

Dear CISAC community,  
Many thanks for taking the time to read and discuss my paper 'Drone-Cinema, Data Practices, and the Narrative of IHL'. As this is an early draft, the paper can still be shaped and reshaped based on your thoughts and ideas. I very much look forward to meeting you all (alas via zoom) shortly!  
Yours,  
Shiri

## **Drone-Cinema, Data Practices, and the Narrative of IHL**

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### **Abstract**

This paper explores the role of cinematic representations of lawfare in shaping and disseminating the jurisdiction of humanitarian law (IHL) through advanced military technologies and data practices. Taking the 2015 British thriller 'Eye in the Sky' as an instance of a dominant representation of lawfare, I analyse how this representation strengthens and reaffirms misconceptions about IHL and the bureaucracy of killing. As a popular culture product – and one that is embraced by various IHL experts and organisations – 'Eye in the Sky' participates in the ethical, legal, and political debates about advanced military technologies, and establishes mundane data practices as a system of knowledge production through which IHL exercises its jurisdiction over facts, people, and spaces. In particular, the paper analyses how 'Eye in the Sky's representations of IHL's data practices strengthen and reinforce a particular IHL narrative, which is consistent with Western countries' narrative about their existing counterterrorism practices and their bureaucracy of killing. Based on studies from law, sociology, and communication, this paper answers the following three questions: (i) who is given the power to speak IHL (and who is not)? (ii) To whom is IHL speaking? And (iii) how do data practices shape IHL's jurisdiction? The paper concludes that 'Eye in the Sky' speaks international law through the voices of drone-owning nations, and is directed to their mass publics, legitimising the existing bureaucracy of killing. At the same time, it disguises normative choices as inevitable, and erases African decision-makers, communities, and perspectives.

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## I. Introduction

“Colonel Powell:

*‘If my targeteer can calculate us coming in under fifty per cent for the collateral damage on the girl then do you think we will get approval at your end?’*

Lieutenant-General Benson:

*‘Yes. I do. Thank you.’*

...

Colonel Powell:

*‘We have now done everything in our power to give this girl a chance to survive.’<sup>1</sup>*

Colonel Powell is a British Army Colonel, leading a sophisticated, multi-country, targeted killing operation targeting Al-Shabaab terrorists in Nairobi, Kenya. Lieutenant-General Benson is Deputy Chief of Defence Staff at the British Ministry of Defence. The legal and ethical dilemma they are attempting to solve is the presence of a nine-year-old girl at the vicinity of the terrorists’ compound, who is likely to be killed during the operation. The presence of the girl – Alia – is established through the predator drone’s sensors. The likelihood of her death – or survival – is calculated using advanced collateral damage algorithms.

Colonel Powell, Lieutenant-General Benson, and Alia are not real people. They are fictional characters created by screenwriter Guy Hibbert in his screenplay for the British action-thriller, ‘Eye in the Sky’. However, their dialogues and expressions – similarly to other characters in the movie – represent a significant shift in IHL’s jurisdiction. In particular, these representations establish evolving data practices as a system of knowledge production through which IHL exercises its jurisdiction over facts and people, time and space. Viewed from these lenses, IHL is not only a set of legal norms, rules, and principles designed to guide behaviour during armed conflicts. It is also as a set of data practices that establishes facts, including classifying individuals into legal categories such as ‘combatant’ and ‘civilian,’ and determining how many bystanders will be killed in an attack. These data practices are both constitutive and explanatory: they create a virtual legal reality that replaces actual conditions on the ground, and at the same time, they justify any gaps between this legal reality and the physical reality. Colonel Powell’s statement that *‘We have now done everything in our power to give this girl a chance to survive’* reflects this jurisdictional shift. This statement, about giving Alia *‘a chance’* to

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<sup>1</sup> Guy Hibbert, ‘Eye in the Sky’ screenplay (2014), at 115, available at: <https://www.scriptslug.com/assets/uploads/scripts/eye-in-the-sky-2016.pdf>

survive should be understood literally, not colloquially: it relates to the efforts to change the probability of the collateral damage calculation, rather than changing the actual planning of the attack, or its physical outcomes.

‘Eye in the Sky’ is a particularly important example in this context, as following its release on the big screen, IHL scholars and practitioners have praised this movie as an accurate and authentic representation of IHL principles and decision-making processes.<sup>2</sup> As a popular culture product – and one that is embraced by various IHL experts and organisations – ‘Eye in the Sky’ participates in the ethical, legal, and political debates about advanced military technologies, and legitimises the growing role of visual and predictive technologies within IHL’s fact-finding and meaning making practices. In this paper, I argue that it is this very function – of expanding IHL’s jurisdiction through visual and predictive technologies – that marks ‘Eye in the Sky’s contribution to this debate, and affirms IHL’s data practices as an integral part of its jurisdiction over people and actions, time and space.

IHL’s jurisdiction is most often discussed in the context of its enforcement mechanisms, in particular, international criminal tribunals,<sup>3</sup> or when discussing its *lex specialis* nature and its relations with other branches of international law.<sup>4</sup> IHL’s jurisdiction is also explored in the context of the legal classification of armed conflicts, and the legal categories to which people taking part in the hostilities belong.<sup>5</sup> In this paper, however, I discuss a different aspect of IHL’s jurisdiction, referred to by Fleur Johns as ‘proto-jurisdiction’.<sup>6</sup> In the context of IHL and military decision-making, ‘proto-jurisdiction’ relates to the exercise of jurisdiction through data collection and construction by legally authorized agents, such as Colonel Powell and Lieutenant-General Benson, or Second Lieutenant Steve Watts – ‘Eye in the Sky’s drone pilot. Collecting and interpreting data captured through various visual and predictive technologies, Steve observed a young girl, determined her legal status (protected), and insisted that her fate must be determined by a further calculation of a sophisticated collateral damage algorithm. From this decision on, the movie’s plot progresses through its characters’ adherence to, application, and manipulation of the various technologies in play; technologies which are presented

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<sup>2</sup> See section III below.

<sup>3</sup> Dapo Akande, ‘Selection of the International Court of Justice as a forum for contentious and advisory proceedings (including jurisdiction)’ (2016) 7(2) *Journal of International Dispute Settlement* 320; Dapo Akande, and Antonios Tzanakopoulos, ‘The crime of aggression in the ICC and state responsibility’ (2017) 58 *Harvard International Law Journal* 33; Jelena Aparac, ‘Which International Jurisdiction for Corporate Crimes in Armed Conflicts?’ (2016) 57 *Harvard International Law Journal* 40.

<sup>4</sup> Oona Hathaway et al., ‘Which Law Governs During Armed Conflict-the Relationship Between International Humanitarian Law and Human Rights Law’ (2011) 96 *Minn. L. Rev.* 1883.

<sup>5</sup> Noam Lubell and Nathan Derejko, ‘A global battlefield? Drones and the geographical scope of armed conflict’ (2013) 11(1) *Journal of International Criminal Justice* 65.

<sup>6</sup> Fleur Johns, ‘Data, Detection, and the Redistribution of the Sensible in International Law’ (2017) 111(1) *American Journal of International Law* 57, at 60.

as the pinnacle of modern IHL. Drawing on the works of TWAIL scholars, I demonstrate how 'Eye in the Sky's representations of IHL's proto-jurisdiction strengthen and reinforce a particular IHL narrative, which is consistent with Western countries' narrative about their existing bureaucracy of killing.<sup>7</sup>

Based on studies from law, sociology, and communication, this paper answers the following three questions: (i) who is given the power to speak IHL (and who is not)? (ii) To whom is IHL speaking? And (iii) how do data practices shape IHL's jurisdiction? To answer these questions, section II explores recent developments in Just war Cinema research, with a particular focus on recent cinematic representations of lawfare and military technologies. Section III analyses 'Eye in the Sky' to answer the question 'who can speak IHL?', shedding light on IHL's actors and subjects, and the invisible politics of legal interpretation. Section IV answers the question 'to whom is IHL speaking?', examining how 'Eye in the Sky' shapes social perception of IHL jurisdiction and narrative. Based on the analysis provided in sections II-IV, section V scrutinises the role of IHL's data practices, including visual and predictive military technologies, in reshaping the IHL's jurisdiction. Section VI concludes, discussing the broader meaning of 'Eye in the Sky' and its representations of lawfare for the future of IHL.

