1899 Convention with Respect to the Laws and Customs of War on Land: ‘[u]ntil a more complete code of the laws of war is issued, the High Contracting Parties think it right to declare that in cases not included in the Regulations adopted by them, populations and belligerents remain under the protection and empire of the principles of international law, as the result from the usages established between civilized nations, from the laws of humanity, and the requirements of the public conscience.’

¹⁰¹ Lord Wright, Foreword, 15 *Digest of Laws and Cases, Law Reports of Trials of War Criminals*, p. xi (United Nations War Crimes Commission, 1948), <http://www.loc.gov/rr/frd/Military_Law/pdf/Law-Reports_Vol-15.pdf>.

¹⁰² This conservative perspective belies the fact that law can be empowering and creative and often the law makes possible the achievement of ends that could not have been otherwise achieved in human societies. C

Amartya Sen, for example, is concerned less about the development of positive rules to govern institutions and persons and more about whether law actually realizes justice. For Sen, justice (which should inform the making and execution of laws) is about preventing manifestly severe injustice rather than the development of ostensibly perfect institutions and rules to guide them:¹⁰⁴

‘... justice cannot be indifferent to the lives that people can actually live. The importance of human lives, experiences and realizations cannot be supplanted by information about institutions that exist and the rules that operate. Institutions and rules are, of course, very important in influencing what happens, and they are part and parcel of the actual world as well, but the realized actuality goes well beyond the organizational picture, and that includes the lives that people manage – or do not manage to live.’¹⁰⁵

Between the two opposite perspectives of law as a rigid instrument for limiting human autonomy and a spontaneous force for the righting of wrongs lies a common ground for the promotion of social control through law.¹⁰⁶ Reason, as well as the rulebook, is the soul of law.¹⁰⁷ This point is particularly important because, in certain situations, persons rightfully may choose to apply a law in an uncommon way, or not to apply the law at all, in order to protect a greater value.

Thus, rather than adopting a strictly positivist approach to the function of law, this dissertation adopts a more flexible perspective expressed by a jurist during the last century: ‘... it is the objective of law to carry out the *adjustment of rights* between [persons] and between individual and sovereign according to the ideological purposes of the state.’¹⁰⁸ This broad view permits a more logical and inclusive analysis of the use of autonomous weapon

Clark, ‘The Function of Law in a Democratic Society,’ 9 *University of Chicago Law Review* (1942), 399; J Raz, ‘On the Functions of Law,’ in A Simpson (ed.) *Oxford Essays in Jurisprudence*, 2nd ed. (Oxford: Clarendon Press, 1973), p. 292.

¹⁰³ Clark, ‘The Function of Law in a Democratic Society,’ 393 and 399.

¹⁰⁴ A Sen, *The Idea of Justice* (London: Penguin Books, 2010), pp. 20 – 21. Law and justice are two different concepts. ‘Justice’ addresses competing theories of moral and political rights and acceptable levels of equality and inequality. R Dworkin, *Law’s Empire* (Oxford: Hart Publishing, 1998), p. 97; H Hart, *The Concept of Law*, 2nd ed. (Oxford University Press, 1997), pp. 159 – 167; Sen, pp. xi, 5 – 7, 18 – 21 and 400 – 401.

¹⁰⁵ A Sen, *The Idea of Justice*, p. 18.

¹⁰⁶ J Stone, *The Province and Function of Law* (Sydney: Associated General Publications, 1946), p. 782.

¹⁰⁷ R Traynor, ‘The Limits of Judicial Creativity,’ 29 *Hastings Law Journal* (1978) 1033.

¹⁰⁸ Clark, ‘The Function of Law in a Democratic Society,’ 400 (emphasis added).

systems by multiple societies and cultures with different expectations and understandings of law.

In addition to the domain of law, the ability and opportunity to reason and choose – to develop and exercise one’s personal autonomy --) is a significant aspect of human life.¹⁰⁹ The freedom of thought (and speech) ‘is the matrix, the indispensable condition, of nearly every other form of freedom.’¹¹⁰ In a moral sense, if we do not think, we are not fully alive.¹¹¹ As autonomous technology develops, however, the final ‘adjustments’ concerning the exercise of force between machines, persons, non-state actors and states become the realm of software. Effectively, we transfer our own autonomy (i.e. a portion of our moral worth and human dignity) to the weapon system.

This de facto delegation of responsibility for compliance with the law to computers signals a seismic shift in how we view law and its function in society. Typically, in addition to making laws, of course, human beings also apply them.¹¹² Social orders guided by law, for example, are orders of human behaviour.¹¹³ In addition to normative functions, laws have many indirect social effects such as strengthening respect for moral values, as well as creating a feeling of participation in the affairs of a community.¹¹⁴ Thus, ideally, in democratic societies, the law does not impose its will on individuals but serves them in realizing their own will.¹¹⁵ However, this important, indirect function of law loses its strength the more humans defer their legal decisions to autonomous machines.

