The Construction of the Humanitarian UAV: Intersections of Ethics, Neoliberalism and Biopolitics, and Resultant Implications.

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Abstract

The Unmanned Aerial Vehicle (UAV) is traditionally understood as a militarised technology utilised in combat and counter-terror scenarios, most notably throughout the Global War on Terror. However, more recently, the UAV has undergone somewhat of a transformation in how its processes and rationalities are conceptualised, being more frequently understood as a technology and technique within humanitarian and assistive contexts. Yet this field, like the technology, is still an emergent one, and understandings of how the 'humanitarian UAV' is discursively constituted by a widened range of actors and rationalities is somewhat under-developed.

This project seeks to examine and analyse the humanitarian UAV's wide discursive field, the discursive meaning and logics that constitute the humanitarian UAV, and how the humanitarian UAV, through its attendant rationalities and actors, (re)constitutes and (re)produces distinct understandings of humanitarianism. In focusing on the humanitarian UAV's wide and variegated discourse, the research draws upon the methodological framework of discourse analysis as pioneered by Ernesto Laclau and Chantal Mouffe, which does not narrowly privilege one form of data but instead de-privileges data as a whole and emphasises the importance in engaging with the broader discourse (here, of the humanitarian UAV) as it is articulated across multiple and dispersed nodal points that convey formations of meaning.

This research firstly finds, through an examination of the UAV's 'ethical' discursive constitution, that the UAV is increasingly legitimised as a humanitarian technology by distinct actors and bodies, and, although the meanings that their articulations carry are generally underpinned by different logics, rationalities and motivations, there is an overlap regarding certain neoliberal signifiers. The research also finds, through analysing the widely articulated notion 'democratisation of technology', that the humanitarian UAV (and humanitarianism more generally) is increasingly constituted by, and helps to reproduce and naturalise, neoliberal-capitalist rationalities and practices. The research finds that these rationalities also serve to negate certain –'deepened'– understandings of 'technological democratisation' that are antagonistic to the logics of neoliberalism, signalling a partial closure of a number of avenues that seek to renegotiate hegemonic, and other entrenched, humanitarian, formations of power. The research also finds that, through humanitarianism's discursive association with the biopolitical, the rationalities of neoliberalism are incorporated into a humanitarian-biopolitical nexus, facilitating corporatised forms of humanitarian governance, regulation and control. The 'humanitarian UAV' is thus established as that which is increasingly engaged in legitimised –though distinct– forms of 'humanitarian' practice via the

neutralising and encompassing rationalities of neoliberal-capitalism, which further breaches and affects humanitarian practice and humanitarian populaces through its biopolitical lens. The research highlights that these rationalities, in combination with the application of the humanitarian UAV, co-constitutively sustain and reproduce their own processes and logics, thus incrementally transforming humanitarian space into humanitarian-neoliberal/corporatised-biopolitical ('corporo-political') arenas of control and regulation, underpinned by market concerns and the entrenching of dominant power arrangements.

Overall, this research highlights how neoliberal and biopolitical rationalities increasingly constitute the humanitarian UAV, humanitarianism and humanitarian space. Furthermore, these rationalities are modified through this technology and its attendant logics and practices by virtue of its extended reach into the spaces constituted by bodies of heightened insecurity, precarity and crisis. It is understood, consequently, that this form of (humanitarian) technologisation highlights the reach, elasticity and imminence of neoliberal and biopolitical rationalities across increasingly diverse environments.

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Introduction

The UAV (Unmanned Aerial Vehicle) –or 'drone'– is widely known for its role in the post-9/11 Global War on Terror conducted by Western nations. The UAV is frequently regarded in the contexts of a politicised and wider public consciousness as a militarised, often weaponised, technology that is employed strictly to conducted counter-terror operations such as reconnaissance, surveillance, targeted killings and signature strikes. Moreover, over the past two decades, forms of research surrounding the UAV have been heavily situated within this scope, highlighting and examining the concerns and defences of such practices, alongside (to give a few examples) the legal, ethical and political implications connected to the logics of its use. Yet more recently, the UAV has also undergone somewhat of a transformation, both in its applications and the rationalities that surround its use. Throughout the last several years, UAVs, emerging as a more accessible technology within generalised consumer markets, have been increasingly articulated and utilised as a method of practice within a number of humanitarian and assistive contexts. Such articulations often highlight the supposedly 'revolutionary' nature of the technology, whilst also allowing humanitarian/assistive operations to be conducted in a way that aligns with the underlying values traditionally associated with humanitarian work, in order to move the humanitarian system 'forwards' in accordance with such principles.

Although there has been an increasing body of research focused on the humanitarian use of UAVs in recent years that aims to introduce and develop new avenues of investigation and analysis, gaps across the literature are prevalent owing to the area of research being one that is still in development and, consequently, under-researched and examined in general. Though there are some theoretical and practical investigations surrounding the burgeoning use of humanitarian UAVs, there is generally a lacuna of sustained, critical and in-depth analysis regarding humanitarian UAV technology and the varying contingencies and implications surrounding its application, most notably: how the humanitarian UAV is discursively constituted in varying and contested ways as its use moves ever more into mainstream practice; the logics within this discursive space, and what such understandings are contingent upon; and how resultant understandings and articulations/practices may impact humanitarian action/rationalities at large.

With regards to the aforementioned gaps in the literature, this thesis is a critical, exploratory investigation and analysis of the humanitarian usage of UAVs, the discursive construction of this technology/use of technology, and the resultant implications that arise from this. The delineations within which this research is situated, consequently, speak to a number of the identified gaps in this body of literature, though these will be discussed in more detail over

the course of this introduction. In engaging with a number of the gaps found within the wider body of literature, the shape of the project, though its broader contours, can be understood as such: the thesis firstly investigates the UAV's discursive construction as a burgeoning, yet potentially 'ethical', technique/technology within the ever-extending humanitarian system, which is nevertheless problematised through the malleable and non-fixed nature of 'the ethical', with related actors attempting to 'ethically' constitute the (humanitarian) UAV as a newly legitimised technology through overlapping signifiers, albeit with divergent rationalities and motivations. Secondly, the humanitarian UAV is discursively constructed as a partial conduit of, and technique implicated in, the so-called 'democratisation of technology', and is likewise problematised through the notion of technological democratisation being understood, articulated, acted upon and embedded in humanitarian practice in imprecise and contrasting ways, through which more nebulous –and frequently, though not exclusively, hegemonic– bodies are able to constitute its use and associated logics in accordance with their own (predominantly neoliberal, corporatised) rationalities. Stemming from these interlinked concerns, the discourse of the humanitarian UAV is further analysed and understood as a newly introduced vector that assists in initiating, entrenching and reproducing a modulated form of biopower across humanitarian spaces. Within this final chapter, the research then moves to analyse the implications of this biopolitical nexus, with regard to the neoliberal-corporate vectors that assist in the regulation and control of humanitarian bodies/populaces. To further discuss the scope, intended purpose and outline of this research, it is prudent to briefly frame the broader nexus in which these developments take place. In addition to this, making the contextual setting of the research project firm also allows for a more thorough clarification of the gap that this research is located within, and thus the generated value and significance of this thesis. It is these contextual points of importance that this introduction now moves to focus upon in greater detail.

Context of the Research Project

Though in the succeeding chapter the literature review aims to give a fuller, more thorough, contextual exposition of this project's backdrop, alongside the overarching themes it engages with, it is nevertheless important to here present an overview of the broader perceptions and shifts that have helped to guide the attentions of this thesis.

The UAV has, in the context of the Global War on Terror, long been viewed and discussed as a strictly militarised tool of securitisation, utilised as a technology that attempts to help situate the Western nation state and its interests as *the* object of protection, yet, at the same time, has also been noted to potentially increase latent and immediate vulnerabilities for both the state and individuals living under the scope of the militarised UAV. Within fields of political and critical theory, political science, international relations, legal studies and

philosophy (to name a few of the most overt encampments that have examined the UAV over the last two decades), a significant portion of the academic research and discussion surrounding the UAV has, in this time frame, been resoundingly coloured by the utilisation of the UAV as a weaponised, counter-terror technology – albeit with good justification. The UAV has been noted as 'the only game in town' in terms of the contemporary attempt to challenge and disrupt organisations and individuals deemed 'terrorists' (Shachtman, 2009), and the contentious processes by which bodies are rationalised as 'legitimate' targets brings to the fore a variegated tapestry of strands which have been examined through numerous lenses. The UAV, throughout the West's post-9/11 counter-terror operations and discourse, became synonymous with 'Reapers' and 'Predators' –the unmanned combat aerial vehicles of choice for the US, UK and Italy, amongst other nations– launching 'Hellfire' missiles on unsuspecting insurgency groups and their infrastructure, and, frequently, causing the death of innocent civilians routinely categorised also as militants. The militarised UAV is still currently employed as a tool in the repertoire of the state, and indeed, as time passes, increases its standing as a normative technique of counter-terror operations, signalling the seemingly endless nature of the West's 'Global War on Terror'. Nevertheless, though this analytical focal point is of estimable value to various fields, such concerns largely lie outside of the framing and scope of this project, as such a thesis –in adding to the discussion centred around the UAV in this setting– would not only have somewhat of a lessened impact by partially contributing to a specific matter that is approaching a point of saturation –with much already said, analysed, discussed and re-stated in the context of the militarised UAV– but would also be one that neglected the pressing opportunity to examine a contemporary, altered and distinct remit of UAV technology that is understood through the divergent gaze of humanitarian action, alongside the new considerations such arrangements impose upon the field.

Regarding the non-militarised UAV, increased consumer and commercial access to smaller, lightweight, and cheaper forms of the technology has led some to wonder whether the practical and conceptual 'picture' that makes up the UAV is beginning to change, with "a more benevolent side to drones" becoming increasingly apparent in various contexts as it shifts into more accessible and commercially viable markets (Emery, 2016). Consumer UAVs are readily bought in order to take photographs and record a wide variety of video footage, and, in more commercial settings, UAVs are applied as an efficient tool "for agriculture, surveying, wildlife monitoring and conservation [and] real estate assessments" (OCHA, 2014: 3), to list a few, select illustrations. Such examples help to highlight how UAVs have (partially) transitioned in our wider consciousness into an item that is progressively associated with being a friendly, nonthreatening, efficient and exciting technology. One other

of these increasingly normalised settings –and the one that this research project engages with– is that of humanitarian action. The utilisation of UAVs within humanitarian scenarios has advanced significantly over the past decade, from initially being utilised by small organisations as a piecemeal tool to exclusively help in the visual monitoring of insecure regions and disaster zones, to aiding in the variegation of humanitarian capabilities through techniques such as population mapping, search and rescue, medical cargo transportation, risk assessments and dynamic crisis analysis. Furthermore, humanitarian UAVs have been articulated as a crucial point of focus for the humanitarian sphere, having the potential to help lead the humanitarian system's recent agenda for technological innovation and advancement across the field (FSD, 2017: 10). Alongside such practices, the humanitarian UAV also acts as a conduit that facilitates the insertion and entrenching of an ever-increasing range of stakeholders within the humanitarian system. Such stakeholders are not just found across arrangements of military-industrial actors –who, as the wider literature suggests (Sandvik and Lohne, 2014; Sandvik and Jumbert, 2017), have attempted to blur the lines between perceptions of humanitarian and militarised UAVs– that are traditionally viewed by humanitarian organisations as an external, often conflicting constituency regarding the doctrines that underpin the typical values of humanitarian action, but are increasingly drawn from the more naturalised and (seemingly) depoliticised spaces in which commercial and private bodies are located. Such bodies make up a significant manufacturing base of the small-to-medium sized UAVs that are most commonly used by more traditional humanitarian organisations, alongside distinct, separate forms of privatised interest, which constitute an increasing nexus of organisations focused on developing proprietary UAV(S) technology to employ within their own 'humanitarian' operations. The humanitarian UAV is consequently located under a banner of action that attempts to advance forms of humanitarian assistance, signalling broader shifts in humanitarian practice and its associated logics, not just through the supposed benefits of (UAV) technology within the sector, but also through the UAV and associated actors aiding in the introduction, embedding and reproduction of distinct rationalities that feed into practices conducive to increased corporate power and associated forms of governance.

Overall, this research project is situated at an intersection whereby critical investigations of humanitarianism and a contemporary discursive construction of the humanitarian UAV meet, underpinned by an understanding of discourse that emphasises the production of meaning through differing, though, nevertheless, significant forms of expression in order to help tie the assorted strands –which make up this investigation and analysis– together. To elaborate on what this research offers (its 'value'), the area of research –most importantly, the gap– that this project is situated within is henceforth explored.