## II. 'Just War Cinema', Visual Technologies, and the Narrative of IHL

War movies have been a part of popular culture, and a distinct cinematic genre, for decades.<sup>8</sup> A vast literature explores the representation of war in films,<sup>9</sup> as well as the role of cinema in framing moral, political, and cultural debates about war and peace, militarism, and heroism.<sup>10</sup> Focusing on storytelling of significant historical events or subjective experiences of war and armed conflict, war films contributed to the development of ideological narratives about conflicts, as well as to social processes of militarization, identity construction, and idealisation of heroism.<sup>11</sup> As Lacy has noted, the cinema is a space where stories about 'what is acceptable behaviour from states and individuals are naturalised and legitimised.'

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<sup>7</sup> TWAIL refers to Third World Approaches to International Law. See, Parvathi Menon, 'Self-Referring to the International Criminal Court: A Continuation of War by Other Means' (2015) 109 *American Journal of International Law* 260 (2015).

<sup>8</sup> Guy Westwell, *War cinema: Hollywood on the front line* (Vol. 32, Wallflower Press, 2006).

<sup>9</sup> E.g., James Chapman, *War and film* (Reaktion Books, 2008).

<sup>10</sup> Paul Virilio, *War and cinema: The logistics of perception* (Verso, 1989); Dina Iordanova, *Cinema of flames: Balkan film, culture and the media* (Bloomsbury Publishing, 2019).

<sup>11</sup> Mark J. Lacy, 'War, cinema, and moral anxiety' (2003) 28(5) *Alternatives* 611 (2003); Patrick M. Regan, 'War toys, war movies, and the militarization of the United States, 1900-85' (1994) 31(1) *Journal of Peace Research* 45.

A segment of war movies focuses not on representation of historical events or individual stories and perspectives, but rather on the sets of laws, rules and processes that represent the normative limits on war actions, as well as the bureaucracy of organised violence itself. Focusing on what he terms 'Just War Cinema', Finlay argues that popular cinema since the 1950s has shaped social attitudes about just war norms through centring on the moral arguments at the heart of Just War theory.<sup>12</sup> However, he warns that since the late 1990s, Just War Cinema has taken a worrying turn, unapologetically vitiating the aims of contemporary just war theory.<sup>13</sup> Similarly, Gates criticises the popular view praising Hollywood war films from 1998 to the present for their realism and authenticity. Instead, she argues, the new cinematic trend in war movies merely masks conservative themes, such as glorifying war and masculinity.<sup>14</sup> Focusing specifically on the so-called 'war on terror,' Dodds criticizes this class of movies – and the entertainment industry more generally – for their 'cultural appropriation of the war on terror'.<sup>15</sup>

With the expanding role of military lawyers and International Humanitarian Law (IHL) in real-time military decision-making processes and procedure, a sub-genre of Just War Cinema has emerged, focusing on concrete IHL principles, rules of engagement, and the bureaucracy of military decision-making.<sup>16</sup> Describing this cinematic trend, Joyce and Simm observed that "International lawyers both want and shun the spotlight; desire recognition and power, yet fear misrepresentation and spectacle."<sup>17</sup> One month after these lines were published, in September 2015, a new movie – specifically spotlighting military lawyers, as well as military and civilian decision-makers in contemporary armed conflicts – was released: Gavin Hood's 'Eye in the Sky'.

'Eye in the Sky' depicts the chain of command involved in targeted killing operations. It focuses its attention on the various levels of military and civilian decision-makers involved in the application of international law in a concrete and evolving military operation, which began as a surveillance mission and quickly escalated into a targeting operation. It tells the story of humans, machines, laws, and processes involved in targeted killing decision-making, against the backdrop of an imminent terror

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<sup>12</sup> Christopher J. Finlay, 'Bastards, brothers, and unjust warriors: Enmity and ethics in Just War Cinema' (2017) 43(1) *Review of International Studies* 73.

<sup>13</sup> Ibid.

<sup>14</sup> Philippa Gates, "'Fighting the Good Fight:" the real and the moral in the contemporary Hollywood combat film' (2005) 22(4) *Quarterly Review of Film and Video* 297.

<sup>15</sup> Dodds, Klaus. "Hollywood and the Popular Geopolitics of the War on Terror." *Third World Quarterly* 29.8 (2008): 1621-1637, 1634.

<sup>16</sup> See, for example, Martyna Fałkowska-Clarys and Vaios Koutroulis, 'The fog of law in the fog of war: International humanitarian law in war movies' in *Cinematic perspectives on international law* (Manchester University Press, 2021), 128-152.

<sup>17</sup> Daniel Joyce and Gabrielle Simm, 'Zero Dark Thirty: international law, film and representation' (2015) 3(2) *London Review of International Law* 295.

attack endangering the people of Nairobi. Through its unique focus on the bureaucracy of targeted killing decision-making and the role of IHL norms, practices, and actors in this process, 'Eye in the Sky' participates in the social construction of IHL jurisdiction, and – as will be demonstrated below – in the legitimisation of existing IHL data practices.

The movie received wide acclaim, both from viewers and from IHL scholars and professionals, who praised the movie for its accurate, nuanced, and realistic depiction of sensitive legal rules and processes. Based on this positive reception, as well as the movie's success at the box office,<sup>18</sup> this article focuses on 'Eye in the Sky' as an instance of a dominant contemporary representation of IHL's jurisdiction and data practices. Perhaps it was the movie's accurate use of legal terminology, its focus on the mundane work of legal advisors and legal decision-makers, or its seemingly neutral description of the bureaucracy and decision-making processes, which engendered such wide support within the profession. David Cole, the Legal Advisor of the American Civil Liberties Union (ACLU) and a Professor of Law at Georgetown University regarded it as providing an illuminating and sophisticated exploration of the legal and moral challenges created by drone warfare.<sup>19</sup> Toby Walsh, a Professor of AI at UNSW, commended 'Eye in the Sky' for its objectivity and its realistic depiction of modern technological warfare.<sup>20</sup> Paul Rosenzweig, a Professorial Lecturer in Law at George Washington University, and formerly Deputy Assistant Secretary for Policy in the Department of Homeland Security, applauded the way 'Eye in the Sky' unpacks the political complexities surrounding targeted killing decision-making.<sup>21</sup> Deane-Peter Baker, an Associate Professor of International and Political studies at UNSW-Canberra, admired the movie for the convincing manner in which it raises a range of topical issues in military ethics.<sup>22</sup> It was even included in an International Committee of the Red Cross (ICRC) recommended list of ten 'must watch' films and television series related to IHL.<sup>23</sup> This warm embrace

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<sup>18</sup> *Eye in the Sky* grossed \$6.6 million in the UK, \$18.7 million in the US and Canada, and \$32.8 million worldwide (<https://www.boxofficemojo.com/>). The movie received positive reviews both from critics (95% on Rotten Tomatoes, based on 219 reviews) and from viewers (82% on Rotten Tomatoes, based on more than 25,000 reviews). [https://www.rottentomatoes.com/m/eye\\_in\\_the\\_sky](https://www.rottentomatoes.com/m/eye_in_the_sky)

<sup>19</sup> David Cole, 'Killing from the Conference Room', *The New York Review of Books*, 10.3.2016, available at: <https://www.nybooks.com/daily/2016/03/10/killing-from-conference-room-eye-in-the-sky-drones/>; Marko Milanovic, 'Eye in the Sky', *EJIL Talk!*, 9.5.2016, available here: <https://www.ejiltalk.org/eye-in-the-sky/>.