¹⁰⁹ Sen, *The Idea of Justice*, p. 18. The act of reasoning helps us to ‘disalienate’ ourselves from an often confusing and unfamiliar world. H Arendt, *The Life of the Mind* (New York: Harcourt, 1978), pp. 99 – 100.

¹¹⁰ *Palko v. Connecticut*, 302 U.S. 319 (1937), 326 – 327. The U.S. Supreme Court overruled Palko (but left this reasoning intact) in *Benton v. Maryland*, 395 U.S. 784 (1969).

¹¹¹ Arendt, *The Life of the Mind*, p. 191.

¹¹² Clark, ‘The Function of Law in a Democratic Society,’ 395.

¹¹³ Kelsen, *Pure Theory of Law*, p. 33.

¹¹⁴ Raz, *On the Functions of Law*, p. 299.

¹¹⁵ The legal and political systems of liberal democracies ‘rely on the participation of self-reliant, self-directed persons’ whose judgment and actions serve to advance their interests. M Oshana, ‘How Much Should We Value Autonomy?’ *Social Philosophy & Policy* (2003) 99 and 107. Professor Lauterpacht observed that the

As autonomous weapon systems operate at blinding speed, concepts such as ‘appropriate levels of human judgment over the use of force’ and ‘meaningful human control’ will lose their relevancy. In these circumstances, following the launch of an autonomous weapon or weapon system, the suggestion that humans will apply the law (or ‘judgment’ or ‘control’) to these weapons as they engage targets is unrealistic. Humans may programme the weapon to evaluate circumstances in accordance with the law prior to taking a course of action. Nevertheless, the evaluation, i.e the application of law, is a matter for the machine and the artificial intelligence that directs it. As machines increasingly apply law, this dynamic will reduce the function and role of law in society because fewer humans will understand how the law is applied, and fewer still will have the capacity to apply it, or use law to their benefit.

Moreover, legal systems, such as the corpus of international law and international legal structures, are normative systems.¹¹⁶ ‘It is common to all norms that they guide *human behaviour* ... [and they] provide a standard for evaluating *human behaviour*.’¹¹⁷ As mentioned previously, however, when the speed of autonomous weapon activity increases, as well as the speed of communication between autonomous weapon systems, the ability of human ‘operators’ to protect legal norms progressively will become more limited. The inevitable negation of responsibility for these decisions vitiates the possibility for normative judgment, and, thus, of law itself.¹¹⁸

When law evolves it should do so rationally.¹¹⁹ When technology atrophies human ability and motivation to think and reason about legal norms and to apply them, it subverts the law’s purpose and capacity to properly adjust the rights and interactions between persons, and

‘ultimate purpose of law is to serve the interests of those subjected to its sway.’ H Lauterpacht, *The Function of Law in the International Community* (Oxford: The Clarendon Press, 1933), p. 430.

¹¹⁶ Raz, *On the Functions of Law*, p. 284.

¹¹⁷ *Ibid*, pp. 280 – 281 (emphasis added).

¹¹⁸ E Lieblich & E Benvenisti, ‘The Obligation to Exercise Discretion in Warfare: Why Autonomous Weapon Systems Are Unlawful,’ in Bhuta, et. al., *Autonomous Weapon Systems: Law, Ethics, Policy*, p. 251.

¹¹⁹ R Traynor, ‘The Limits of Judicial Creativity,’ 29 *Hastings Law Journal* (1978) 1032.

between persons and states.¹²⁰ A clear link exists, therefore, between the affect of lethal autonomous weapons on the function of law, and the preservation of human dignity.

IV. Conclusions

Neither the autonomy of new weapons technology nor its use per se undermines human dignity. The increasing delegation of responsibility and opportunity, however, for human thinking about important values that lie at the heart of the use of force will reduce personal autonomy and thereby undermine human dignity. Nevertheless, the greater speed offered by autonomous functions offers strategic, operational and tactical advantage for armies. It will not be easy to use moral or legal arguments about human dignity to override the most basic criteria of military necessity: the simple need of soldiers and armies to survive.¹²¹

Thus, the priority of speed over time for measured human ‘reasoning’ and/or ‘judgment’ will tilt the balance between necessity and humanity that is the foundation of international humanitarian law. Accordingly, the next chapter addresses the employment of autonomous weapon systems within the framework of the laws of war and whether a ‘co-active design’ will permit greater autonomy as well as compliance with international law.

¹²⁰ Prescriptive norms cannot exist without human (i.e. political) will (as distinguished from human reasoning). Kelsen, *What Is Justice: Justice, Law and Politics in the Mirror of Science: Collected Essays* by Hans Kelsen, pp. 20 – 21.

¹²¹ M Schmitt, ‘The Interpretive Guidance on the Notion of Direct Participation in Hostilities: A Critical Analysis’ 1 *Harvard National Security Journal* (2010) 6.