Identifying Gaps in the Literature, Aims, and the Value of This Research

As the previous section highlights, academic discussion surrounding the UAV and its broader constitutive understandings have largely focused upon it as a technique for engaging in counter-terror operations, and, generally, the problematics associated with such practices and accompanying logics. More recently, owing to the increasing viability of smaller, non-weaponised, consumer-oriented forms of the technology, UAVs have been thrust into focus within a more 'assistive' realm, viewed as separate –in practice, rationales, and so forth– from the militarised sphere in which UAVs are more commonly understood to operate in. These contemporary discussions surrounding the UAV as an assistive tool/technique within practice, increasingly articulated as 'humanitarian' in scope, open up space for distinct, contemporary understandings of technology (here, specifically, the UAV), and how it is shaped within –and likewise helps to shape– the changing conceptual and practical formations of humanitarian action. Research on this topic is not as developed as that of the militarised uses of the UAV, with a small, nonetheless growing, body of literature primarily aimed at situating the humanitarian UAV in an assortment of contexts and developing the potential for various future avenues of research, though often with specific reference to the militarised UAV. As has been highlighted (Emery, 2016: 164), the discussion surrounding UAVs within the broader literature "has been slow to shift from targeted killings to the emerging category of the humanitarian drone". Nevertheless, across the body of research that has been established, the humanitarian UAV has been conceptualised in varying, though overlapping ways: as an 'emergent concept' within humanitarianism, yet also a 'war dividend' (Sandvik and Lohne, 2014), potentially problematising the humanitarian and its relationship with 'the political' and customs of neutrality; as a new tool in the humanitarian arsenal that helps to conduct established yet challenged practices, such as peacekeeping missions and humanitarian interventions (OCHA, 2014; Emery, 2016); as a humanitarian instrument that can be put to use in "ethically desirable" ways (Sandvik and Lohne, 2014: 147); and a 'revolutionary' technology that operates as a part of the 'fourth industrial revolution', encouraging new possibilities of contestation with regard to the practical, technical and systemic issues plaguing the humanitarian sphere (Davis, 2016). The humanitarian UAV has also been the subject of a variety of exploratory reports that engages with the appropriateness of the technology being embedded and normalised within a broader range of humanitarian practices (FSD, 2017; OCHA, 2014), alongside helping to generate literature regarding the applied testing of, and factors surrounding, the technology within various, specific humanitarian scenarios (FSD, 2016; 2016[b]; 2016[c]; UNICEF, 2017; Germann, *et al.*, 2019). Nevertheless, in contrast to other discussions surrounding the UAV, there is, as Sandvik and Lohne highlight, a "dearth of scholarly focus on the 'turn to

technology' in humanitarian action" (2014: 148) in the established literature, with more significant gaps located when one considers focal points of investigation explicitly within the context of the humanitarian UAV. More specifically, what is not addressed when reviewing the literature on the humanitarian UAV are more critical accounts of the technology that engage with its broader constitution, made up through associated humanitarian and corporate contingencies and contestations, as its use in humanitarian scenarios becomes increasingly mainstream, valuable and normalised. Furthermore, as has been highlighted within the literature, little has been discussed about how such uses of UAV technology, articulated as 'good' –particularly within this project, a humanitarian conception of 'good'– affects "power relations and modes of governance" (Sandvik and Jumbert, 2017: 2), or indeed, how distinct formations of (humanitarian-corporate) governance may be fashioned through UAV technology, what contours the attendant processes of governance take, and – with reference to the humanitarian UAV– the implications that such corporate-humanitarian rationalities and practices signify. The construction of the UAV as a 'humanitarian' tool/technique, in contrast to more 'typical' notions of the weaponised/militarised UAV, is thus a contemporary, though largely under-researched, kernel of inquiry that necessitates further academic investigation with regard to "power relations and modes of governance" (ibid.); within this thesis, these rationalities and logics take the form of neoliberal-capitalism and biopolitics. As such, to help refine and develop certain understandings of the humanitarian UAV within this emergent body of research, this project locates itself within the aforementioned spaces in the literature and engages with such considerations.

The primary objective of this research project is to critically investigate how Unmanned Aerial Vehicles –separate from conventional analyses of state/militarised uses, and developing upon foundational areas of research surrounding the humanitarian UAV– are discursively articulated, represented and utilised as a humanitarian (or, more broadly, an 'assistive') tool; and, building upon the elaboration of these notions, to what extent humanitarianism, as an increasingly negotiable practice, is reimagined and recontextualised through the shifting uses and logics that constitute emerging UAV technologies, alongside the attendant, changing rationalities of the 'humanitarian' actor. This research project attempts to do so by mapping out the discursive interactions and boundaries that humanitarian UAVs currently operate through and help to (re)produce, and, consequently, in what ways this discourse shapes the ways in which the humanitarian UAV is constituted, understood and applied. In realising these objectives, the project will engage with the contextual implications of the rationalities and logics that make up the humanitarian UAV's use in order to further outline and analyse the conceptual elements and effects of attendant humanitarian action which impact the

arenas in which such articulations are carried out, discursively embedded and additionally (re)produced.

Within this project, the principal research question is as follows:

> *What are the implications of the articulated relationship between the UAV and humanitarianism for our understanding of shifting techniques and logics of neoliberalism and biopolitics?*

Supported by:

> *What are the surrounding notions, discursive articulations, relationships and contestations that form the current foundational, conceptual and operational use of 'humanitarian UAVs'?*
>
> *In what ways do current practices, rationalities and discourses, through which the humanitarian UAV is constituted, (attempt to) reimagine and redefine humanitarian action and humanitarian space?*
>
> *What are the implications of such findings for shifting conceptualisations of 'the humanitarian', humanitarian action and humanitarian space?*

In examining such questions and engaging with them in greater depth across the course of this thesis, the value of the project can be understood insomuch that it investigates an under-researched area of contemporary humanitarian practice and the resultant, extant logics associated with such moments within the humanitarian system. Understanding technology (specifically, the UAV) as a non-essentialist element, this project, so as to bring an array of discursive strands together in a coherent and internally consistent fashion, utilises a specific form of discourse theory proposed by Ernesto Laclau and Chantal Mouffe (the justifications for, and specifics of which, are outlined in the next chapter) in order to more inclusively and thoroughly set out a critical, original, narrative of a burgeoning technology and the interacting processes that influence and shape its reciprocal political reach. More specifically, this thesis aims to contribute to and advance a developing line of research insomuch that it draws dominant notions of the humanitarian UAV together with dominant discursive contestations that may (inadvertently or intentionally seek to) supplant traditional humanitarian logics and values with those found across more nebulous and divergent rationalities, and the resultant consequences of such developments. The call to keep the 'human' in 'humanitarian' (Emery, 2016: 164) in the wake of technological progress –and the following repercussions brought on by these advancements– is not only a warning of the perils of humanitarian action, ethics, techniques, rationalities, and so on, being offset by and onto technological apparatus, but it

also speaks to a notion which necessitates humanitarian principles, logics and practice being kept in alignment with those who have a deliberate and benevolent stake in such matters. Whilst this thesis does not necessarily locate itself in the realm of advocacy and activism, these notions are understood as important aspects of the research project, as they firstly imply the requirement of a broader appreciation of what is at stake across the field and the varied elements that make up such considerations, which, secondly, compels a critical focus that, through related, is distinct from the attentions that are frequent across the existing work in this field.

Within the project is an original understanding of the 'ethical' constitution of the humanitarian UAV –alongside accompanying antagonistic notions– which widens current notions of how the humanitarian UAV (and the humanitarian actors involved in this process) is characterised through distinct discursive points of reference. Across the literature, discussions surrounding the humanitarian UAV have, as mentioned, often been framed within the scope of the militarised UAV, either in specific reference to the ethical problematisations that stem from the perceptions surrounding its weaponised counterpart, or as a specific leaping-off point that works to frame and influence further investigations expressly related to a conceptual amalgamation of the military-humanitarian nexus. In the work of van Wynsberghe and Comes (2019), ethical considerations surrounding the humanitarian UAV *have* been explored, though in a more prescriptive manner, with a narrowed emphasis placed on factors surrounding the 'moral permissibility' of the UAV in new settings, concluding in a call for a "a variety of ethical analyses that shed light on the increasingly technologizing of humanitarian care" (2019: 51). As such, though it is not focused entirely around the ethical constitution of the humanitarian UAV, this project engages with such notions and utilises them as building blocks for a more thorough establishing of the broader processes, actors and logics that feed into the humanitarian UAV's role in this process of technologisation. As Sandvik and Lohne have highlighted, the ethical considerations that go into formulating the humanitarian UAV and its regulatory arrangements (both in 'law' and as more malleable 'principles' – the latter of which is the focus of this work), alongside their contestations, are largely absent in wider discussions, having not been "addressed in any systematic manner" across the academic discourse (2014: 163). This element within the project re-contextualises the notions that have an effect on the humanitarian UAV's constitution as distinct from these conventional foci by incorporating into the discussion a wider, varying range of actors that attempt to situate the humanitarian use of UAVs as an ethical technology. As this element within the thesis establishes, the elements that go into demonstrating what an 'ethical' technology looks like, and the widened rationalities/contingencies that underpin and contest its practices are, consequently, not just channelled through militarised logics, but additionally are constructed

through a wider discursive range of competing humanitarian and private interests. This is not to say that, across the literature, contextual framings in which modulations of militarised power and technology are given primacy are not useful as conceptual components within the wider discussion – on the contrary, they allow for a greater appreciation of how forms of militarised influence are able to quilt aspects of everyday life in ways that are represented as innocuous. Nevertheless, this research finds such arrangements of 'the ethical' as more than just the sum of militarised inflections, and utilises broader perspectives in order to re-frame the rationalities underpinning the humanitarian UAV within this project, alongside creating new points of reference for future research within a similar scope. In exploring and analysing the ethical construction of the humanitarian UAV in a more open-ended and non-prescriptive manner, the project is consequently allowed to move through a variety of engagements with greater ease and tease out the distinct contingencies and logics that paint a bigger picture of how the humanitarian UAV is predominantly characterised, thus adding to the existing knowledge on the relationship between the humanitarian UAV and its attendant actors.

This project further re-contextualises another concept which is frequently taken for granted (in meaning, scope and implications) across the contemporary humanitarian system; that is, in the context of the humanitarian UAV, an examining of the prevalent notion, 'democratisation of technology', which the UAV both supposedly helps to facilitate and acts as a signifier of within a broader context. Across the discourse of the humanitarian system, the notion of a 'democratisation of technology' is a recurring theme that purportedly indicates a revolutionary moment for aid operations (Batha, 2019); a new age of humanitarian action that is benefited by and implicated in processes of technological advancement that emerge from commercial and consumer sectors. The UAV, through its increasing affordability, ease of use, and the alleged production of agency-affirming technological processes (Oren and Verity, 2020), is frequently discussed as falling within the boundaries of, alongside helping to highlight, such a concept. Yet this notion is one that is also under-recognised as a topic of critical discussion and analysis within the field's growing body of work. Specific allusions to a 'democratisation of technology' across the discourse often introduce the concept as one that is largely unproblematised by the range of attendant actors and rationalities involved in shaping the conditions of humanitarianism, or see such actors and their logics as a peripheral consideration that, instead of being viewed as influencing and changing discursive contingencies through varied and nebulous interests, are relayed as an apolitical, 'common sense' or logical progression within the humanitarian sphere (Aid and International Development Forum, 2016; UN OCHA, 2017; Oren and Verity, 2020: 20-21). Though critiqued, neoliberal alignments of humanitarian action are frequently articulated as a permissible 'way of doing things' (Wallace, 2004), and thus are not necessarily influenced by

the underlying aspects within various fields of humanitarian endeavour, but themselves guide such humanitarian attentions through the dominance and necessity of their rationalities. What this analysis adds to the existing body of work is an original, critical consideration of this discursive formation that has increasingly been introduced and embedded through neoliberal and corporate perspectives. Ultimately, this contribution to the extant literature regards the neoliberal and corporatised logics that underpin a significant section of the discursive terrain as constituting not a 'democratisation of technology' (which is increasingly, if not already, becoming a misnomer in what it *actually* promotes), but a reversal of the proposition: a increasingly neoliberal technologisation of how humanitarian notions of 'democratisation' are articulated, understood, embedded and reproduced; relayed and normalised through the hegemonic dominance of corporate interests and neoliberal rationalities.

Interweaving with and elaborating upon previous notions, this research project also offers the arrangement and development of a theoretical signifier that encapsulates a neoliberal, though non-traditional, form of biopower, understood in this particular moment as being facilitated firstly through the blurred and expanding boundaries and logics of humanitarianism, through which new forms of 'humanitarian' action, actors and attendant rationalities are traced with specific reference to corporate influence; and, secondly, as that which is aided and complimented by the utilisation of the (humanitarian) UAV as a technology/technique that enables both dispersed and particular modulations of biopower through its constituted technical (neoliberal) rationalities. This formation and application of theory helps to highlight the processes by which this arrangement of biopower is embedded, naturalised and reproduced, in addition to the humanitarian implications of these procedures. In developing this perspective and utilising it as an analytical tool in the latter stages of this thesis, the project is able to demonstrate its originality through the synthesis of theory (through joining and (re-)developing established conceptual perspectives) and its applicability to contemporary, real-world notions of biopower, neoliberalism/corporate power, and control.

This research project, as a largely theoretically driven piece of work that draws from the wider (de-privileged) discourse surrounding the humanitarian UAV, reframes and re-contextualises a number of typical or taken-for-granted understandings of the technology, its usage and associated actors, and additionally brings to the fore a theoretical signifier that helps to classify and analyse such elements within a novel arrangement. In speaking to certain contested formations of the humanitarian UAV's 'ethical' constitution, the malleable focal point of technological democratisation, and the biopolitical considerations that flood the humanitarian UAV when it is understood and used in such ways, the research highlights and addresses a number of nascent, though often omitted, elements across the field's larger

body of work. As “the notion of the humanitarian drone is still an immature concept, forming around an immature technology” (Sandvik and Lohne, 2014: 163), the significance of this work can be seen in that it positions a number of inter-connected, under-analysed, discursive considerations as key components in a wider conceptual understanding of the humanitarian UAV, so that a more thorough estimation of the contingent relationships within this topic can be revealed and analysed, acting also to facilitate further research across various fields of inquiry that may explore these/similar affairs. The use of UAVs within the humanitarian system is, to speak figuratively, only just lifting off from the ground, yet their increasing adoption (and the increasing incorporation of non-traditional ‘humanitarian’ actors within this opening) indicates a necessity to analyse how certain conceptual positions attempt to cement the normative processes, perceptions and rationalities surrounding the UAV and the humanitarian use of this technology. To not do so would be firstly to overlook a broad range of steadily more potent factors that influence how the changing nature of humanitarian action is conceptualised as a logic and practice; and, secondly, would also ignore the significance of how these elements within the discourse impact, and can re-impact, those on the receiving end of humanitarian operations. To help further contextualise this research, the thesis now moves to situate the research within a wider body of understanding through a review of the literature and themes attendant to this project.

Literature Review

‘Drones’ and UAVs

Across many industrialised nations it is in a myriad of ways in which the term ‘drone’ is used to designate the notion of the Unmanned Aerial Vehicle (System) (UAV(S)). However, these distinctions, which are numerous and necessary following the last century’s proliferation of aerial vehicles in which a spatially proximate input/supervision is not required, are found lacking when one simplistically employs the term ‘drone’ as a singular or catch-all concept.