<sup>20</sup> Toby Walsh, 'Eye in the Sky movie gives a real insight into the future of warfare', *The Conversation*, 25.3.2016, available at: <http://theconversation.com/eye-in-the-sky-movie-gives-a-real-insight-into-the-future-of-warfare-56684>; Kevin McFarland, 'Eye in the Sky Is the Quintessential Modern War Film', *Wired*, 04.01.16, available at: <https://www.wired.com/2016/04/eye-in-the-sky-modern-war-film/>.

<sup>21</sup> Paul Rosenzweig, 'Eye in the Sky - A Movie Review', *Lawfare*, 28.3.2016, available here: <https://www.lawfareblog.com/eye-sky-movie-review>.

<sup>22</sup> Deane-Peter Baker, 'Eye in the Sky and the moral dilemmas of modern warfare', *The Conversation*, 1.4.2016, available at: <https://theconversation.com/eye-in-the-sky-and-the-moral-dilemmas-of-modern-warfare-56989>.

<sup>23</sup> 'Ten must-see films and series for IHL buffs', *International Committee of the Red Cross*, 2.11.2017, available at: <https://www.icrc.org/en/document/colombia-ten-must-see-films-and-series-ihl-buffs>.

from various legal academics, professionals, and organisations is understandable, considering the movie's objective tone and bureaucratic nuance.

This article, however, argues that the representation of IHL in 'Eye in the Sky' is far from being 'accurate' and 'authentic'. Instead, it adopts and advances Western countries' ideological narrative, presenting existing IHL's data practices as a higher authority in IHL decision-making; and constructing compliance with – and submission to – these data practices as the highest form of modern military heroism. By doing so, it contributes to and participates in the growing conservative cinematic trend in war movies,<sup>24</sup> while masking this ideological stance as neutral and natural. Though not glorifying war per se, 'Eye in the Sky' justifies Western countries' counterterrorism practices, focusing on Western decision-makers and their perceived dilemmas. At the same time, the construction of these dilemmas is based on several unsubstantiated assumptions, including that existing IHL data practices are just, accurate, and protective. The construction of these dilemmas also ignore African decision-makers' cultures and preferences, and evade necessary questions concerning IHL's legitimation of violence and domination of third world countries and peoples.<sup>25</sup> The following three sections unpack and demonstrate these claims.

### **III. Who has the Power to Speak IHL?**

'Eye in the Sky' moves quickly between various locations and technologies: It begins at the streets and poor neighbourhoods of Nairobi, Kenya, where a group of Al-Shabaab terrorists gets ready to launch a terror attack destined to kill dozens in a crowded Nairobi shopping mall. Nearby, young girl is playing outside her home, and a Kenyan undercover field agent provides ground intelligence using short-range cameras. From there, the camera moves abruptly to British Army Headquarters at Northwood, where Colonel Katherine Powell leads the operation to capture (and later kill) the terrorists. Using various telecommunication devices, the camera then spotlights Creech Air Force Base in Nevada, US, where Second Lieutenant Steve Watts operates a predator drone (USAF MQ-9 Reaper). Back in London, the camera moves to the Cabinet Office, where British Lieutenant-General Frank Benson, two full government ministers and a ministerial under-secretary, supervise the mission. Additional locations are Singapore, where UK Foreign Secretary is currently on a trade mission; and

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<sup>24</sup> Gates, *supra* note 14.

<sup>25</sup> James Thuo Gathii, 'The Agenda of Third World Approaches to International Law (TWAIL)', in Jeffrey Dunoff and Mark Pollack (eds) *International Legal Theory: Foundations and Frontiers* (Cambridge University Press, 2019); Ntina Tzouvala, 'TWAIL and the "Unwilling or Unable" Doctrine: Continuities and Ruptures' (2015) 109 *American Journal of International Law* 266.

China, where the US Secretary of State, is playing a friendly match with a Chinese Junior Olympian player.<sup>26</sup>

The technologies connecting all of these locations and decision-makers are the force that progresses the movie's plot: the viewers – both on-screen decision-makers and off-screen audiences – see the Al Shabaab terrorists through the drone's eye in the sky. The terrorists' weaponry and actions are also visible through short-range ornithopter cameras. Facial recognition technology is further used to provide a 100% match with the list of wanted terrorists. Through screens within screens, decision-makers and audience alike are convincingly exposed to the terrorists' plot: to launch a deadly terror attack in a crowded shopping mall in Nairobi. The sophisticated surveillance cameras quickly and easily zoom in and out, producing powerful real time images. As technology alerts that time is running out (depicting the terrorists wearing suicide vests and getting ready to leave the compound), various algorithms are then applied to estimate the collateral damage anticipated from an immediate attack on the terrorists' compound. Other algorithms calculate the expected casualties from the planned terror attack, based on the types and models of the weapons they possess and the potential locations for detonating them. The answer, provided by these predictive algorithms, is quick and clear: the terror attack will result in the death of eighty civilians; the drone attack on the terrorists' compound may result – with a 45-65 percent chance – in the death of one child, Alia (the girl depicted at the beginning of the movie). What is the legal and ethical course of action under these circumstances? Should Western decision-makers sacrifice one Kenyan girl to save dozens? This is the dilemma that 'Eye in the Sky' focuses on, and constructs as the main challenge decision-makers applying IHL face.

This question, though, is just as fake as eye in the Sky's characters are. It is based on several convenient assumptions reflecting ideological preferences and positions: that the people visible through the drone's sensors are indeed terrorists planning a multi-casualty attack; that the weapons depicted are indeed weapons; that – if a terror attack is indeed underway – there is no other course of action to frustrate the attack or protect potential victims. The certainty with which these assumptions are presented are particularly striking, as in several real operations, drone operators have mistaken wood fire for RPG rockets, and identified women and children as Taliban fighters, resulting in numerous unanticipated civilian casualties.<sup>27</sup> In fact, the only uncertainty presented in 'Eye in the Sky' regarding the planned operation concerned the anticipated collateral damage. While all other facts relating to the operation were presented with 100 percent certainty, there was only 45-65

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<sup>26</sup> Screenplay, *supra* note 1.

<sup>27</sup> Shiri Krebs, 'Predictive Technologies and Opaque Epistemology in Counterterrorism Decision-making' in A. Vidaschi and K. L. Scheppele (Eds.), *9/11 and the Rise of Global Anti-Terrorism Law: How the Security Council Rules the World* (Cambridge: Cambridge University Press, 2021), 199-221.

percent chance that the child will be killed. The algorithm gave her a fair chance to survive. The missiles, though, did not.

This representation of IHL's core principle of proportionality and its application in concrete situations sheds light on the making of IHL, and on IHL's making of the world. Through the drone eye in the sky, the movie reveals who are IHL's actors: speaking IHL, shaping its scope, and actively participating in establishing its jurisdiction over facts, people, and places.

**a) Actors and Subjects of IHL: North, South, and Tech**

*i. North and South*

Through the visual techniques and locations described above, 'Eye in the Sky' draws clear lines between actors and subjects of international law: between those who create, shape, and represent IHL, and those whom IHL regulates and to whom it applies.<sup>28</sup> On the one hand, Western decision-makers, both civil servants and military commanders, apply the law, interpret its meaning, and determine its scope. On the other hand, African people are categorised into potential victims, dangerous terrorists, or operative pawns, sent on life-threatening missions to tilt the algorithmic calculation to the desirable balance.<sup>29</sup> For example, the movie's protagonist, Colonel Powell (played by Helen Mirren), manipulates IHL's data practices – the CDE algorithm – to be consistent with her own judgment of the situation. Similarly, the military lawyer – Major Harold Webb – embodies the law in his very being, interpreting and passionately defending its processes and practices. In contrast, Major Moses Owiti of Kenya's National Intelligence service (NIS), receives his orders from Colonel Powell and is eager to please her. While he has a team ready to go in the terrorists' compound and arrest them, he accepts Powell's preference to catch her wanted person (British national Susan Danford). He also agrees without hesitating to send an undercover Kenyan field agent, Jama Farah, on a near-suicide mission into the militia controlled area, to provide ground intelligence. Farah accepts his missions and obeys Powell's wishes, putting his own life at grave danger. His life was the only factor left completely outside of the algorithm's robust calculations.

Similarly, throughout the movie, the UK and US decision-makers are debating the ethical dilemma whether their combined armed forces should sacrifice the lives of one Kenyan girl, in order

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<sup>28</sup> Charles-Emmanuel Côté, 'Non-state Actors, Changing Actors and Subjects of International Law' in *Changing Actors in International Law* (Brill Nijhoff, 2020), 1-24.

<sup>29</sup> Existing literature has similarly explored the connections between Critical Race Theory (CRT) and Third World Approaches to International Law (TWAIL). See: James Thuo Gathii, 'Writing Race and Identity in a Global Context: What CRT and TWAIL Can Learn from Each Other' (2020) 67 *UCLA L. Rev.* 1610.

to stop the terrorists and save the lives of 'eighty' other Kenyan citizens. 'Eye in the Sky's depiction of IHL actors does not leave any room for the active participation of African decision-makers, and instead, extends Western decision-makers' powers extraterritorially.

This legal appropriation of war powers is consistent with other popular culture products,<sup>30</sup> presenting locations in the global south as structureless and chaotic, requiring Western powers to intervene to produce 'order' through their superior technological capabilities.<sup>31</sup> 'Eye in the Sky' depicts Nairobi in unflattering terms: poor, crowded, dangerous. Though the city is referred to as 'friendly',<sup>32</sup> Nairobi and its inhabitants are described from an external, Western perspective, depicted through Western technology and data practices. Information about Nairobi and its inhabitants is provided only as necessary for the Western interests in the place. All we know about Alia is that she is about to become 'collateral damage'; all we know about the neighbourhood she lives in is that a group of dangerous Somali terrorists are using it as a hiding place. There are no other ordinary people or locations we should know anything about. Moreover, the description of Nairobi as 'friendly' references an oriental discourse, in which nations and peoples in the global south are measured through their ties to 'civilized nations'.<sup>33</sup> In return, 'friendly' nations or cities like Nairobi gain protection from their benevolent benefactors.

'Eye in the Sky's oriental discourse is further advanced through its treatment of extraterritoriality and responsibility. Lieutenant-General Benson, in particular, references Kipling's 'white men's burden', as he warns that inaction will result in having to 'announce to the people of Nairobi that we knew everything but did nothing'.<sup>34</sup> This statement turns the concept of accountability for war actions on its head: by approving the attack, they will be directly accountable to the (unintentional) death of Alia. However, not approving the attack in order to spare her life will not make UK or US decision-makers accountable for a terror attack conducted by a Somali terror group in Kenya. Presenting their available options as bombing the compound immediately or 'doing nothing' further clarifies that informing (or even consulting with) civilian decision-makers in Kenya is not a

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<sup>30</sup> Dodds concluded that Hollywood action thrillers depict the inhabitants of Middle Eastern and North African cities as untrustworthy, dangerous and prone to extreme violence. Dodds, Klaus. "Hollywood and the Popular Geopolitics of the War on Terror." *Third World Quarterly* 29.8 (2008): 1621-1637, 1633.

<sup>31</sup> S Graham, 'Cities and the war on terror' (2006) 30 *International Journal of Urban and Regional Research*, at 256.

<sup>32</sup> Screenplay, supra note 1, at 70.

<sup>33</sup> See, for example, Matthew H. Bernstein and Gaylyn Studlar, eds., *Visions of the East: Orientalism in film* (Rutgers University Press, 1997); Lina Khatib, *Filming the modern Middle East: Politics in the cinemas of Hollywood and the Arab world* (Bloomsbury Publishing, 2006); and the foundational work of Edward Said: Edward W. Said, *Culture and imperialism* (Vintage, 2012).

<sup>34</sup> *Ibid*, at 113.

viable or useful option. Their participation in the practice of IHL is reserved to passive obedience or victimisation.

Against Lieutenant-General Benson's view, Angela Northman MP, the Parliamentary Under-Secretary of State for Africa, expressed the opposing view that Alia's life should be spared. However, she, too, as well as others articulating this view, expressed in her legal and moral arguments Western culture, philosophy, and interests. Her response is presented as ethical and emotional, as she is concerned about the fate of Alia. Against the utilitarian view expressed by Benson, Northman's view is Kantian, treating humanity in others (in this case – Alia), as an end, rather than as a mean to achieve a greater good. Similarly, the UK Attorney-General, George Matherson, makes the point that 'If Al-Shabaab kill eighty people, we win the propaganda war. If we kill one girl, they do.'<sup>35</sup> The exercise of IHL in this context reflects Western political interests. Pressing to go ahead with the operation, Lieutenant-General Benson articulates the utilitarian foundation of his legal assessment, stating that 'it is generally understood that it is sometimes necessary to sacrifice the one in order to save the many.'<sup>36</sup> Between a utilitarian, cost-benefit analysis, and a Western political agenda, the voices and preferences of the people of Kenya went amiss.

Finally, in an effort to have the operation approved, Colonel Powell orders her targeteer, African-British Sergeant Mushtaq Saddiq, to 'play' with the targeting system and find an angle from which the CDE is lower than 50 percent ('perhaps we can target the missile here... or there...').<sup>37</sup> Mushtaq understands what she is asking and is uncomfortable with that task. Colonel Powell then clarifies: 'Do whatever you can to save this girl's life.'<sup>38</sup> But as Mushtaq knows well, under the circumstances in this case, there is nothing he can do to actually 'save' the girl's life. All he can do is change the algorithmic calculation so that her chances of survival may increase slightly, at least in the parallel realm created by IHL's data practices. Unlike white drone pilot Steve, Mushtaq's character is constructed as an obedient subject, who follows order from his white superior.

*ii. Tech*

In between, the technology itself is presented as a developing new actor – and perhaps a higher authority – in IHL: determining when a planned operation is consistent with the rules of engagement, identifying the target as necessary military target, alerting when the collateral damage estimate (CDE) is concerning. This elevation of IHL's data practices to the level of IHL's higher authority

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<sup>35</sup> Ibid, at 107.

<sup>36</sup> Ibid, at 101.

<sup>37</sup> Ibid, at 113.

<sup>38</sup> Ibid.

is expressed by Steve, the drone pilot, who leans on this algorithm as the embodiment of legal authority and justice:

“STEVE (firm but nervous) Ma’am, I need you to run the Collateral Damage Estimate again, with the girl out front... Colonel Powell, Ma’am, I am the pilot in command responsible for releasing the weapon. I have the right to ask for the CDE to be run again. I will not release my weapon until that happens.”<sup>39</sup>

Steve sees the girl on his screen. He understands what her fate will be once he releases his weapons on that compound. Yet his own judgment is insignificant, and he is ready to follow the higher ruling of the algorithm. ‘Eye in the Sky’ constructs the new military heroism as a complete submission to the rule of IHL’s data practices; Steve’s heroism is expressed through obeying the CDE algorithm, killing 9-year-old Alia, against his own moral and legal judgment.

Colonel Powell, too, accepts the rule of the technology, and rather than relying on her own judgment in order to have the operation approved, orders her targeteer to re-run the CDE (and attempts to manipulate its outcomes). While doing so, the screenplay describes Powell as ‘seething’ – clearly frustrated with the rise of this new algorithmic actor that overrides her own legal authority.