The idea of a drone to a family in Pakistan would almost certainly provoke anxiety and panic (Woods, 2012), though to hobbyists the suggestion of a ‘drone flight’ may spark excitement and later wonderment from the imposing vistas captured with on-board wide-angle lens cameras (Chapple, 2015). The conceptual understanding of the ‘drone’ is various, and within different environment the term ‘drone’ can evoke a number of both benign and weaponised utilities. Various UAVs are ‘benign’ in the sense that, although many of the most notorious UAV’s are both militarised and weaponised, such as the US’s “Predator” and the UK’s “Reaper”, there are many others which serve a purpose other than carrying and ‘delivering’ a weaponised payload. For example, the UK’s ‘Watchkeeper’ is fitted with sophisticated radar and surveillance cameras to project back intelligence, and the US’s ‘Raven’ is a lightweight and highly mobile hand-launched autonomous reconnaissance UAV (AeroVironment, Inc., 2015). In a commercial and/or environmental sense, UAV’s can also be utilised to perform a number of cost-effective tasks such as wildlife monitoring, soil erosion studies, and search-and-rescue missions (d’Oleire-Oltmanns, *et al.*, 2012; and Pin Koh and Wich, 2012). These examples, too, are separate from many hobbyist drones –also known as quad/octo-copters depending on the number of rotary blades they possess– which can be used for photography and speed-racing, amongst other activities.

Consequently, in order to distil and precisely understand what is meant when one talks of unmanned ‘drones’ (particularly within this thesis and its focus on humanitarian UAVs) it is necessary to examine both the linguistic and broad practical functions that surround devices colloquially known as ‘drones’, and refine these understandings of unmanned vehicles into a context which is both specific and applicable to this research project.

‘Drone’ terminology and uses

Although the UAV may be viewed as one, the notion of the ‘drone’ is not entirely an emergent concept. There are a number of traits and etymological links that help to construct what we mean of when we speak of ‘drones’ (as UAVs) and the qualities they possess.

The popular expression ‘drone’ has its origins in the lexicon of entomology and botany, and was noted as the illustrative term for the male honeybee whose singular purpose was to leave its hive and mate with the Queen of a separate hive (Reuber, 2015: 80). As its sole drive is to reproduce (and die in the process) without contributing other means towards the hive, male honeybees also became a seen as idlers: languid, yet bound by fate to complete their ‘task’ until becoming useless and obsolete, or annihilating themselves for a greater good. The comparisons may be seen as vague, but other etymological similarities have also been noted, such as WWII gun crews using small black-striped robotic planes –nicknamed by the gunners after ‘drone’ bees– to conduct target practice (Benjamin, 2013: 13), and the replaceable and disposable nature of the drone bee in comparison to the apparent cost-effectiveness of militarised UAVs (Byman, 2013). But perhaps the most notable comparison is the onomatopoeic link: ‘drone’ can also mean a low, monotonous, humming sound much like the wing vibrations of the honeybee, and also the buzzing noise of the aircraft – a similarity noted by the people of Pashtun, who colloquially call drones “‘*machay*’ (wasps)” (Mayer, 2009); when one uses the expression ‘drone’ to talk of UAVs it is used instantaneously as both a noun and a verb, the “UAV both is *and does* drone” (Mutter, 2015). Based on its etymology, yet in a technical sense, especially since the beginnings of the Global War on Terror, the term ‘drone’ has largely morphed into the semi-onomatopoeic, semi-descriptive lexicon of the everyday to evoke imageries of Unmanned Aerial Vehicles. The comparisons thus show a diluted form of bio-mimicry insomuch that the comparisons between the two have helped shape common parlance to a point where both are referenced in strikingly different ways, yet are observable as two similar points of reference.

‘Drones’ as UAVs is also an established concept, having their primitive roots during the pre-aviation days as hot-air balloons carrying explosives in a basket with a timing mechanism set to release upon expiry (NOVA, 2002). These (relatively) primitive machines have evolved in tandem with the aviation revelations their time and the global calls for their necessity. As Sifton notes (2012), World War I saw Elmer Ambrose Sperry devise a form of autonomous remote aircraft in which the plane itself (carrying explosives) was to be the bomb, however, this approach was widely viewed as a failure as the planes would often crash or fly off-course. Similarly, World War II, with ‘Operation Aphrodite’, saw similar failures: repurposed B-17 bombers were set to be flown ‘on target’ by pilots before ejecting out, after which a “crude radio-controlled device linked to motors” (ibid.) would guide the plane to its target. Again, this short, but secretive, operation was viewed as a total failure with many planes crashing prematurely or exploding whilst airborne. Although these planes were yet to be called ‘drones’, or even used effectively, the foundational premise was indeed set. However, as Zaloga observes (Mehta, 2013), the notion of the term ‘drone’ designating a UAV is one

that stems back to before the second world war: in 1935 US Adm. William Standley was given a demonstration of the Royal Navy's DH 82B 'Queen Bee' (a remotely controlled aircraft that was used for anti-gunnery practice) during one of his tours the Britain. Once returned from Britain, Standley assigned a research team to develop a similar system for the US Navy. The team, in homage to the 'Queen Bee' adopted the term 'drone' to reference these aircraft. The term 'drone' consequently became the *de facto* name of the US Navy target aircraft for many decades, before eventually becoming the *nom de guerre* for contemporary UAVs mainly used for counter-terror methods of surveillance, intelligence and missile strikes.

As it stands, the term 'drone' now encompasses what is most commonly referred to as a (sometimes militarised) UAV(S) (Unmanned Aerial Vehicle (System), or RPV (Remotely Piloted Vehicle) that is controlled through a remote and semi-automated hybrid system. The reliance on the term 'drone', although there are more useable and specific terms for them, as Zaloga states (Mehta, 2013), can in part be attributed to the general problem of 'drones' being a "political issue" and thus a tendency on the part of the Pentagon "to try and introduce new vocabulary every three of four years" to re-appropriate them through the method of public relations. However, instead of refreshing the image of state-used UAVs, this practice, due to the now ubiquitous nature of the term 'drone' in comparison to the specialised and specific 'UAV lexicon', seems to have cemented anything that could *prima facie* be labelled as a 'drone' as a pejorative, forcing concessions to immediately be made for its pervasive, yet crude, designation, regardless of its potential utility (Poole, 2013).

UAVs are often viewed as semi 'autonomous' machines, completing a task, or a set of tasks, with a diverse, yet, reduced amount of human input. The levels of autonomy vary from consumer 'mini-drones' piloted by short-range remote control or mobile GPS tracking (Lily Robotics, Inc., 2015); UAV systems such as the US's SIGNIT "GILGAMESH" signature strike apparatus, which still requires human input, yet operates a semi-autonomous surveillance, tracking and alert system based upon signals received by UAV(S) from cell-phone SIM cards of suspected militants (Scahill and Greenwald, 2015); to research focused on privatised/commercial UAV use: cargo shipping, autonomous mapping, personnel spotting and GPS self-located movement (Apvrille, *et al.*, 2014; and Tomić, *et al.*, 2012). Currently most UAVs have, in some respect, various levels of human input mostly along the lines of 'fire-and-forget', however, the elusive moniker of a commercially viable and approved 'fully autonomous' UAV has also contributed an element of discussion regarding the number of interpretive ways in which autonomy should be pursued and measured (Clough, 2002).

The question of 'autonomy' is also a question of 'will', a concept which philosophy has struggled with for millennia. Autonomy and moral responsibility are intrinsically linked

(Sparrow, 2007: 65-66), to further make abstract the object of these questions not only creates a 'grey area' gap in the chain of responsibility, but it also constitutes a baseline morality subject to the morality of the creator(s); that is, morality in autonomous or self-learning robots, even for the briefest period, is only as 'good' as the individual wishes it to be. These are questions which have been met with much trepidation and anxiety from academic and political circles (UNOG, 2015; Future of Life Institute, 2015), as, aside from the previously outlined qualms, fully autonomous UAVs –especially ones that are able to be weaponised– may be cited as the starting point of a new arms race and, though they are only as 'ethical' as their constitution allows, a lowering of the threshold of the right to life and human dignity (Russell, 2015).

Non-Aerial 'Drones'

Although the etymological roots of the 'drone' can be compared easily to a host of linguistic and historical sources, and while this project will (unless specifically stated otherwise) be dealing with contemporary UAV(S)s, there are other forms of unmanned vehicles, both weaponised and non-weaponised, which similarly conflate the term 'drone' alongside unmanned aerial vehicles. Examples of these are usually found working within a natural environment that is dangerous and/or in requirement of complex and precise work.

Underwater drones (Unmanned Undersea/Underwater Vehicle) fitted with remote controls and autonomous sensors have been manufactured and used in order to conduct work that otherwise may have been problematic in an underwater environment (Lockheed Martin, 2015; and Kongsberg, 2015), such as monitoring dissolved oxygen and aquatic environments near and under floating structures (De Lima, *et al.*, 2015); Anti-submarine warfare and mine countermeasures (Department of the Navy, 2004); deep sea bottom surveys and sinkhole analysis (Yoerger, *et al.*, 2007; and Fairfield, *et al.*, 2010); and deep-water surveys for pre and post-pipeline inspections for gas and oil companies (C&C Technologies, 2015).

Unmanned robots are additionally being utilised in regions of the most inhospitable climates, in which physical work would not only be dangerous, but typically unmanageable. An illustration of this is realised when one looks at the work drones are able to accomplish across both polar ice caps. Mobile robots have been prototyped and produced in order to transport radar systems across hazardous ice sheets that are being monitored for unambiguous data on the pace at which the ice sheet is melting (PRISM, 2015; and Akers, *et al.*, 2004); snow accumulation and irregular melting patterns (Boise State University, 2013; and Polar Field Service, 2015); and emissions footprints and hazardous path avoidance for humans (Drake, 2012).

This is by no means a definitive review of the multi-faceted approaches in which autonomy/remote control is being used to, depending on your perspective, improve or degrade our collective society. Yet what it does show is that through the enhancements of technology, control is both being enhanced and lessened to the benefit of the 'user'. In the sense that operative power, efficiency, and command 'control' is bolstered by technological revolutions, requirements for physical/tangible 'control' –which although may serve vital work are mundane or cumbersome– are augmented and lowered. Whilst these approaches may still be limited in their access to the commercial and public realms, they, in particular UAV(S)s, already have a strong foothold in the apparatus of the state and military.

Armed UAVs and their current understandings

Over the last decade 75 countries worldwide have gained access to UAV technology, with both acquisition rates and the technology itself set to expand drastically within the coming decade (Roberts, 2014). The nature of states proliferating UAV technology is one set steadfastly within the present, as well as the immediate future. However, contemporary understandings of these machines, in both public and academic spheres, stem largely from the militarised –and widely debated– use of UAVs by highly industrialised states such as the United States, the United Kingdom and Israel. Used in designated areas for reconnaissance, surveillance and weaponised counter-terror measures, UAVs have transformed from a fictive technology (Miller, 2013) into an iconic element of modern counterterrorism and contemporary warfare, pushing conflict into a paradigm no longer delineated by well-defined boundaries (Boyle, 2013; Gregory, 2011; and Cohen, 2013).

Unsurprisingly, following the Global War on Terror, the United States has by far the most comprehensive drone programme, leading the way in what is observed as a "military-technical revolution" (Krepinevich, 2002) or a "revolution in military affairs" (Singer, 2011). Although these notions may seem lofty, they are not baseless: by 2022 it is forecasted that the global drone market with be worth upwards of (US)$80 billion (Medina, 2014). Though the technology is moving precipitously, the United States, within its own borders, has not yet signalled any intent to approve and legislate lethally weaponised drones, nevertheless, small law departments, alongside leading US manufacturers of miniature UAVs (AeroVironment, 2014: 1-7; and Vanguard Defence Industries, 2015) have stated their willingness to create a number of provisions that allow for a non-lethal mobilisation of drones equipped with immobilisation armaments such as "bean bag guns and Tasers" (Stanton, 2011; Farivar, 2015; and Glawe, 2015), in order to efficiently test and carry out demanding operations (for example: surveillance and other general deterrence procedures (ACLU, 2011: 6-8)) for smaller, resource-limited departments. While, inside the US, this lethal technology (and additionally, public ease at the concept of 'domestic drones' (Thompson, 2015)) is not yet off

the ground, overseas, lethally armed drones, such as the *General Atomics RQ/MQ-1 'Predator'* and *General Atomics MQ-9 'Reaper'* (Weinberger, 2014), are commonplace in the skies over Northern Africa and the Middle-East – with public approval strong across the US, in contrast to an almost globally ubiquitous distaste elsewhere (Pew Research Center, 2013). These machines, which resemble conventional, albeit smaller, aeroplanes are equipped with a sizable payload of air-to-air and air-to-surface missiles, in addition to a domed surveillance camera under the 'nose' of the aircraft for remote monitoring and piloting by a small team (US Air Force, 2010a; and US Air Force 2010b).

In order to attempt a lethal attack on those considered to be 'militants' there are two common methods employed: 'Targeted killing[1]', the premeditated, conscious identification and killing, by the state, of an individual not held in physical custody. The killing of an individual who is deemed a 'legitimate' target due to the political, defensive, or securitisation benefits the act would bring (Melzer, 2008: 3-5). Chamayou (2011) advances the notion of targeted killing by observing the practice as a literal manhunt without borders; with no delineated space of conflict the combat zone is reduced to the individual targeted, yet this extension, combined with the freedom of movement and distance, grants the operator the ability to extend the battlefield globally (ibid.). Conflict and war consequently start to fall into the category of extrajudicial executions, carried out at a distance and specification once thought impossible. 'Targeted killing', a standard element within counter-terror operations, has always been in the repertoire of the state, yet never before has it been so innovative, direct and clandestine.