### ***b) Militarism and Masculinity***

‘How have men from different cultures had their notions of manhood – and womanhood – shaped and reshaped by officials so as to permit governments to wage the sorts of wars they have imagined to be necessary?’<sup>40</sup>

‘Eye in the Sky’ participates in the shaping of manhood and womanhood to permit Western governments to wage their war on terrorism, imagined as necessary and just. With the exception of Colonel Powell, whose military identity overrides her gender identity, ‘Eye in the Sky’ creates clear gender lines to construct rational vs emotional decision-making. In a significant ending scene, after the attack took place and Alia was killed, Lieutenant-General Benson – confident and authoritative – berates Angela Northman MP, the Parliamentary Under-Secretary of State for Africa, for lacking the necessary experience to understand war and risk:

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<sup>39</sup> Screenplay, *supra* note 1, at 89.

<sup>40</sup> Cynthia Enloe, *The morning after: Sexual politics at the end of the Cold War* (Univ of California Press, 1993), at 71.

“LIEUTENANT-GENERAL BENSON I have attended the immediate aftermath of five suicide bombings. On the ground. With the bodies. What you witnessed today, with your coffee and biscuits, is terrible. What these men would have done would have been even more terrible. That is how it is. (almost killing her with the line) Never tell a soldier that he does not know the cost of war. He takes his briefcase and walks out.”<sup>41</sup>

Consistent with feminist critiques of military masculinity, which are associated with practices of strength, toughness and aggressive heterosexuality,<sup>42</sup> Benson’s speech portrays a particular type of field experience and close encounters with death as necessary to understand and apply IHL. In contrast to Benson’s toughness and decisiveness, Angela is portrayed as soft, indecisive, and irrational (by ignoring cost-benefit calculations). To strengthen this portrayal, in response to Benson’s words she begins to cry, caving under the pressure. Similarly, the drone sensor operator, Carrie Gershon, cried so much during the operation that she could barely follow her instructions (yet she did), while her superior male pilot remained in full control. The bravery and heroism of standing up to Colonel Powell and defending IHL’s data practices was reserved to the white male drone pilot and to the white male military lawyer.

#### **IV. To whom is IHL Speaking?**

As becomes clear from the warm reception of ‘Eye in the Sky’ by the scholarly and professional IHL community, one segment of its audience are also its stars: legal advisors, decision-makers, and IHL experts. For that particular audience, ‘Eye in the Sky’ speaks the correct legal language, giving voice to actors that usually remain behind the scene. The movie places military and civilian decision-makers at the front, depicting their everyday dilemmas and effectively conveying them to the public. The ‘public’ is another segment of ‘Eye in the Sky’s’ audience; at the same time, the ‘public’ is also the audience of the actual theatre of war, through various news and social media outlets. Disguised as a progressive, reflective, and authentic description of existing IHL practices, ‘Eye in the Sky’ sophisticatedly addressing both these groups, disseminating a conservative and uncritical narrative of IHL and the Western bureaucracy of killing.

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<sup>41</sup> Screenplay, *supra* note 1, at 134.

<sup>42</sup> Claire Duncanson, ‘Forces for good? Narratives of military masculinity in peacekeeping operations’ (2009) 11(1) *International Feminist Journal of Politics* 63.

For decades, IHL's dominant narrative has been a humanitarian one, presenting the goals, aims, and design of IHL norms and principles as protective and compassionate.<sup>43</sup> However, since the 1990s, this protection or humanitarian narrative has been questioned, with various studies exposing the way in which powerful nations and institutions 'deliberately formulated the laws of war to advance the primacy of military violence over humanitarian concerns, despite noble rhetoric to the contrary'.<sup>44</sup>

Additionally, while classic approaches to international law invoke an assumption of legal objectivity,<sup>45</sup> international law has many subjective aspects, as any system that requires interpretation and implementation of judgment-based rules.<sup>46</sup> Contemporary critiques of international law argue that beyond this inescapable subjectivity, international law is tainted by a degree of legal cynicism,<sup>47</sup> and either (or both) apologetic or utopian politicization of the content and application of its rules.<sup>48</sup> Further, several recent examples – including the international responses to the conflicts in Crimea and Syria – have demonstrated the growing uncertainty concerning both the content and application of IHL's main rules in various contexts.<sup>49</sup>

At a time when IHL is criticized as cynical and even as a 'sham',<sup>50</sup> 'Eye in the Sky' provides the answer to human subjectivity and structural politicization in the application of IHL: objective, technology-based, data practices. The movie constructs humans (such as Colonel Powell) as flawed and biased, and positions the outputs of visual and predictive technologies as a superior knowledge production method, restoring IHL's humanitarian and protective structure. While this notion seem authentic and even critical, it uses Colonel Powell as a scapegoat to defend IHL's Western narrative of

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<sup>43</sup> Benvenisti and Lustig refer to this narrative as "Canonical". Eyal Benvenisti and Doreen Lustig, 'Monopolizing War: Codifying the Laws of War to Reassert Governmental Authority, 1856–1874' (2020) 31(1) *European Journal of International Law* 127.

<sup>44</sup> Chris Jochnick and Roger Normand, 'The Legitimation of Violence: A Critical History of the Laws of War' (1994) 35 *Harvard International Law Journal* 49.

<sup>45</sup> Rosalyn Higgins, 'The Identity of International Law', in B. Cheng (ed.), *International Law: Teaching and Practice* (1983), at 37; Shirley V. Scott, 'International Law as Ideology: Theorizing the Relationship between International Law and International Politics' (1994) 5 *Eur. J. Int'l L.* 313, at 320.

<sup>46</sup> David Kennedy, *The dark sides of virtue: Reassessing international humanitarianism* (Princeton University Press, 2005), at 21; David Kennedy, 'Theses about International Law Discourse' (1980) 23 *German YB Int'l L.* 353. For a thorough discussion of the critiques of the objectivity assumption, see Martti Koskenniemi, *From apology to utopia: the structure of international legal argument* (2006), at 16-71.

<sup>47</sup> John Hagan and Sanja Kutnjak Ivković, 'War crimes, democracy, and the rule of law in Belgrade, the former Yugoslavia, and beyond' (2006) 605(1) *The Annals of the American Academy of Political and Social Science* 129, at 134-135.

<sup>48</sup> Martti Koskenniemi, 'The politics of international law' (1990) 1 *Eur. J. Int'l L.* 4, at 31.

<sup>49</sup> Heike Krieger and Georg Nolte, 'The International Rule of Law – Rise or Decline? – Approaching Current Foundational Challenges' in Heike Krieger, Georg Nolte, and Andreas Zimmermann, eds. *The International Rule of Law: Rise Or Decline?* (Oxford University Press, 2019), at 3, 9-10.