Secondly there are 'signature strikes', a notorious method composed of missile strikes aimed at "men believed to be militants associated with terrorist groups whose identities aren't always known" (Entous, Gorman and Barnes, 2011). In contrast to 'targeted killing', which is predicated on the specific knowledge of the target, 'signature strikes' are established on behavioural traits of those being monitored: signature strikes call into reference a 'pattern of life' analysis based upon metadata (smaller pieces of data –conventionally unusable by themselves– which, when placed together, form a theoretically cohesive inference of an individual's movements, actions and location) and cell-phone tracking in order to evaluate whether their routine "signatures or defining characteristics [can be] associated with terrorist activity" (Klaidman, 2012: 41). Due the secretive nature of counter-terrorism and thus all drone programmes, the intricacies of signature strikes (for example, in what way, if any, external decision processes are set up to oversee strikes (Stanford Law School and NYU School of Law, 2012: 14)) are not fully known. It has though been made clear, through a number of disclosures following the data leaks distributed by Edward Snowden, that methods

[1] Although the term is utilised within this review it must be noted that there is no 'hard' definition on targeted killing, with some commentators preferring the term 'assassination' or, in some circumstances, 'decapitation'. However, for consistency the term 'targeted killing', in keeping with its included definition, will herein be used.

such as cell phone surveillance used to collect 'geolocation' metadata in order to build a militant profile preceding a signature strike are deeply problematic ways to pinpoint individuals (Scahill and Greenwald, 2014); 'targets' are ostensibly aware of geolocation tactics, replacing and giving away SIM cards and mobile telephones linked within the "high value target" systems to friends, family members and other unaware, potentially innocent individuals (ibid.). Though they have the appearance and methods of an object from the realm of science-fiction, armed drones, in their overt impressiveness and visual elegance, have thus been deemed a tool far removed from the idealised aptness (whether that be nefarious or virtuous) of their dramatized counterparts.

It has been suggested that drone warfare, much like other 'established' counterterror methods, aims to "reduce the size of the terror stock, and thus reduce the rate of attacks" (Kaplan, 2005: 226), although claims of its effectiveness have been heavily contested (Kaplan, 2005; Hafez and Hattfield, 2006; Mannes, 2008; and Jordan, 2014). There are additional suggestions that drone warfare assists to align a previously asymmetric conflict (Gross, 2010: 119-120) between states and individuals/groups that are without identifying uniforms or insignias, however, the use of asymmetric weaponry is almost always problematic. Their use creates a 'hero gap' in the operating mentality, and as Chamayou (2011) notes, the prospect of martyrdom, and indeed valour, becomes an opportunity singularly available to those on the receiving end; the counter-terror objective to win "hearts and minds" is one thus reversed, alienating civilians through lingering dread and uneasy drone muzak, culminating in a siege mentality (Mothana, 2012).

The conceptual understanding of drone strikes goes further, with many commenters proposing that drone warfare –in signature strikes and targeted killing– oversteps legal and ethical boundaries (Ryan, 2014; Ahmad, 2014; and Arnold, 2013), and that their covert nature allows for a redefining of conflict on their own terms: firstly, allowing civilians to be viewed as "militants" (Becker and Shane, 2012; and the Stanford Law School and NYU School of Law, 2012) and 'non-citizens' (Bhatt, 2012), and secondly, facilitating media discussion which is 'spun' in politically constructive ways (Gross, 2006) and "framed" solely within the scope of what official spokesmen are willing to disclose (Tahir, 2012). It is indeed a contested area, yet there is justification in the belief that armed drone programmes may not deserve the praise they receive (Khan, 2011; and Peron, 2014), in addition to what the general public has hitherto been told to believe[2] (Friedersdorf, 2012).

[2] Although there still remains a glaring gap in the public consciousness (some may state for good reasons relating to operational security and military secretiveness), there have been a number of startling 'leaks' from whistleblowers to high profile journalists with information detailing the aforementioned detached bureaucratic processes and problematic kill-chain logistics of drone strikes. See: (Currier and Maass, 2015; Begley, 2015; and Schahill, 2015)

Drawing from the widespread millennial adoption of Israel's 'targeted killings' against suspected terrorists in Palestinian-controlled territories, Colombia's counter-militant policy from 2004-2011 targeting heads of the Revolutionary Armed Forces of Colombia, and the US's assassination of Osama bin-Laden in 2011, one can see how fleetly methods of 'targeted killing' (even without remote control) have been moving towards normalisation. In regards to 'targeted killings' via drone strikes one only has to look at areas such as Yemen, the Federally Administered Tribal Areas of Pakistan, and Afghanistan (the latter of which being the region on earth most bombarded by –US– drone strikes (Ross, 2014)) to recognise the technology and techniques as a forefront counter-terror *modus operandi*; "the only game in town", as the then CIA head Leon Panetta noted (2009: 38). This, too, has been promoted by other mainstream commentators who approach the discussion of drone targets through the language of disembodied politics; the 'language of the hunt' (Steuter and Wills, 2008: 73-74) and use of 'vermin population' comparisons (BBC, 2011; CNN 2011; and the Telegraph, 2010) is one inextricably tied up within the legitimisation of the War on Terror's current methodology. This may culminate in widespread approval and adoption, yet the perception of armed drones and their announced proficiency, or 'virtuousness' (Der Derian, 2000), is separate from the equally fragmented, yet central, discussion of their effectiveness.

Regardless of whether or not drone killings can be granted a 'moral' authority or if they indeed adhere to the responsibilities set forward under International Humanitarian Law, it has been suggested that targeted killing is not an effective method for stopping 'terrorism' (Carvin, 2012) as, as Zulaika observes (2013: 183), it is viewed as diminishing the legitimacy of state actors: "a mirror effect of terrorist exceptionality". Cronin argues that in addition to targeted killing being morally questionable the practical consequences of killing a terror leader instead of capture, putting them on trail, questioning, and jailing them may also be brought into question: "all else being equal, it is much better to arrest and jail a terrorist leader so that his fate will be demonstrated to the public" (Cronin, 2011: 17). Not only does this allow for a wider inspection and a democratic decision of the guilt of the individual under the guidance of due process, but it also allows for the gathering of intelligence; sophisticated information regarding criminal enterprises requires insider knowledge and talking to the right people (Nelson, 2009), actions which cannot be taken if the 'right person' has been killed. It has also been observed how the utilisation of weaponised drones problematise our understanding of 'security', by in fact creating insecurity instead of resolution (Cronin, 2011: 32-33; and Amnesty International, 2013: 31).

Many commentators note how drone policy not only conjures up immediate and latent fears for those living under them (Amnesty International, 2013; and Stanford Law School and NYU School of Law, 2012: 75), but also manufactures a resistance ideology, commonly realised

through reprisals or 'blowback' (bin Laden, 2002[3]; Mothana, 2012; Sluka, 2011: 75; and Singer, cf. De Luce, 2009). Additionally, although there is data to suggest targeted killings diminish some attacks, they have not been shown to meaningfully decrease or negate the severity of them (Morehouse, 2014; and David, 2003: 118). Given the modern uptake of weaponised drones and the relative secret nature of the programme, it is understandably difficult to ascertain one way or another on the effectiveness of drone-based killings. There is indeed a variety of discussion on this discordant topic and no individual response will serve in granting us a singular 'truth', yet owing to their wide use in areas such as Israel, Pakistan, Yemen and Colombia (observed in their respective texts as regions with increased 'militant' activity) and the problematic issues that they raise, armed drones can not unequivocally be viewed as a positive technique.

Furthermore, the process of targeted killing is one that is wrought with troubling accounts of 'pilots' using strikes against what appeared to be militants yet were later found to be civilians, in some instances wedding parties (Human Rights Watch, 2008: 24; and Zhang, 2008) and individuals –occasionally children– caught in the crossfire of missile strikes (Sherwell, 2013). Herein, a problematic element of drone warfare arises in that the machinery utilised to carry out 'strikes' are removed from individual inevitabilities, such as weariness, regret, or a need for self-actualisation –although they indeed grant significant economic benefits (Byman, 2013)– yet are still bound by the flawed human element controlling it; security for one, as Pfaff observes (2010), is almost certainly always predicated on the insecurity of another. Consequently, militarised drones, in their economic suitability, can be viewed as a natural and logical progression of conflict and securitisation, yet are still limited by the vestigial imprint of humans in their processes. This is not a suggestion that fully autonomous –and armed– drones *should* be the next step of progression, although across numerous fields the indication of robotic automation has opened a door that cannot easily be closed (Beal, 2000; Brooks, 2002; and Bekey, 2005: 516-518). The point of contention lies in armed drones, despite their fiscal benefits, being potentially flawed conflict machines (both in their methods and outcomes) overseen by inherently flawed humans.

The culmination of these processes and criticisms has lead most talk of 'drones' to be treated with suspicion; whether or not used within the construct of militarisation or commercialisation, the abeyant impression left is one of trepidation (Kazem, 2015; Culver, 2014; and Geiger, 2015). As the length of this section has shown, there is an emerging and contentious literature on armed drones, yet this broader perception of the non-militarised 'drone' is one

[3] It is possible that Osama bin Laden was attempting to capture as wide an audience as possible in his *Letter to America*, which pre-dates a number of the contemporary specifics of the 'War on Terror'. However, the text, which stated 9/11 was, in part, a retort to 'planes circulating in the skies, dropping bombs on innocent civilians and mosques', is a prescient allusion to the psyche of numerous Middle-Eastern bodies since.

that, overall, could be radically re-framed within the realm of the humanitarian, and indeed must be at least be renovated into a non-destructive means if the equipment is to be one of radical technological and global progress.

Unarmed, Assistive UAVs

Separate from the proliferation of militarised UAVs there are a number of radical uses for which aerial vehicles and systems are beginning to be utilised for. As the previous sections show, the wider literature points towards UAVs being an overwhelmingly destructive force, with most industrialised nations looking to begin a long-term weaponised drone programme due to their relative cost-effectiveness and utility. However, one element that has generally gone under-reported, and indeed constitutes a large gap in the current literature, is the use of 'benign' UAV(S)s for issues concerning humanitarianism and human security in regions of notable or sudden anxiety.

As Singer notes (2011: 428-437), there is an overwhelming, and almost contradictory, sense of duality and uncertainty that captures the prevailing mood towards robotics and political life, in particular UAVs. UAVs are broadly touted as moving us towards a more "virtuous [and] virtual warfare" (Der Derian, 2000), yet although 'virtuous' conflict has in its name an element of righteousness, it is inherently "still about killing" (ibid.: 772-773). Still, as Singer observes (2011: 428-437), these revolutionary technologies –'revolutionary' used in an attempt to evoke a politically impartial description– are not only being used on the battlefield, under the scrutiny of political scientists, human rights groups and governmental agents, but earn their 'dual' status in their novel and often under-appreciated "second and third-order effects that act like bow waves" (ibid.: 296). In this case the (non-conflict oriented) reconceptualising of the 'virtual' and 'virtuous' may be found, as Singer observed, in the broad ancillary uses of non-weaponised UAVs. Indeed, one needs only to look at the ways in which benign UAVs are assisting a number of humanitarian fields, due in part to their clinical and cost-effective nature, to see their varying and vital uses.

The disaster relief cycle can be separated into four major categories: prevention, preparation, response and recovery, and although UAVs are frequently used within all of these stages they are most currently utilised within the 'response' phase (American Red Cross, 2015: 12). On the 25th April 2015, an earthquake in Nepal killed over 7,500 people, razed numerous villages and destroyed several locations designated as World Heritage Sites by UNESCO. Amidst the response phase of humanitarian operations individuals armed with camera-attached UAVs were able to survey and report upon sites scattered across hazardous and arduous terrain. One responder noted, "almost 80 percent of the houses were razed to the ground. In less than five minutes we had been able to reach a village that would have taken over three hours if attempted by road" (Ferris-Rotman, 2015). This too was demonstrated in

the aftermath of Typhoon Haiyan, which struck the Philippines in 2013: a small team of experts with a backpack containing a UAV and a high-resolution camera, with the approval of the Tacloban Mayor, were able to locate a safe location for a base of operations, check the coastline to evaluate damage and see which villages had been affected (OCHA, 2014: 5-6). From this, a local start-up company, called SkyEye, is now working with the Ateneo de Manila University to train several teams in UAV usage in preparation for the coming Typhoon seasons (ibid.). This piece of technology has consequently been vital in facilitating a fast and safe method of mapping and assessing the destruction caused, and aiding in search-and-rescue procedures. In a catastrophic event where time is crucial, UAVs are articulated has having an ability to re-level the playing field (WeRobotics, 2018).

Another example of this comes from their usage not just in post-disaster humanitarian zones but also in scenarios of conflict. UAVs have started to be utilised as mobile surveillance methods for populations at risk, displaced groups and militias on the move (Smith, 2013). A number of groups have also suggested the merging of drones within the frameworks surrounding genocide, right to protect, and human rights abuses (Sentinel Project, 2013; and Sniderman and Hanis, 2012), although some have posited that the use of UAVs in areas of conflict and areas where groups are already suspicious of UAVs may create additional complications (Isango, 2006; and Karlsrud and Rosén, 2013: 5-6). Indeed, these cases, owing to the potentially high-resolution cameras that can be fitted to UAVs, have prompted questions to the potential violation of privacy rights of individuals (EPIC, 2015; Thompson II, 2015; Schlag, 2013; and Calo, 2011). These notions can additionally be found beyond strictly conflict zones, and as such also constitute a wider part of the humanitarian UAV's discourse. In broader scenarios such as these where policy lags behind technology it has been noted that it is of vital importance to establish ethical frameworks in order to determine 'best practice' methods of the humanitarian UAV so that these instruments can, so to speak, take off (WeRobotics, 2019).

This diverging element of the potential repertoire of the UAV is still in its infancy and as such needs to be evaluated at both a practical and theoretical level, in addition to the knock-on effects this would have for humanitarian space, humanitarian beneficiaries, processes of (humanitarian) governance, and humanitarianism more generally. The 'humanitarian drone' can thus be viewed in the established discourse as both a "way of labelling technical and logistical humanitarian functions a drone might potentially fulfil […] and as a way of describing ethically desirable uses to which drones might be put" (Sandvik and Lohne, 2014: 147), yet the considerations of the broader discourse, as already noted, should not stop at these 'ethical' considerations in a way that much of the established literature does. As already shown, the use of the UAV in a number of scenarios such as geographical mapping,

aid cargo transfer and more generalised humanitarian endeavours is one that is still in its infancy and faces a host of interweaving considerations from the broader logics and rationalities that constitute the humanitarian UAV and its attendant environments, alongside the articulations that underpin certain organisations' involvement in these fields. Furthermore the process of investigating and analysing the discursive terrain of humanitarian UAV(S)s must be thorough, lest the suggested methods only further compound the complications which first necessitated their requirement. As cognitive scientist and pioneer of artificial intelligence, Marvin Minsky, observed, processes and technologies are not truly 'understood' unless they are learned in multiple ways (Herold, 2010: 101). The variety of bodies that find themselves constituting the discourse of the humanitarian UAV is an under-reviewed edifice of contemporary humanitarian and political practice. Additionally, the UAV, through certain forms of practice, has been articulated as having the potential for a vast and radically emancipatory life span, yet at the same time may be problematised by the range of actors involved in constructing its discourse. Nevertheless, these diverse understandings and interactions between the so-called 'humanitarian' UAV, those that constitute it, and vulnerable/insecure populations are ones that compel a more critical investigation into such processes, alongside broader conceptualisations of what these processes suggest.

Humanitarianism

To understand the complex and historied face of contemporary humanitarianism it is important to engage with the various changes and challenges it has encountered, though, it is not possible to detail all of the vicissitudes (and the vast array of consequences) that may or may not have aided in the construction of the contemporary humanitarian edifice. It will thus be that this overview engages with significant events encountered by the humanitarian realm that directly contributed towards its current practices and outlooks, notions which will be drawn upon throughout the remainder of this thesis.

Conceptions of Humanitarianism

The conceptual understanding of 'humanitarianism' –broadly, the impartial practice of easing the suffering and misery of other individuals– is one that has appeared in diverse cultural, political and philosophical ways for a number of centuries, though under various guises. Observed chronologically as a fragmented response to natural disasters and wartime reparations, the 'humanitarian' sector has undergone numerous ideological, strategic and administrative modifications throughout the last two centuries (Davey, Borton and Foley, 2013: 37-39) in order to adapt to and anticipate the changing nature of crises.

The significant evolutions of humanitarianism has led commentators to suggest individual periods for the differing ways in which humanitarianism has developed throughout time-

frames which imbibe their distinctive social and political backdrops, whether that be early nineteenth century colonialism, outright world war, or a globally-involved East–West struggle progressing towards a nuclear event horizon of mutually assured destruction. These periods, which have been categorised and re-defined by many (Steinert, 2008; Ramsbotham, 1997; Barnett, 2013: 29; and Mills, 2005) are not precisely delineated in their change from one approach into another, but nevertheless are allowed to fall, side-by-side, into place as a spatial–temporal extension of the slow transition of globally significant occurrences.

With an allusion to the International Committee of the Red Cross, one of the oldest and most well-established humanitarian groups, it has been observed how the fundamental principles of Henry Dunant's (the founder of the International Committee of the Red Cross) humanitarian action have "marinated in a century and a half of humanitarian history" (Thompson, A.: 2015), texturing humanitarian development and its future practices, within both conflict and non-conflict zones. Dunant, originally a man of business from a well-to-do family, and the director and president of the mills of Mons-Djémila in Algeria (Dunant, 1859: 2), began his humanitarian endeavour in the most inadvertent way. By seeking the approval of Emperor Napoleon III for water rights on a plot of land for his business, and steadfast despite the fact that Napoleon was, at the time, leading French armies alongside the Sardinians in order to push the Austrians out of Italy, Dunant followed Napoleon to his military headquarters near the Northern Italian town of Solferino to both present Emperor Napoleon with his recently written book (composed in the most complimentary fashion towards the Emperor) and request a concession for his business (Andrade, 1952: 529-530).

The Battle of Solferino culminated in Austrian forces retreating, a small strategic and political victory for France and Sardinia, and mass casualties from both sides. Reports suggest that around 40,000 were killed, injured or missing in action (Dunant, 1986: 106; and Red Cross, 2015), with a significant percentage being individuals wounded on the battlefield. Although he had not initially been able to meet Napoleon III, Dunant was present for the battle and its aftermath, and later recounted the shocking vistas in *A Memory of Solferino*: "some, who had gaping wounds already beginning to show infection, were almost crazed with suffering. They begged to be put out of their misery, and writhed with faces distorted in the grip of the death-struggle" (1986: 44). This field, the outrage, disgust and sympathy that it inflicted upon Dunant, in addition to the vital help Dunant was able to procure for many of the wounded (Dunant, 1986: 63-66), was to be the inception of, and catalyst towards, contemporary organised humanitarian action (Council of the European Union, 2009). After his accounts of horrific battlefield injuries, gangrenous amputations, and under-staffed hospitals, Dunant concluded his manuscript with a question: "would it not be possible, in time of peace and quiet, to form relief societies for the purpose of having care given to the wounded in wartime

by zealous and thoroughly qualified volunteers?" (Dunant, 1986: 115). After its completion, Dunant sent thousands of copies to carefully selected individuals, and found himself viewed as an 'equal' between many renowned admirers. On February 7th, 1863, several of these admirers, alongside Dunant, were appointed by the Geneva Society for Public Life in a "committee of five" to examine the potential of putting Dunant's humanitarian requests into action. Dunant, after he and his group had called for an international conference, travelled across Europe receiving promises from numerous governments that they would be sending representatives. Held from October 26-29, with "thirty-nine delegates from sixteen nations attending" (Nobel Media, 2014), the conference approved a number of resolutions and set a plan for the gathering of plenipotentiaries. Following this, on the 22nd August 1864, twelve nations signed the first Geneva Convention, guaranteeing humanitarian principles for all those injured in conflict and the inviolability of medical personnel and units (ICRC, 1864). This is not to say that the charter set the first humanitarian precedent for easing the misery and suffering of those affected by conflict or scenarios we would now note as a 'humanitarian crisis', as between 1581 and 1864 "no less than 291 treaties, made between belligerents for exchange of prisoners, had contained humanitarian provisions for military chaplains, women and children (Charteris, 1940: 98). However, as Cherteris further observes (ibid.), these treaties were "for the duration only" and concluded whenever it was viewed appropriate, in contrast to the 'Red Cross Convention of 1864', a foundational document designed to be a permanent feature of international politics. The principles, founded upon benevolence and the necessity to bring aid to 'neutrals' wounded in conflict regardless of ethnic, political or religious allegiance was a revolutionary step in international politics, and saw Dunant awarded the inaugural Nobel Peace Prize in 1901 (Nobel Media, 2015).

The idea of understanding historical imperatives, alongside cultural foci in order to inform future practices is one with a necessary impetus to be acknowledged in the realm of the humanitarian. It allows not just for rationalities that can facilitate accurate crises predictions, but preparation in a field of constant evolution. In part it allows us to understand on what principles and precepts advancements should be made, how elements of contemporary humanitarian may divert from such value and principles, and, consequently, the potential issues this puts forward. Dunant was certainly correct when he noted that more could be done to assist those who were insecure, vulnerable or helplessly dying, not just in conflict, but also generally in the early stages, midst or aftermath of crises. Consequently, Dunant's overall notion of humanitarian organisation and its continuous endeavours to reduce harm and suffering based on its fundamental principles and values are perhaps still more relevant than ever, and constitute some of the most important foundational contributions to the field.

Following from this, the notion of the humanitarian, building upon its wealth of experience, is arguably at its most realised in the wake of a globalised world: inter-connected and technologically advanced states, non-governmental organisations (NGOs), non-state private-sector entities and international agencies amalgamate in order to form a US$24.5 billion (~£16 billion) humanitarian system (GHA, 2015) articulating "common overarching goals, norms and principles" (ALNAP, 2012: 8) – the question of how far these articulations *actually* go towards such a notion will, in some respect, be investigated across the rest of the thesis. The initial humanitarian system was once confined to responses dealing with wartime fallout and natural disasters (Davey, Borton and Foley, 2013: 1), yet it is now internationally active, operating through many political, environmental and disaster scenarios. Reacting to needs in zones of "conflict or natural disasters, supporting displaced populations in acute or protracted crises, risk reduction and preparedness, early recovery, livelihoods support, conflict resolution and peace building" (ibid.). It is consequently of vital importance to view the present day role of humanitarian assistance in these fields.

The contemporary humanitarian realm

Contemporary humanitarian action, both at a state and non-state level, operates through a number of various strategic and pragmatic methods, and with roughly 2,600 international aid and development organisations across the world, it provides an almost omnipresent form of awareness within the public consciousness (Kennedy and Sending, 2011). Following on from the foundational structures indicated by Dunant, the apparatus of the humanitarian has been assisted by international precedents such as the Geneva Conventions (ICRC, 2016), disaster relief and recovery assistance frameworks (IFRC, 2016), and treaties solidifying the methods to assist in displaced or threatened populations (UNHCR, 1951; United Nations, 1948; and OHCHR, 1966). These frameworks, as Haider observes (2013) help to solidify the basis for international humanitarian principles, informing the humanitarian attitudes that underpin, though are not limited to, action across: disaster and crisis response; aiding and acting as non-combatants in conflict scenarios; the upholding of human rights; the assistance and regulation of refugees, migrants and displaced populations; and situations involving the threat or reality of mass violence against populations/genocide.

These frameworks of action amongst many others, as observed by Bolton (2007: 75-79), broadly fall into two distinct categories: 'developmental aid', which "tries to stimulate longer-term development" in unstable or less-economically developed regions, and 'humanitarian aid', which "provides [direct] humanitarian relief in response to emergencies". The implementation of action regarding these notions varies depending on the institutional, strategic, temporal, and financial freedoms, willingness and constraints, and can again be broken down into more sub-categories with further operational specificities and approaches

within. Within practices of 'humanitarian aid', Kennedy and Sending (2011) perceive a contemporary focus on that which encompasses more 'preventative and preparedness methods for disasters', such as natural and man-made crises, impacts from climate change and fallout from unprecedented population increases. Nevertheless, these factors make up only a small element within contemporary humanitarian programme cycles as outlined by the OCHA (2020), which is comprised of a "coordinated series of actions undertaken to help prepare for, manage and deliver humanitarian response" that build from previous 'steps' and lead into the next. More specifically, these elements that constitute a framework of humanitarian 'best practice' are articulated as the analysis and assessment of emergencies and requirements of populations, the strategic planning of response(s), the mobilisation of resources towards effected locations and populations, the monitoring of resultant humanitarian assistance, and the evaluative review of operations once they move towards a state of resolution or inertia (ibid.). Developmental aid, as already mentioned, encompasses a number of facets surrounding the distribution and embedding of financial aid, revolving around state and non-state organisations in order to start and/or support the political, social, economical, and environmental growth of insecure and less-developed locales. Currently most development assistance comes from the 30 nation members of the Development Assistance Committee, which in 2019 contributed upwards of (US)$152bn to the world's poorest nations (OECD, 2020). Although these figures are measured absolutely, the practices that make up developmental aid, and the indeed divergent methods of it, have been widely debated regarding their efficacy to impact and sustain growth in developing and precarious spaces (White, 1992; World Bank, 1998; McGillivray, *et al.*, 2006; and Fearon, *et al.*, 2009). The overarching concerns surrounding the gaps between humanitarian and developmental assistance can also be tied into challenges associated with linking short-term objectives and long-term goals; for instance, the problems that have traditionally accompanied attempts to transition from procedures of humanitarian relief to processes that facilitate 'rehabilitation' (Moore, 1999) and development (Hinds, 2015). Hinds observes that there are several inhibiting factors at play here, though they can most commonly be articulated as "differences in working principles, mandates and assumptions […] fragmented and compartmentalised" financing (alongside its often inflexibility in how it can be applied), lack of expertise in the field or a lack of coordination between donors, and mixed perceptions in how beneficiaries' needs can be best addressed (2015: 2-3). Furthermore, the efficacy of certain elements of humanitarian developmental action have also been called into question following various allegations of fraudulent behaviour surrounding financial transfers to states without a stringent or clearly delineated judicial hierarchy, which, moreover, in some cases can more easily predispose those in power towards corrupt financial practices, meaning a

withdrawal/withholding of developmental assistance from populations (Alesina, *et al.*, 2002; and Knack, 2001).

Bolton (2007: 75-79) states that humanitarian action that aims to assist in crises can be effective once substantive and inclusive frameworks are set in place, and that developmental aid, according to thorough analyses of post-conflict and insecure societies (Collier and Hoeffler, 2004), seemingly responds best to a series of social policies rather than strictly macroeconomic ones (even though macroeconomic-centric approaches to development, as opposed to policy-centric models, have historically been the ones prioritised (ibid.)). Yet, Bolton nevertheless contends that there "is little wider, public debate about the quality of aid" regarding first principles, the methods utilised and their points of failure, and thus, consequently, "is a significant factor in why so much 'bad' aid is able to persist" (Bolton, 2007: 78). Furthermore, Stoddard and Harmer (2010) have observed how the humanitarian adoption of "active acceptance" –a 'softer' approach of "cultivating good relations with local actors and communities"; in particular a 'deepening' of humanitarian actors' analyses of and reactions towards various dynamics (ibid.: 3) in order to facilitate trust and understanding across beneficiary populations– appears to be in decline owing to many humanitarian groups promoting the acceptance of their logics and practices as an *a priori* feature of the landscape they are operating in, rather than something which has to be earned through 'deeper' forms of engagement, aid, assistance and development. As Silke Roth observes (2012), local/national staff in humanitarian operations are frequently critical of international humanitarian agents as they often overlook the abilities of and local expertise found within native populations. Moreover, international humanitarian actors within these scenarios have also been critiqued for cultural insensitivities, their lack of consultation with local populations, and generally inexperienced and unqualified behaviour within certain contexts, especially in relation to their ignorance and dismissal of knowledge possessed by national staff and local bodies (ibid.), and thus a lack of what *should* constitute 'best practice'. These notions are ones that have, for a long time, plagued the humanitarian sector insomuch that the formal humanitarian system, whilst willing in some respects to adjust itself through "piecemeal reforms", has largely fostered an environment in which the varied forms of 'advancement' related to its logics and methods have "not been matched by the requisite changes at the systemic level", for instance, "within the institutions, governance and financial structures and power relations that underpin the sector's operations and culture" (Bennett, *et al.*, 2016: 7-8).