<sup>50</sup> Jochen von Bernstorff, 'Is IHL a Sham? A Reply to Eyal Benvenisti and Doreen Lustig' (2020) 31(2) *European Journal of International Law* 709.

systemic objectivity and protection. By doing so, 'Eye in the Sky' participates in and affirms Gates' observation that the new cinematic trend in war movies merely masks conservative themes.<sup>51</sup>

To demonstrate this claim, I will analyse the character of Major Harold Webb, a military lawyer who advises Colonel Powell. Webb harnesses IHL's data practices to elevate and defend the protective role IHL plays in armed conflicts:

"COLONEL POWELL Harold, where are we legally? HAROLD With the girl? COLONEL POWELL Yes! Are we clear? HAROLD Again, I would refer up... COLONEL POWELL No, I am asking you! We cannot hold up this operation any longer. HAROLD We need to take all reasonable steps to minimize collateral damage. If we're buying her bread... COLONEL POWELL We're not! It's over. Dozens of civilian lives are at risk. Children's lives are at risk. This girl is just one. Are we clear to engage? Yes or no! Make a decision! HAROLD With respect, Ma'am, I don't make these decisions. I advise you on the law. And ***the law is not here to get in your way. It is here to protect you and your target...*** COLONEL POWELL Don't lecture me, Harold! HAROLD ***Ma'am, the legal questions of necessity and proportionality are almost certainly met. But for the protection of you, and of that child, I would refer up to the Attorney General. That's my advice.***<sup>52</sup>

Harold bravely stands up to Colonel Powell (similarly to another white male - Steve), upholding IHL's data practices and relying on them to thwart Powell's orders, which seem to be in conflict with the technology-generated outputs. Harold admits that IHL's core principles of distinction and proportionality are 'probably' met. As a military lawyer, it is puzzling that his advice does not even attempt to fully engage with IHL's relevant principles – mainly, the principle of proportionality, as he simply concludes that this principle is 'probably met'. Yet he does not 'clear' the operation's plan from the legal standpoint; the fact that this core principle is met does not seem to matter. Instead, the legal focus is shifted to IHL's data practices, and, the (legal) fate of the operation is determined based on the outcomes of the CDE algorithm.

Colonel Powell disagrees with Harold's technology-based legal analysis. Nevertheless, she, too, participates in the construction and dissemination of IHL's humanitarian narrative (though through reasserting its original meaning). Powell does not disregard the law, but is frustrated by the way in which military technologies and data practices are overriding human judgment in critical and evolving situations. To deal with this problem or weakness in the system, Powell pressures Mushtaq

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<sup>51</sup> Gates, supra note 14.

<sup>52</sup> Scrinplay, supra note 1, at 97-8 [emphasis added – S. K.].

to amend the CDE outcomes. When she manages to change the risk assessment of the CDE algorithm to 45 percent (that Alia will be killed), she relies on this data to ascertain her original judgment and receive the legal clearance she has been anxiously waiting for:

“COLONEL POWELL Sir, I have a revised assessment from the targeteer. A diagram appears on one of the other screens. COLONEL POWELL (CONT’D) If you look at the diagram... By targeting the missile here, there is an estimated forty-five per cent chance of collateral fatality in this area here, where the girl is positioned. Suddenly everyone can see the get-out. COLONEL POWELL (CONT’D) We have now done everything in our power to give this girl a chance to survive.”<sup>53</sup>

Powell’s dramatic determination that ‘We have now done everything in our power to give this girl a chance to survive’ reflects a technology-centric approach to the application of IHL. ‘Everything in our power’ referred to tinkering with the CDE algorithm and identifying an angle or data point that can increase Alia’s ‘chance to survive’. In Powell’s eyes – which reflect Western countries viewpoint – this modification of chance through data practices is a constitutive exercise: whatever fate befalls Alia, she was given a chance to survive. Similarly, ‘everything in our power’ meant compliance with the relevant data practices, while eliminating other potential courses of action, such as cancelling the operation, using ground forces (which were ready and willing), attacking the target on its way to location, or consulting with local authorities. Importantly, positioning technology and data practices at the core of IHL’s protective ethos meant that Alia’s chances of survival were the focus of the decision-making process, while her actual death was irrelevant.

## **V. How Do IHL Data Practices Reshape IHL’s Jurisdiction?**

On 21 February 2010, an OH-58D Kiowa helicopter fired Hellfire missiles on three vehicles in Uruzgan Province in Afghanistan, killing 23 people. The attack was approved after the drone team, which followed the vehicles for 3.5 hours up until the attack, determined that the vehicles carried Taliban fighters. Following the attack, it became clear that the casualties were, in fact, civilians, including women and children. A US military investigation found that inaccurate reporting by the drone operators led to the erroneous airstrike.<sup>54</sup>

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<sup>53</sup> Ibid.

<sup>54</sup> U.S. Forces Headquarters in Afghanistan, *AR 15-6 Investigation, 21 February 2010. Air-to-Ground Engagement in the Vicinity of Shahidi Hassas, Uruzgan District, Afghanistan* (21 May, 2010) [‘AR 15-6 Investigation’].

This example – one of many – demonstrates the human factors and subjective elements in IHL's data and meaning making practices; elements that are missing in 'Eye in the Sky's presentation of IHL's data practices. Other incidents, such as the US attack on doctors' without borders' hospital in Kunduz, Afghanistan, in 2015, highlight the technological limitations of these data practices, and demonstrate the tragic outcomes of technological failures.<sup>55</sup> Similarly, emerging empirical evidence shows that visual and predictive military technologies may impair fact-finding and legal analysis in several ways. First, technology-generated outputs may reduce situational awareness. For example, research suggests that real-time imaging may contribute to a reduced situational awareness of decision-makers, who tend to place an inappropriately high level of trust in visual data.<sup>56</sup> Second, technology-generated visuals have technical limitations, including blind spots and time and space constraints, which are much less visible and affective than the positive (yet partial) data they contain. These gaps are filled with subjective human judgment, which becomes a part of the image, creating an invisible subjectivity problem. Third, the problem of invisible subjectivity in technology-generated outputs is intensified through several cognitive and organizational biases. Technology-generated visuals may trigger representativeness, availability, and anchoring biases due to the powerful impact of visual representations on decision-makers.<sup>57</sup> Fourth, technology-generated data create an accountability gap, as military technologies are sometimes blamed for human errors. The result is the creation of avatars that replace the real persons – or the actual conditions on the ground – with no effective way available to refute these virtual representations.<sup>58</sup>

'Eye in the Sky' features many advanced technological capabilities, including drone imaging, facial recognition technologies, short-range surveillance cameras, and collateral damage algorithms, and showcases their centrality to the application of IHL. While these data practices are the main force progressing the movie's plot, the role of these technologies in military and legal decision-making, and the various ways in which they affect decision-makers, are not questioned or critically explored. Instead, these data practices are positioned as the power behind – and justification for – IHL's jurisdiction. The technology is used as an Archimedean Point from which the just and true nature of IHL practices can be observed. Furthermore, some humans may be biased or corrupt (for example,

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<sup>55</sup> Shiri Krebs, 'Just the Facts: Reimagining Wartime Investigations Concerning Attacks Against NGOs' (2019) 37 *Berkeley J. Int'l L.* 405.

<sup>56</sup> J. McGuirl, N. Sarter and D. Woods, 'Effects of Real-Time Imaging on Decision-Making in a Simulated Incident Command Task' (2009) 1(1) *International Journal of Information Systems for Crisis Response and Management* 54.

<sup>57</sup> D. Kahneman, P. Slovic and A. Tversky (eds.), *Judgement Under Uncertainty: Heuristics and Biases* (New York: Cambridge University Press, 1988); T. Oron-Gilad and Y. Parmet, 'Close Target Reconnaissance: A Field Evaluation of Dismounted Soldiers Utilizing Video Feed from an Unmanned Ground Vehicle in Patrol Missions' (2017) 11(1) *J. of Cognitive Engineering and Decision Making* 63; McGuirl, Sarter and Woods, *ibid.*

<sup>58</sup> Margaret Hu, 'Big Data Blacklisting' (2015) 67 *Florida L. Rev.* 1735.

Colonel Powell), and their corruption is expressed through their rejection or manipulation of these data practices. Others (such as Steve) demonstrate contemporary military bravery and heroism through defending and relying on these knowledge production methodologies.

The positioning of IHL's data practices as the way through which IHL exercises its jurisdiction over facts, people, and spaces is exemplified through the prominent problem relating to Colonel Powell's attempt to modify the collateral damage estimate from 45-46 percent probability (that Alia will be killed), to only 45 percent probability:

MUSHTAQ Adjusting the target to here... there is a forty-five to sixty five percent possibility of fatality. COLONEL POWELL Sixty-five? MUSHTAQ Yes. COLONEL POWELL I need that calculation to be below fifty percent. A long pause. MUSHTAQ Well I... COLONEL POWELL Perhaps there is an adjustment in the assessment on the impact here? MUSHTAQ That calculation is already at the lowest limit of what I believe is possible. COLONEL POWELL Or if you target the missile here? MUSHTAQ I would still have to make that a sixty-five per cent possibility on the upper limit. COLONEL POWELL I need you to make this work, Sergeant. A beat. MUSHTAQ looks cornered. COLONEL POWELL (CONT'D) Do you understand? MUSHTAQ Yes Ma'am. MUSHTAQ is sweating at what he is being asked to do. COLONEL POWELL We are locked into this kill chain and a decision has to be made. There are many lives at stake. MUSHTAQ Ma'am... I think... I think that if the target is here then... then I could, I think, predict a forty five per cent possibility of fatality. That might be possible. COLONEL POWELL Forty-five per cent? MUSHTAQ Possibly. Yes. COLONEL POWELL I will put that to Cobra. MUSHTAQ Ma'am, it's... COLONEL POWELL It is my understanding that, in these circumstances, your calculation can only be speculation. That puts you beyond any culpability. MUSHTAQ Thank you, Ma'am. COLONEL POWELL Thank you, Sergeant.<sup>59</sup>

Accordingly, the probability that the girl will be killed was revised (from 45-65 percent to 45 percent). In reality, though, Alia, the 9-year-old Kenyan girl, was killed. This outcome created a gap between the prediction and the actual outcome of the operation. To justify this gap, Colonel Powell then relies on the predictive nature of the technology as a shield from accountability:

COLONEL POWELL I'm sorry, Sergeant, I couldn't see any other option. MUSHTAQ Yes, Ma'am. I understand that. [But MUSHTAQ doesn't understand it. POWELL'S military intelligence career has been reduced to lying about percentages in order to complete her

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<sup>59</sup> Screenplay, *supra* note 1, at 114-116.

mission. MUSHTAQ stares at her, numb.] COLONEL POWELL You will file your report as a 45 percent CDE. Silence from MUSHTAQ. COLONEL POWELL (CONT'D) Sergeant? A beat. MUSHTAQ 45 percent. Yes, Colonel.<sup>60</sup>

This part of the plot serves two purposes: first, it further establishes the technology as a pure system of knowledge production through which IHL exercises its jurisdiction over facts, people, and spaces. Second, it explains the gap between the prediction and reality by focusing on a deliberate manipulation of the system by a 'rotten apple' rather than an inherent element of IHL's data practices and the bureaucracy of killing. In the next subsections, I critically evaluate both of these positions.

### ***a) Technology, Heroism, and the Institutionalisation of Prediction***

The movie presents IHL technology-based data practices as inherently true, constituting the legal reality on the ground. The drone operators' interpretation of the visuals, or the predictions of the algorithms, are not questioned or examined. The methodologies producing these outputs remain invisible throughout the movie, even when it becomes clear that they entail at least some level of uncertainty and inaccuracy. Together with presenting IHL data practices as producing unquestionable (legal) truth, 'Eye in the Sky' constructs the new military heroism as defending these almost-divine legal practices. The main hero – Steve – upholds IHL's data practices as a higher authority, when he bravely stands up to Colonel Powell, demanding to 'run the collateral damage estimate again'.<sup>61</sup> IHL's data practices are presented as superior to the imperfect human judgment. In this sense, the popularity of 'Eye in the Sky' among IHL experts can be explained through its construction of IHL's data practices as objective and true, and developing the new military hero as someone who follows the guidance of these legal processes. At the same time, the military villain is the one who applies his or her own human judgment, ignoring or circumventing IHL's data determinations. The screenplay highlights this point by providing a commentary clarifying that Colonel Powell's 'military intelligence career has been reduced to lying about percentages in order to complete her mission.'<sup>62</sup>

But was she lying? And was the algorithm correct?

The distinction between biased humans and unbiased technology is deceptive – even within the context and storyline of 'Eye in the Sky'. When the CDE algorithm produced an estimate of 45-65 percent probability that Alia will be killed, this estimate or prediction was presented as a fact. Viewers were accordingly invited to condemn Colonel Powell for ordering Sergeant Mushtaq – the targeteer –

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<sup>60</sup> Screenplay, supra note 1, at 132.

<sup>61</sup> Ibid, at 89.

<sup>62</sup> Ibid, at 129.

to generate a different prediction. By condemning this apparent manipulation of the algorithm, the movie celebrates the original estimate as a true and objective representation of reality, rather than a deliberate choice in itself, created and designed by imperfect humans. By positioning the '65 percent prediction' as 'the truth', and the '45 percent prediction' as the lie, the movie glorifies IHL's virtual reality created by its technology-based data practices, while dismissing the gap between the predicted and actual outcomes. The girl – Alia – was ultimately killed. Therefore, an accurate prediction would have predicted her death with 100 percent certainty. The movie does not stop to consider this gap, nor does it enquire how the estimate was calculated, what the design of the algorithm was, or what its recorded error rate is. Busy presenting IHL's data practices as constituting rather than predicting, the eventual gap between the predicted and the actual outcome was never explored nor explained.

Moreover, by shifting the debate to Colonel Powell's tampering with the algorithm, and to percentages of CDE, 'Eye in the Sky' established this IHL's data practice as beyond questioning or inquiry. Should IHL focus on predictions? Should these predictions constitute what is legal and what is real? Should victims of attacks be classified as 'CDE' and referred to using partial numbers and probabilities? Why wasn't it enough to know that a girl is nearby – when everyone can clearly see her presence? Should the invisible methodologies of CDE algorithms be superior to human judgement and common sense?

It is true that IHL's proportionality principle is designed to focus on anticipated, rather than actual, outcomes of military actions.<sup>63</sup> However, quantifying such predictions using algorithms is not a matter of hard law, and should not be treated as an inherent part of IHL's jurisdiction. Moreover, even IHL's existing commitment to prediction may be questioned and re-imagined. In fact, adopting an alternative approach to the *jus in bello* principle of proportionality which focuses on actual – rather than anticipatory – outcomes, was envisaged already in 1977, with some delegates arguing that the focus on anticipatory outcomes sacrifices civilians' safety for real or assumed military advantages.<sup>64</sup> The calls for an outcome-based approach to the principle of proportionality have ultimately been

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<sup>63</sup> Shiri Krebs, 'The Invisible Frames Affecting Wartime Investigations: Legal Epistemology, Metaphors, and Cognitive Biases' in *International Law's Invisible Frames* (Andrea Bianchi and Moshe Hirsch, eds., Oxford University Press, 2021, forthcoming).

<sup>64</sup> During the negotiations that led to signing of the 1977 Additional Protocols of the Geneva Conventions, the codification of the proportionality principle was deeply contested. Some critics related to it as "dangerous," and others pointed out that it opens the door to abuses. For example, the representative of Romania, who voted against this formulation of the proportionality rule, explained that the rule "amounted to legal acceptance of the fact that one part of the civilian population was to be deliberately sacrificed to real or assumed military advantages." *Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts*, CDDH/III/SR.31 9 (Vol xiv, Geneva, 1974 -1977), 305. See, also: David Traven, 'Moral Cognition and the Law and Ethics of Armed Conflict' (2015) 17(4) *International Studies Review* 556.

rejected during these negotiations. However, as IHL's data practices institutionalise prediction in various contexts using opaque methodologies, it is appropriate to rethink the place of prediction both within IHL's legal framework and within its data practices.