Consequently, one crucial, apparent gap between desired and actual significance of both humanitarian assistance and developmental action rests on not so much the financial liability of its operation(s) (though this is, nevertheless, still a broad concern), but in how the overall processes of –and justifications attendant to– humanitarian action are perceived (by both

humanitarian actors and beneficiaries), planned and embedded/undertaken. As there is no singular 'leader' of the humanitarian system, but a global web of (albeit largely hegemonic) interconnected organisations (again, some of which do not seek to fundamentally evolve in order to better adapt to changing landscapes and needs (Aly, 2019)), there is a continuous stream of humanitarian bodies that emerge in attempt to negotiate the processes of humanitarian action and the professionalisation of its underlying rationales (United Nations, 1991; and OCHA, 2016). This has led to commentators suggesting that such contexts – alongside the ideological immovability of some hegemonic organisations– enable and impose the further incorporation of 'new humanitarian' actors (Aly, 2019) and their approaches to policy-based responses. These 'new humanitarian' actors and practices range from those undertaken by "citizen volunteers" and groups (ibid.), to, increasingly, the incorporation of methods and logics that emerge and signal value from the private and business/corporate sectors (Oloruntoba, 2015; and Hoxtell, *et al.*, 2015). Within this also is the adoption of new, 'revolutionary' technologies such as remotely controlled UAV systems (OCHA, 2011; OCHA, 2014; and American Red Cross, 2015), which are articulated as not only facilitating more cost-effective and efficient forms of humanitarian action, but also allegedly showcase the many technical, spatial and temporal 'advantages' that (semi-)automated procedures have over their human operators.

However, this is not to say that, in humanitarian action moving 'forwards' –piecemeal or otherwise– the humanitarian logics, policy, planning and implementation of agendas that appear across the contemporary humanitarian landscape are necessarily effective and non-problematic. Within the increasingly professionalised contemporary humanitarian realm there exists the spectre of failed humanitarian assistance and developmental operations, alongside the current creation of *new* spectres that may harm and degrade humanitarian action (and perceptions of it) across future horizons; it is this efficacy of contemporary humanitarianism and its rationalities that has itself has been called into question. The 2016 World Humanitarian Summit, for instance, which facilitated a 'Grand Bargain' designed to, amongst other elements, 'create efficiencies and free up funding' within the sector, had lead many to view the process as a catalyst to radically change elements of the humanitarian sphere (Clarke, 2018: 20), yet it has since been seen as being mainly successful in "giving impetus to changes and improvements already under way" (ibid.), creating additional layers of bureaucracy and installing further hierarchic decision-making within the sector (Redvers, 2017) – an unintended side-effect of humanitarianism's increasing 'professionalisation'. Moreover, many requests asked of the humanitarian sector in recent years –such as the routine gathering of key information that speaks to the long-term impacts and outcomes of humanitarian aid and interventions; the training and further providing of requisite skill-sets for

humanitarian actors; the creation of programmes that are more flexible and able to shift in focus within differing contexts; the incorporation of 'beneficiary' discussion and feedback into the strategies of humanitarian programmes; and systematic efforts that move towards a prevention of abuse and exploitation across humanitarian work (Clarke, 2018: 21)– are still worryingly disregarded (ibid.). Likewise, the Sphere Project, in formulating a charter of 'aspirational' humanitarian standards so that rights-based approaches to humanitarian assistance are amplified (Sphere, 2018), also demonstrates the innate complications in attempts to increase the accountability and responsibilities of humanitarian action. One of the charter's writers, James Darcy, notes that it is a dangerous assertion to suggest that creating the conditions necessary for "life with dignity is both the responsibility of [humanitarian] agencies and lies within their [sole] power to bring about" (Darcy, 2004: 114). In such contexts can be seen a reprisal of the latent anxiety that the humanitarian sector's attempts to combat crises and emergencies –continuously understood through increasingly diverse lenses and desired outcomes– and legitimise their rationalities, whilst remaining 'true' to values that transcend politics (Barnett, 2009: 623), is not reconcilable (Macrae, 1998) or constitutes little more than ideals of aspiration; 'sticking plaster' rationalities that, moreover, form a continuation of humanitarianism's established, privileged and palliative forms of engagement with vulnerable populations and environments.

This tension in a sphere articulated as furthering the protection of life, health individual dignity, human rights and security (amongst other signifiers of the humanitarian ideal) is, nevertheless, not a singular problem. In regards to contemporary humanitarian activity there are several notions that, if not negate, then seriously further harm the humanitarian 'ethos', its values and principles. The following section both reviews the literature surrounding these areas of noted problematisation and also establishes them within contemporary examples.

Critical Gazes at Humanitarian Logics and Practice

There is, in the area of humanitarianism, an undeniable level of selflessness with which many actors and NGOs conduct and rationalise their work, yet there also festers a number of highly problematic issues within the humanitarian sector and its contemporary (re)constitution. In focusing upon this it becomes apparent that there are more disreputable elements of humanitarian action that, although are portrayed as altruistic and benevolent, can be seen, under the surface, as irresponsible, nefarious and manipulative features of the humanitarian system. Though no stranger to involvement in crises, the formal humanitarian system, as noted by Bennett, *et al.* (2016: 7), is undergoing a crisis of its own – that is, a "crisis of legitimacy, capacity and means, blocked by significant and enduring flaws that prevent it from being effective". It is this crisis brought upon by the dominant articulations/practices of 'formal' humanitarian institutions, and the resultant perceptions (of

both themselves and those external to humanitarian organisations) that carry into the mainstream, which has lead to the sector being so robustly critiqued. Such articulatory attempts to (re-)legitimise the humanitarian industry function as a means to an end in distinct ways, though can also be conceptualised as being a part of a wider, contemporary process that attempts to both adopt and influence a range of practices and techniques "at all levels of society, from the individual to the state and from the community-based organization to the corporation", constituting the humanitarian sector as increasingly professionalised, marketised and mediatised (Richey, 2018). Although some of the examples given within this section demonstrate a specific range of illustrations, they nevertheless collectively highlight a number of issues that underpin broader concerns and assumptions that surround contemporary trends, logics and rationalities within the modern humanitarian sphere.

As alluded to, one element of contemporary humanitarianism routinely critiqued is the mounting commodification and marketisation of the practices, 'causes' and rationalities within its scope, in addition to the capacities of the humanitarian system becoming enlarged in order to accommodate such 'required' modifications. Lisa Ann Richey observes how the borders of humanitarianism and 'humanitarian practice' are increasingly porous, bleeding into, and also being affected by, previously non-traditional spaces across the 'everyday', be it through means of entertainment, social media, corporatised practice/rationalities or more general procedures of consumption (2018). Koffman *et al.* (2015: 158) have noted how such transitions within the humanitarian system, at both organisational and inter-personal contexts, are chiefly due to the humanitarian system's "intensifying competition, scarcer resources and public disillusion with humanitarian aid and NGOs' efficacy and legitimacy". At a general, communicative level this process can be seen through, as Mara Einstein highlights (2012), the growth of logics associated with a more superficial humanitarian-consumerist relationship located between corporate social responsibility practices such as 'ethical branding', and a public body increasingly desensitised to exterior, complex political struggles due to their own economic and political instability, which in-turn positions the incorporation of humanitarian rationalities within 'everyday' marketing opportunities as necessary; consequently, "humanitarian NGOs increasingly depend on the corporate sector and on 'playing the media's game' for their income" (Koffman *et al.*, 2015: 158). More 'formal' humanitarian organisations, as practitioners of 'traditional' humanitarian action, also incorporate logics and techniques from outside of their conventional boundaries in attempts to reconfigure humanitarian practice in parallel to the requirements associated with rapidly developing and unpredictable contexts, both within the humanitarian sector generally and across its specific practices (Bennett, *et al.*, 2016: 39-41; Samman, *et al.*, 2009). Such rationales are signalled, in part, in the institutionalisation of wider corporate and marketised

trends that demonstrate how 'new' formal humanitarian practices are articulated and 'sold' both across the sector, in, for example, 'project markets' that demonstrate the past successes and efficiencies of humanitarian organisations (Freeman and Schuller, 2020), and also to recipient bodies as a more effective form of practice that also assists in solving or alleviating issues (i.e., financial and practical concerns) that the humanitarian system faces at large (Malik, *et al.*, 2018). This notion of humanitarianism becoming more corporatised and commodified as it moves to incorporate a wider range of actors and logics under its progressively broad awning is, consequently, one that is increasingly seen as problematic.

The broadening of the humanitarian system to incorporate a wider range of actors and rationalities exemplifies Giles Bolton's notion that highlights the issues surrounding "aid's Sunday drivers" (2007: 88-91), in which the perception of humanitarian action as that which should be sympathetic to historical and contemporary contexts, is inclusive, upholds fundamental humanitarian principles, and so on, is problematised through articulations/practices that are commodified, marketised and uncritically put into action by unaccountable –and sometimes unqualified– bodies ('body', in this specific instance, as representing both the singular term and a collective). Africa, as the *de facto* site of humanitarian engagement in the public consciousness, has, through such discursive practices, become "*the scene* of neoliberal interventions and practices" (emphasis mine) in the name of humanitarian action, facilitated through a globalised extension of market forces by the private sector, private individuals, financial institutions and NGOs (Daley, 2013). The celebrity, for example, as a frequently 'branded humanitarian commodity' (ibid.) serves within this configuration as means to enhance and embed consumer capitalism within certain (humanitarian) formations, playing the role of acceptable, public-facing neoliberal intermediary for the commodification of humanitarian action, "making market relations and its effects acceptable at the core through consumption and at the periphery via humanitarian intervention" (ibid.). Paul David 'Bono' Hewson's, 'Product(RED)' –a brand that "partners with the world's biggest brands to create products and experiences that raise money and awareness to end HIV/AIDS", in partnership with 'The Global Fund' (red.org, 2020)– for instance, reinforces a theme of commodity fetishism and capitalist relations within the humanitarian system, and, through its symbolic figure ('Bono'), masks and "steers attention away" from underlying social contingencies that highlight –of which 'Product(RED)' is implicitly a part of– the "inequities of systems of production and trade, by focusing on one of the outcomes, HIV/AIDS" (Richey and Ponte, 2008: 723). In a similar vein can also be seen the public relations and social media centred video campaign, 'Kony2012', by the organisation 'Invisible Children', which was focused on 'making famous' the Lord's Resistance Army figurehead, Joseph Kony, as a means to shift the Overton Window of

Western foreign policy towards, and thus broadly legitimise, (humanitarian) military intervention in African nations (invisiblechildren.com, 2020). By design the film –as the main site of information relay across the campaign– equivocated capitalist bodies (celebrities, private organisations) and Western techniques of governance with authority and legitimacy, articulating them (and viewers of their video) as humanitarian agents of change if only they could be persuaded (ibid.). Together with solicitations to buy merchandise in order to dually raise awareness and fund the organisation, Invisible Children gestured towards a quasi-provocation of viewers, urging for a call to arms from nation states, most notably the US (Invisible Children, 2012). Within such discourses, and what projects such as 'Product(RED)' and Invisible Children's 'Kony2012' operation ultimately attempt to promote, is the façade of a form of 'humanitarian' "global citizenship" that, nevertheless, masks arrangements of "neoliberal governance that seek to mobilise […] a narrow militaristic, corporate and politically conservative perspective, whilst claiming to be transcending politics" (Daley, 2013: 387). Such practices have also been critiqued as a form of 'commodity activism': a modality whereby political action is, either partially or in full, supplanted by methods of consumption that masquerade as fulfilling the role of political engagement; a repurposing of humanitarian disasters, crises and vulnerable bodies that moves away from the –before– iconographic representations of suffering, and towards neoliberal forms of consumer culture advertising, social network promotion and postmodern marketisation techniques (Brough, 2012: 174-176). It is here that Bolton's wariness of the humanitarian industry's 'Sunday drivers' –speciously articulating and persuaded by superficial commercial endeavours such as the previous noted examples– alongside his notion that an organisation's (or individual's) passion for a project does not grant the parallel requirement of expertise (2007: 88), highlights the apparent shifts in logics within the humanitarian system. Of course, not all corporatised, commodifying/commodified and 'professionalised' forms of humanitarian action fall into the category of endorsing, though obfuscating, extreme forms of action –such as militaristic intervention and engagement– yet they do nevertheless establish and open up the discursive space that facilitates rationalities and techniques which are anathema to established, traditional humanitarian principles and values.

Within scenarios such as those discussed, as there are indeed many around the globe (McGoldrick, 2011: 974-975), we can see tendencies of humanitarian actors "to omit or deny the complexity" of both historical perspectives and roots of the situations they are combatting, creating simplistic mental and practical models that can be easily, yet misleadingly and/or deceptively, understood, and thus 'solved' by "focusing on familiar actions" or false panaceas, and decontextualizing events as incidents taking place solely within a vacuum (Humanitarian Policy Group, 2015: 1). Humanitarian actors can often be

ignorant of crucial negative effects to their work, creating unintended consequences or, what l'Anson and Pfeifer note as the "negative 'ripple effects […] of their ideological commitments" (2013: 50). This discussion too overlaps with the notion from Wallace (2004) who argues that numerous facets of contemporary humanitarian action take the form of a neoliberal 'Trojan horse': the requests for funding, legitimacy and attention in order to satisfy a desire for capital/profit, market share, or a "high profile often means a rush to be seen as an important voice, without a concern for the wider implications of this, or of who they may be disempowering" (ibid.: 204). The historical artefacts of humanitarian assistance –for instance, impartiality, objectivity, neutrality, and the desire to remove future vulnerabilities– are herein articles that are seen as all too often pushed aside in favour of various impetuses that focus upon misguided/nefarious, abstracted and decontextualised objectives, with little-to-no thought put towards solutions that move humanitarian action into the realm of action that is sustainable, agency-affirming and inclusive. From this notion we can return to the dilemma posed by humanitarian groups engaged in (re)producing techniques such as these, who advocate some form of change, but are myopic in their approaches or nebulous in their logics and practices. Such a notion is highlighted in the varied ethically dubious stratifications plaguing the humanitarian sector (Fisher, 2012; Currion, 2014; Fridell and Konings, 2013; and Zachary, 2008); a system, furthermore, that is a "multi-billion dollar enterprise" (Weiss, 2013), yet has been described as "opaque" and "probably the most unaccountable multi-billion-dollar industry in the world" (Bolton: 2007: 77-79).

One significant recurring criticism directed squarely at many humanitarian groups and NGOs is the double-edged notion of discursive righteousness, both in the 'marketing' of humanitarian action and through its logics and practices. Throughout the organisational interactions across humanitarian practice –and consequently the 'message' that is being sent about the rationalities of humanitarian action– commentators have observed that the appeal of the humanitarian gaze towards vulnerable populations, armed/warring groups and disaster/crisis zones constitutes an apparent projection of the Western hegemonic ego (Belloni, 2007: 455); a colonial overhang stemming from what was once known as the "white man's burden" (Kipling, 1899), that has since morphed humanitarian action into an industry more critically labelled as the "white saviour industrial complex" (Cole, 2012; and Bell, 2013). The relationship between cultural depictions, action and discursive structures is reciprocal, and, from this, as the cosmopolitan-reinforced humanitarian "spectacle of vulnerable others" comes to inform the hegemonic, moralising "humanitarian imaginary" (Chouliaraki, 2012), we see growing forms of humanitarian discourse and thus action that openly positions the pleasures of and rewards for the 'humanitarian self' at the centre of moral action (ibid.). That is to say, humanitarian actors as contemporary 'moral actors' are critiqued, through their

logics and practices, as sustaining and reproducing new forms of "egoistic altruism" that do not have to deeply engage with "the political conditions of human vulnerability" and second-order humanitarian effects, as their focus is shifted towards other, more compelling, immediate (and frequently economic) rationalities of humanitarian instrumentalisation (ibid.). Renee Bach, a US missionary who founded and, for almost a decade, ran the non-profit organisation in Uganda, 'Serving His Children', as a medium to realise her ideological 'calling' later fled the country after it emerged that she had been practicing dangerous and high level hands-on medical procedures in a severely negligent manner (this is perhaps putting it mildly, as she had no prior medical experience/qualifications) on malnourished infants, contributing to the deaths of hundreds of Ugandan children (No White Saviors, 2018; Mwesigwa and Beaumont, 2019). Organisations such as the 'No White Saviors' project, founded by Ugandan women endeavouring to combat the hegemonic logics underpinning humanitarian programmes such as Bach's, constitute both an attempt at disrupting "traditional power structures between the Western world and the African continent [across] international development, aid, and missions" (NoWhiteSaviors.org, 2020), and –through its necessitated creation– is symbolic of the wider, embedded, problematic rationalities of humanitarian action that frequently underpin such practices.

Yet for their efforts, 'Serving His Children' still operates in Uganda, continuing to "work in the field of malnutrition" up until early 2020 when its attentions pivoted to serving "the greater good by bringing vital information to rural Uganda and support[ing] government efforts to manage COVID19" (ServingHisChildren.org, 2020). Their website is host to a typical technique for humanitarian non-government organisations looking to create "intimacy at a distance" (Orgad and Seu, 2014): a video that presents vulnerable and precarious bodies/lives, contextualising them and demonstrating what is at stake (with/without the humanitarian organisation) through its operational processes. Such representations of the recipients of humanitarian assistance are not an exceptional occurrence, nor are they a technique that appears in the repertoire of the humanitarian that is beyond a simplistic boundary that delineates 'good' and 'bad' rationalities, rather, they are an embedded part of the humanitarian discursive landscape in which perceptions, forms of ('common sense') knowledge and symbolic messages are (re)produced and broadcast across and outside of the sector; it is an endemic creation of "new commodities from old narratives" (Steeves, 2008: 439). For instance, the organisation, 'Arete', which proclaims itself to be "the expert storytelling and training agency for NGOs, UN bodies and foundations" (aretestories.com, 2020) –and has had as its clients (to selectively name a few): UNICEF, the World Health Organisation, the World Food Programme, and the Disasters Emergency Committee (ibid.)– in their creation of visual narratives of humanitarian action, gathers images and video of

"children and families suffering from displacement, hunger and disease to be used online" (aretestories.com, 2020[b]). Their 'appeal videos', to which Arete provides footage, articulate the 'need' and helplessness of vulnerable bodies as "painfully evident: in their eyes, in their tiny bodies […] their desperate struggle to find any means to survive, and in their loss of hope" (Disasters Emergency Committee, 2017); with their visuals showing malnourished children lying prone, laboured breathing and bloated stomachs, flies crawling across faces before being faintly swatted away, and "barren" landscapes, alongside the continuous audio-visual encouragement to donate money in order to provide "life-saving" assistance to the represented populaces (ibid.). Such long-standing tropes can be seen as emblematic of the underlying assumptions that flow through the humanitarian system's communicative and actionable practices, with the exhibition of the recipients of aid and assistance often presented as mediated and commodified subjects (Jefferess, 2002; Steeves, 2008), and with those creating and exhibiting such visual representations (in marketing/communication, 'appeal videos', 'telethons', and so forth) falling into the acute spaces of contrivance and post-colonial advocacy cliché (Chouliaraki, 2010: 15). The established tropes of 'savages, subservient victims, and saviours' within depictions of the humanitarian beneficiary (Mutua, 2001), which are intrinsically devoid of nuance or critical insight, cast those being identified as passive victims and bodies without agency, and are appealed to in order to "evoke cognitive dissonance resulting from the representation of 'incorrect' images" of bodies, meanwhile, those who (re)produce such discourses collaborate to "effectively re-victimise [those represented] by using this sentiment to evoke pity" (Smith, 2009: 162-164). Narrative devices such as these, which are not only dangerous to how we conceptualise the sum of its reality, broadcast vulnerable individuals not as humans with dignity, but, through a perspective of condescension, as unfortunate and (self-)helpless voyeuristic subjects being looked upon (and potentially 'saved') by those of relative fortune, privilege and security. These subjects are thus thrust towards the viewers as invitations of –not critical, but– emotional and ahistorical engagement; consequently, subsequent problematic understandings and methods of action, via the –literal and figurative– lens of the uncritical contemporary humanitarian, are encouraged through colonial-interventionist rationalities (Mackey, 2012; and Magubane, 2008) and the dispersed communal validation of Western actors (Waldorf, 2012: 471-472; and Finnegan, 2013).

It is this sense of communal validation, egoism and ethical-economic instrumentalisation that can further push humanitarian practices away from its fundamental principles and values, and towards an overlap with signifiers attendant to corporate strategy. The 'Kony2012' feature, as already highlighted, promoted a number of unsavoury discursive elements located within the humanitarian psyche, yet at an aesthetic level the production also

reinforced various logics necessitated by the predicaments of the contemporary humanitarian sector. Noted for its visual 'polish', it was widely praised and awarded the 2013 South By South-West Interactive Award for the "Digital Campaign of the Year" (Faull, 2013) in a ceremony focusing heavily on marketable trends surrounding art, business, social media and motion graphics. Following the film's 'viral' and marketised successes, many commercial organisations have since attempted to glean 'lessons to be learned' from its visual and narrative presentation in adopting the techniques shown in the film to further imprint "branding" (Thomas, 2012; and Crnkovich 2012), "marketability" (Frith, 2012; and Vachon, 2012) and "audience engagement" (Woodrooffe, 2012) opportunities within the sector. It is here that the justifications for the marketisation and commodification of humanitarian practice come into focus: the unsavoury logics underpinning Invisible Children's methods, amongst other –distinct, though thematically similar– organisational approaches within the humanitarian industry (Wallace, 2009), can in part be attributed to necessity and requirement, in that a significant portion of humanitarian funding lags behind the requirements of many NGOs, especially with regard to less mainstream causes and more 'anonymous' parts of the world (Walker and Pepper, 2007: 6-7). Nevertheless, attractive and innovative methods of promotion and humanitarian action, and the consequent production of a wider marketised discourse, consequently facilitates the logics of cost-effectiveness, efficiency and value, which, in the eyes of the humanitarian sector (as indeed the business/corporate sector), helps to legitimise the distribution of –limited– finances and resources, additionally enabling the incorporation of new, distinct bodies and logics within the humanitarian sphere (for example, non-traditional bodies/organisations, and new technologies and techniques). Transforming humanitarian practice –or the recipients of such action– into a marketable arrangement of assistance or a form of commodity thus allows for unique distinctions to be made in the cacophonous, and growing, environment of competitors (Hankinson, 2001). Yet in the setting out of techniques (and increasingly technologies), articulated as that which help to actualise attractive, yet conditional, goals (as a proviso of funding, financial investment and so forth (Wallace, 2009)), complexities both within the broader discourse and the solution(s) they present may be distorted in favour of simplicity.

The 2013 'World Disasters Report', published by the International Federation of the Red Cross, for instance, focuses on "technology and the future of humanitarian action", yet across the span of its 260-plus pages, discussion specifically dedicated to risks attendant to such developments makes up fewer than 20 pages (IFRC, 2013). Such emphasis towards a marketable 'product' or commodity –be that through the advertisement of the vulnerable body to the public, financial appeals within the sector, or general articulations that promote new or 'revolutionary' advancements in humanitarian techniques– creates discursive representations

that may stimulate the senses, give an emotional weight to a humanitarian subject matter for potential financial beneficiaries to infer, or suggest more 'efficient' and 'rational' modes for effective (professionalised) forms of humanitarian action. However, it can also dull the critical perspectives and faculties of humanitarianism insomuch that it helps to position assistance, aid and development in ahistorical –decidedly present– contexts that continuously strive for immediate formations that signal value. Indeed, as the IFRC state, what is stipulated as required in the contemporary humanitarian industry is, plainly, the "convergence between objectives of more efficient and effective action and the resources needed to achieve this goal" (ibid.: 19). The willingness to assimilate private bodies and logics within the humanitarian system is here also rendered clear, with private organisations being articulated as having both the collaborative and technological means to 'make a difference' across humanitarian practice (DHL & OCHA. 2016). Such embracing of the private sector, it is said, is to be "encouraged" within humanitarian action as such partnerships not only help to offset "the rising costs of disasters worldwide [which] are increasingly outstripping the resources of our traditional public, multilateral and non-profit responders", but also brings together bodies with varied interests "in order to maximize effectiveness and achieve greater impact" (ibid.). The generalisation of humanitarian action (in communicative practice and in those encouraged to be a part of –and help shape– its processes) is an increasing trend within the system, yet, as unsavoury as it may seem, it has been argued in some way to be a 'necessary evil' in embedding new techniques or portraying messages/ideas to as many people as possible (de Waal, 2008: 43-44; and Jefferess, 2013: 74). Nevertheless, in an age of digital and technological accessibility, and the increasing realisation of the powers associated with such techniques, a concessionary paradox is reached in how much reality can be novelised, 'polished' for a mass audience (or specific funders/donors), or articulated as a 'transformative' practice before it oversteps the mark or distorts the humanitarian remit, and humanitarian action suffers as a result. For humanitarian organisations (Small and Verrochi, 2009; Moeller, 1999: 9-10; and Basil, Ridgway and Basil, 2008), the trade-off, which Poffenberger observes must be carried out with continuous trepidation (cf. Rozen, 2012), is too often haphazardly neglected, transforming the gradations of humanitarian action and management into a commercial, marketised process, led by the creation and embedding of rationalities that give primacy to notions of efficiency and value, informing practice through seductive avenues of discourse (Kosner, 2012), and the –sometimes– frivolous articulations contained within (Abdelnour and Saeed, 2014), which, in tandem, carry and reproduce within the sector corporatised and/or hegemonic "concepts, values and practices" (Wallace, 2009: 203).

The function of the international humanitarian community is an amorphous one; continually shifting to adapt to manmade and natural challenges. Yet it also faces challenges of its own: 'western' biases, logics and culture/history 'blindness', emotive judgements, limited cash-flow, and a resultant 'professionalisation' of the humanitarian sphere that encourages and incorporates broader formations of groups posing as saviours (towards both the humanitarian system and precarious populations) alongside their attendant (potentially further problematic) rationalities. Historically and currently, new and severe obstacles come to the forefront of humanitarianism (both within the community and the areas humanitarian organisations operate in), and thus attempts are made at seeking out new solutions and applying them in expectance for, or as a response to, challenges. Many humanitarian bodies contribute impartially and are a source of virtue, but structural critiques towards their peers are ones that must be understood within a broader context of processes and, if necessary, confronted. Likewise, troublesome aspects of the humanitarian system at large, especially regarding efforts to combat the 'lack' found within policy-based aid/development, and the shifting impetus towards cost-effectiveness and technological advances, have been noted as that which must be engaged with in a manner that fundamentally keeps the 'human' in humanitarianism, allowing it and the central values that underpin the system to prosper (Kalkman, 2018). A failure to engage with embryonic techniques and logics that allegedly combat the contemporary inefficacies of humanitarian action has led some to observe a significant risk for the humanitarian system (IFRC, 2013; DHL & OCHA. 2016); nevertheless, as this section has demonstrated, too often does the humanitarian sphere incorporate rationalities that *prima facie* resolves concerns, only to have the logics underpinning them further embed problematic logics, techniques and trends.

Biopolitics

The notion of biopolitics is one that has a varied and challenged history, morphing from its inceptive, 'naturalistic' use in the first quarter of the 20th Century (Lemke, 2011: 9-10), to broader, contemporary understandings of the term and the contested focal points of inquiry that its differing contemporary forms of articulation encompass. As Lemke outlines (2011: 1-3), the conception of biopolitics has become somewhat of a buzzword in the political sciences, signifying its transformation from a relatively unknown and obscure method of biological-political accountancy and analogy, into a divergent conceptual apparatus across "many different disciplines and discourses". As noted, the origins of biopolitics in public discourse can be seen through early attempts to qualify and understand the state and its members as a collective, organic, social organism (Lemke, 2011: 9-10; and Esposito, 2008: 16-17), and as an analogous descriptor of associations and links between biological 'communities' –such as insects or protoplasmic units– and human political conduct and

social pathology (Roberts, 1938); an essential embedding of politics within the biological 'order'. This nexus of biopolitical thought, owing to supposed essential elements of biological-political reality (and thus its *ideal*), was however one that was co-opted into discriminatory, "racist and organic concept[ions] of the state", personhood and identity (Liesen and Walsh, 2012: 3), in-part inspiring and helping to articulate the genocidal rationales and justifications of the German National Socialist Party, alongside other organisations in favour of eugenics programmes and social Darwinism. The biopolitical conflict that such institutes undertook can be viewed as, for those who were dually inhabited and oppressed by it, conflicts against "death itself"; the Other as a biopolitically 'justified' representation of death, in "both the object and the instrument of the cure, the sickness and its remedy" (Esposito, 2008: 137-138). Through the reasoning of logics that helped to carry a biologically essentialist and racist impulse, those that were in favour of such actions had, through its processes, found a rationale for mass atrocity, cloaked in the language and 'rationality' of biological/political immunisation (ibid.). It was largely from these associations that foundational biopolitical understanding and thought was dismissed and made distant from the social sciences in favour of attempts to outline political theory through, and cement as dominant, the analytical lens of environmental and social dynamics (Liesen and Walsh, 2012: 3).