The final scenes of the movie highlight this point, as they demonstrate the stability of the prediction – and the ensuing gap between the virtual legal reality and the physical conditions on the ground. The first strike on the compound destroyed the compound, killing all but one of the terrorists – the wanted British national, Susan Danford. Alia was also injured from the attack. At this point in time, the actual conditions changed: the terrorists' plans were already frustrated; and the risk to Alia's life increased (as it was now clear that she is in the range of fire, and cannot flee the scene as she lies injured on the ground). But the virtual legal reality remained static, unmoved, unquestioned, as Colonel Powell ordered a second strike on the compound; a strike that killed both Danford and Alia.

### ***b) IHL's Data Practices and Accountability***

'Eye in the Sky' supports the narrative that 'human factors' are responsible to system errors or inaccurate predictions. Moreover, by deliberately manipulating the technology, the responsible individual – Colonel Powell – may evade accountability. While 'Eye in the Sky' positions IHL's data practices – including reliance on the outputs of visual and predictive technologies – as a true reflection of reality, against which human errors can be judged, it is, in fact, these very data practices that serve as a responsibility avoidance tool.

First, due to the predictive nature of IHL's data practices, any error or mistake can be easily attributed to the inherent uncertainty of these methods. This is explicitly articulated in 'Eye in the Sky', when Colonel Powell calms her targeteer – Mushtaq – explaining that 'in these circumstances, your calculation can only be speculation. That puts you beyond any culpability.'<sup>65</sup> This statement colours the long and passionate debate about 65 or 45 percent probability – the main problem in the plot – as both technical and cynical. Ironically, while the screenplay puts these words in Colonel Powell's mouth to position her as a villain (clarifying this though a commentary stating 'Powell goes back to her desk. Looks at ALIA on the screen. She knows that she will be her executioner. '),<sup>66</sup> this is in fact one of the more honest representations in the screenplay. The algorithmic calculation, whether 65 or 45 percent, is merely a speculation. The decision to depict Powell's attempts to shift that calculation from 65 to 45 as the main wrongful act in this scenario is unfortunate. It shifts attention from the real wrongful act in the movie: the killing of Alia. It also shifts attention from the possibility that Alia is not

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<sup>65</sup> Screenplay, supra note 1, at 116.

<sup>66</sup> Ibid, at 116.

the only civilian who was killed – as the prediction that only one innocent civilian may be harmed from the attack is also just a speculation (and so is, at least to some extent, the identification of the individuals in the house as terrorists).

Second, ‘Eye in the Sky’ judges Colonel Powell, reducing her choices and motivations to ‘lying about percentages in order to complete her mission.’<sup>67</sup> However, while Powell’s instructions to Mushtaq are described as an outright lie, reality may be much more nuanced and complicated. In particular, by placing all of the blame on Powell, ‘Eye in the Sky’ avoids critically evaluating IHL’s data practices, including the direct effects of this predictive and highly technical legal regime on decision-makers. I have written elsewhere about the cognitive biases triggered by the combination of predictive technologies and future-focused legal regimes, describing a decision-making dynamic I term ‘law-fulfilling prophecy.’<sup>68</sup>

The combination of future-focused legal norms, which centre on *intentional* and *anticipated* rather than *actual* harm (such as the principle of proportionality applied in ‘Eye in the Sky’),<sup>69</sup> with predictive and highly technical fact-finding practices, creates a systemic accountability gap and triggers motivated cognition biases.<sup>70</sup> This law-fulfilling prophecy dynamic describes data practices in which decision-makers ‘see’ and interpret data to fit with the legal requirement. Viewed from these lenses, Colonel Powell’s ‘lie’ could be described as a result of motivated cognition bias which is inherent to the data practices she was tasked to perform. This type of motivated cognition bias creates a gap between the legal prediction and the actual outcomes of military actions. However, the systemic embrace of speculation explains and excuses – in advance – any such deviation or gap. In other words, facts are being interpreted to be consistent with the legal requirement; and missing information and knowledge gaps are filled with assumptions that satisfy the legal rule. The result is that existing IHL data practices create a systemic accountability gap.

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<sup>67</sup> Ibid, at 132.

<sup>68</sup> Krebs, ‘The Invisible Frames Affecting Wartime Investigations’, supra note 63.

<sup>69</sup> For example, the principle of proportionality, which determines that disproportionate harm to protected individuals is tolerated as long as this outcome was not *anticipated* API Article 51(5)(b); or the principle of precaution, determining that the selected course of action should be the one that is expected to cause the least danger to civilians’ lives. API article 57(3).

<sup>70</sup> Motivated and cultural cognition biases in legal decision-making are described more generally at Dan Kahan et al., ‘They saw a protest: Cognitive illiberalism and the speech-conduct distinction’ (2012) 64 *Stan. L. Rev.* 851.

## VI. Conclusion

‘Eye in the Sky’ presents IHL’s data practices as natural and neutral, constituting a legal reality that controls people and places. The movie fails to show, though, the methodologies behind these practices, and the way in which they create – not just report on – the legal reality. It embraces these data practices without considering their effects on legal decision-makers, and without accounting for the cognitive biases they trigger, including risk aversion and motivated cognition, as well as overconfidence in what they (think they) know.

This uncritical view of IHL’s data practices flattens the debate about military technologies in a similar way to the way in which the ‘ticking time bomb’ scenario affected the debate about torture.<sup>71</sup> ‘Eye in the Sky’ relies on the same false assumptions feeding the ticking time bomb torture justification: it describes a clear factual situation, where the accuracy of the target identification is indisputable (ignoring the guesswork involved in making such assessments). It also describes a single available course of action: a hellfire drone attack on a residential neighbourhood at a very narrow timeframe. The result of not following through with this course of action is portrayed as disastrous and inevitable. The layers of assumptions ingrained in this description are masked using sophisticated technologies and data practices.

‘Eye in the Sky’s choice to present the selected course of action as the only option, with no alternatives either in method or time, shadows the real debate concerning bombing a house in a residential neighbourhood based on unaccountable data practices. ‘Eye in the Sky’ was released a few months after British and US forces attempted to target and kill in Northern Syria a real British national on the wanted terrorist list – Junaid Hussain – killing, instead, three innocent bystanders and wounding five;<sup>72</sup> and shortly after a US aircraft bombed Doctors Without Borders’ hospital in Kunduz, Afghanistan, killing forty-two people, mostly medical staff and patients.<sup>73</sup> Viewed within this immediate context of the movie’s release, the image of IHL’s data practices as a true representation of reality seems particularly problematic.

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<sup>71</sup> Karima Bennoune, ‘Terror/Torture’ (2008) 26 *Berkeley J. Int’l L.* 1.

<sup>72</sup> Hussain, a senior ISIS hacker and operative, was eventually killed in a subsequent attack. Kimiko de Freytas-Tamura, ‘Junaid Hussain, ISIS Recruiter, Reported Killed in airstrike’, *The New York Times*, 27 August, 2015. Available at: <https://www.nytimes.com/2015/08/28/world/middleeast/junaid-hussain-islamic-state-recruiter-killed.html>

<sup>73</sup> Alissa J. Rubin, ‘Airstrike Hits Doctors Without Borders Hospital in Afghanistan’, *The New York Times*, 3 October, 2015. Available at: <https://www.nytimes.com/2015/10/04/world/asia/afghanistan-bombing-hospital-doctors-without-borders-kunduz.html>.

Instead of providing a 'nuanced', 'authentic' and 'robust' representation of the contemporary bureaucracy of killing, 'Eye in the Sky' simplifies and dogmatizes a complex (legal) reality – presenting assumptions and hypotheticals as a natural order, and eliminating alternative viewpoints and interpretations. By using fake dichotomies between 'lawful' and 'unlawful'; 'us' and 'them'; 'now' or 'never' – 'Eye in the Sky' speaks international law through the voices of drone-owning nations, and is directed to their mass publics, legitimising the existing bureaucracy of killing. At the same time, it disguises normative choices as inevitable, erases African decision-makers, communities, and perspectives, and erodes some of the most important legal and moral dilemmas of our time.