Though significant movements away from such disreputable notions had taken place –and movement towards environmental and social understandings of politics had begun– a new strand of biopolitical thought locating biological understandings as one of its main concerns stirred into prominence throughout the 1960s and 1970s. Headed by Lynton Caldwell, and later adopted by a number of political scientists of similar inclinations, the notion of biopolitics re-emerged, however, this time as a joint discipline that was both grounded in the social sciences, yet still attempted to find its main expository value through scientific, biological enquiry. For those within the field, the bio-logical-political understanding attempts to satisfy a requirement in which human politics is aligned consistently within both traditional conceptions of Western political philosophy and contemporary biological findings (Masters, 1989: xiii); this understanding of biopolitics is consequently an attempt to locate, as Masters deliberately states, "the nature of politics" (ibid.), through which the veil of Isis can be lifted, allowing naturalistic biological-political truths to be uncovered. As such, this re-articulation of biopolitics is one that concerns "the political implications of biological facts and phenomena […] a systematic examination of the direct connections between the life sciences and political choice and actions" (Funke, 1985: 69). Put simply, it constitutes an approach to political science in which proponents utilise biological concepts and research methodologies/techniques in attempts to empirically analyse and understand political behaviour (Somit and Peterson, 1987: 107). Though, through the 1970s and 1980s, groups

such as the Association for Politics and the Life Sciences attempted to unify and grow this biopolitical distinction, the ascendancy of the scientific terminology has since become fragmented, owing to the disjointed articulation and crystallisation of 'scientific biopolitical' methods, a decrease in scholars taking up and helping to sustain such enquiries, organisational broadness resulting in a loss of academic focus, and eventually the appropriation of and resultant deep embedding within academic literature of biopolitics from a Foucauldian perspective (Liesen and Walsh, 2012: 12-13). This notwithstanding, the scientific biopolitical line of enquiry can ultimately be critiqued through its main ontological and epistemological assumptions, namely that, in its approach, its theoretical perspectives are not viewed as interpreting reality as such, but rather, that they constitute positions that reality helps determine in order to corroborate itself (Esposito, 2008: 23-24). It is, consequently, the reduction of human history, contingencies, and value to that which is concentrated into biological impetus –"the presupposition and the result" of the field– insomuch that our political history is not only seen as that which was inscribed as fixed moments for us to stagger into, but also that our political horizons are too determined in some way through our genetic dispositions; our 'nature' as both our history and future, distilled, compressed, packaged entirely and located conveniently within this framework of research (ibid.).

Through the 1970s, the writings, interviews and (recorded) lectures of Michel Foucault re-established the notion of biopolitics within the social sciences, with this (more mainstream) reintroduction signifying a meaningful movement of political thought away from previous positions that enveloped the conception of biopolitics in naturalistic, organicist and largely empirical interpretations of political and social life. For Foucault, the previous failings of the scientific understandings of biopolitics were to be now laid clear – that the prior assumptions of biopolitical thought which were utilised as first principles –life and politics as naturalistically embedded in our historical condition and 'fixed'– are in fact contentious, contested and contingent; a dismantling and reassembly of concepts and perspectives into formations of knowledge that subsequently, once sprung from darkness, were "irreducible to monolinear logic" (Esposito, 2008: 30-31). Foucault's articulations regarding biopolitics relates a critical and historical approach to understanding power, namely how power has transitioned from an operational force of the traditional sovereign to more insidious and efficient forms of contemporary institutional (governing) power, discipline and control, dispersed yet located chiefly within hegemonic institutions that, although do not explicitly emphasise their significant (bio)power over populations, are central to the discursive (re-)production and conservation of normative powers.

Biopolitics in this sense constitutes certain formations of contemporary power and its implementation. Though Foucault's use of the term is not uniform and shifts meaning across articulations (and in many practical instances can be seen almost synonymously with 'governmentality') there are clear strands that can be traced throughout his work: namely, the transition of power from that of 'deduction' to that of administering, regulating and controlling life. This new form of power is characterised not solely as the disciplinary sovereign 'deduction' of things, such as an individual's time, finances, liberty, property, life, and so on, but as a complementary element among other applications of power in order to "incite, reinforce, control, monitor, optimise, and organise the forces under it"; a power that attempts to generate, grow and order its populace, rather than make submissive, impede or destroy them (Foucault, 1978: 136). It is this notion that Foucault observed as "the two poles around which the organisation of power over life was deployed" (ibid.: 139): the disciplining of the body and the modification of power over life into a contrasting form of regulation (or control) of populations throughout everyday life. It is, as Foucault states, practices such as these that allow the contemporary state to retain power, survive and function: the arrangement of 'justice' through normative and written law, the solidification of regulation, discipline and control, and "a state of government that is no longer essentially defined by its territoriality […] but by a mass: the mass of the population" (Foucault, 2009: 145).

Foucault's thematic use of biopower can also be understood in terms of political economy within the rationality of the state, in which –now– dominant, (neo)liberal forms of governance are seen as introducing certain characterising and dynamic biopolitical/governmental arrangements (Lemke, 2011: 48). Indeed, moving away from 'the doctrine of the prince' to the art of governance, Foucault noted that, beginning in the eighteenth century, what was (and still is) a crucial element in the essence of governance, control and regulation of populations could be seen through "the art of exercising power in the form and according to the model of the economy" (Foucault, 1991: 92) – in other words, the introduction and embedding of economic thought into political practice (ibid.). As has been observed, formulations of the contemporary neoliberal arrangement, though established as a dominant global presence through Western (notably Anglo-American) market-oriented institutions (Peters, 2008), "cannot and should not simply be reduced to classical liberalism or to market society" (Lorenzini, 2018: 155). Considerations should instead be tailored towards neoliberalism as a specific "rationality or art of government" that, through such (neoliberal) technologies of governance, aims to shape and organise social relations, formulating the neoliberal subject(ivity) as that which is "eminently governable" (ibid.) throughout its attendant rationalities. Throughout Foucault's lectures at the Collège de France (notably 1977-1978's *Security, Territory, Population*, and 1978-1979's *The Birth of Biopolitics*), he

investigated "the role of political economy in providing the art of government with a new rationality and strategies of action" (Terranova, 2009: 235), consequently opening up new conceptual points of inflection regarding contemporary governmental processes of structured, market-based competition, the shaping of conduct and construction of subjectivities (to name a few points) that not only incorporate life, but "draw on life" in order to construct new forms of political order and control perceived as neutral or value-free (ibid.). Enveloped within this form of economic rationality is that which is normative, both in terms of economic and socio-cultural background noise that populations operate within and through, but also in terms of possible future horizons, signifying that which is (im)possible; a logic of governance that centres around economic freedom and its own *a priori* 'neutrality', yet limits politicised contestation of itself precisely because of this arrangement. Though justifications of neoliberal politics attempt to assert the opposite –that such arrangements help to enshrine freedoms by minimising the role of government– these claims, as Newheiser observes (2016: 13), were ones undermined by Foucault, who noted that the convergence of neoliberalism and biopolitics may well offer liberty (and so on) in some circumstances, "but only to subjects whose freedom it has formed in advance". Throughout his lectures, Foucault utilised the notion of governmentality to help situate biopower as integrated within –and helping to sustain– wider (Western) contextual practices, including this pervasive political-economic ideology; specifically, the conceptualisation of this broadened form of power is seen as one that has "as its target population, as its principal form of knowledge political economy, and as its essential technical means apparatuses of security" (Foucault, 2009: 102).

Biopower is consequently understood here, much like governmentality, in a Foucauldian sense as the name given to the formation of politics (and attendant neoliberal rationalities) that is subsequently administered across diffuse governance networks through society, or societies, to administer, regulate and control life (including the internalisation of normative self-governance/control). It is a rationality (a 'mentality') of governance –in particular relation to the technologies of power, administration of life, and regulation of populations (Foucault, 2009: 490-491)– which, through such power/knowledge relations, understandings of what governance is, and what, or who, is governed in such ways, can be seen as politically constitutive of the contemporary state and other arenas of political action and social life (Gordon, 1991: 3). The term additionally acts as a locator, describing the "target and aim" of this power as "life itself", through the enabling of life, regulation, and control of bodies (Scott-Smith, 2015) – though, 'to what end?' is in itself a distinct and separate question, and one that latter chapters, in the context of the humanitarian UAV, seek to engage with. Furthermore, across these positions can be seen how –drawing on the administration of life,

internalised norms and neoliberal rationales– within this nexus of governance, both control of, and 'freedom(s)' for, 'the mass of population' is interwoven. Consequently, latter discussions within this project engage with the humanitarian UAV's discursive constitution that, in developing notions from other chapters, contributes an understanding of a distinct biopolitical arrangement that attempts to secure, monitor and order/regulate life in certain ways that, either directly or indirectly, privileges and helps to fortify neoliberal-capitalist rationalities.

Methodology

Situating the Research and Methods

This thesis surrounds the emergence of the humanitarian UAV, and its discursive constitution in relation to the discursive components comprising it. In the previous chapter significant developments concerning humanitarian action and UAV adoption were discussed, such as the formative moves by humanitarian actors and agencies to re-articulate the UAV as an assistive tool, distinct from its conventional understandings as a militarised instrument solely of the state. As such, it showed that the field of humanitarian assistance, and –separately– UAVs, are regularly in motion and engaged in both theoretical and practical re-understandings. A study to analyse the burgeoning field of humanitarian UAVs and their impact within a context positioned at the intersection of humanitarianism, 'the political' –as distinguished from simply 'politics' by Mouffe (2005: 8-9)– and critical theoretical perspectives is therefore one that compels an understanding of this instrument's discursive constitution, what its discursive boundaries are formed around, and the wider implications of such assemblages within humanitarian action. To investigate this it is important to firstly discuss what the broad notions of discourse entail, and to elaborate on why a specific conceptualisation of discourse theory is applied across this thesis.

As Howarth notes (2000: 2), 'discourse' within the social sciences has over time acquired new and more sophisticated understandings of the term – a proliferating introspection regarding the totality of the notion, a "discourse about discourse". Within these attempts to understand discursive structures are a series of pre-built assumptions about the social world and the most instructive methods of obtaining knowledge about it. Howarth's genealogy of discourse (2000: 6–8) sketches out three significant transformations in how discourse as a concept is understood and applied. Firstly, he notes that discourse was traditionally concerned with the notion of "language in use" and the analysis of "talk and text in context" (ibid.: 6). Within this is the implicit assumption that discourse analysis is narrowly structured in a way as to focus upon how speech and conversation is singularly related to meaning, and in turn how this speech is a performative 'act' in principle. This notion of analysis thus delineates speech as a more objective focus of analysis insomuch that it attempts to interpret communicative acts through primarily the "rules governing connected sets of sentences in speech and writing" (ibid.). This not only includes the 'act' of statement and response, but also the nuances in-between the act such as the logic of, for instance, 'turn taking' within the structure of discourse, and 'speaker roles', which, through the interpretation of established indicators, allow for the demarcation of certain broader positions such as individuals' understanding and relationships with "larger institutional structures, and overall societal

organisation" (Jaworski and Coupland, cited in Howarth, 2000: 7). Whilst this can be seen as a worthwhile process when engaging with a narrowed understanding of discourse that focuses on the interpretive value of foundational communications, it is not a suitable method of analysis within this project, as the boundaries are too limited by the constraints set on what is considered to be of analytical value, with too much emphasis set on the semiotic dimensions of discourse. The humanitarian UAV, it is contended here, is constituted by, and also helps constitute, a wider range of discursive practices and processes (and, in the latter case, implications) across the field of humanitarian action which would surely be missed within a narrow analytical scope that seeks to focus solely on the linguistic interpretations of 'language in use'. Following from this, Howarth further observes that discourse as a concept, "in the wake of the growing centrality of structuralism, post-structuralism, hermeneutics, and Marxism" that was prevalent in the 1960s and 1970s social sciences (2000: 7), transitioned through a shift of focus set out by Foucauldian understandings of discourse. Through this understanding, historically contingent productions of knowledge (and resultantly, power) are constructed through "practices that systematically form the objects of which they speak" (Foucault, 1972: 54), and thus, through this constitution of social relations, help to cement authoritative discourses as bearing meaning that, through the actors involved in its construction, has the capacity to form knowledge that carries the signifier of 'legitimacy', and thus 'truth'; "it is in discourse", Foucault states, "that power and knowledge are joined together" (1978: 100). Nevertheless, Foucauldian understandings of discourse (largely) operate in an empirically 'ontic dimension', insomuch that his "different analyses sought to differentiate ever more areas of ontic differences", leaving an "absence of the ontological dimension" (Hansen and Sonnichsen, 2014) that was later addressed (or at least attempted to be addressed) by theorists such as Laclau and Mouffe. Foucauldian discourse analysis has also been developed by Fairclough (1989) into a broader stratum, encompassing a wider set of non-discursive social practices and phenomena –such as the contexts in which discourses are produced– within its remit. Additionally, Gee, also elaborating within the discursive space opened by Foucault, views such understands of discourse as that which is "socially and culturally formed, but historically changing, ways of talking and writing about, as well as acting with and toward, people and things" (Gee, 2000: 183); how individuals –either in 'power' or outside of it– speak, write or act constitutes what they aim to achieve. In turn this establishes 'who' they are being, and thus either reproduces and sustains or changes our social, political, cultural, and institutional worlds (Gee, 2004). Yet within these perspectives, discourse is still generally understood at the "semiotic dimension of social practice" (Howarth, 2000: 8), narrowing the ontological field in which analysis can take place and systems of social practice, relation and (the potential for) resistance can be understood.

In this particular thesis the notion of discourse is understood as that within the approach to post-structuralist discourse theory, pioneered by Ernesto Laclau and Chantal Mouffe through their work in the Essex School of Political Discourse Theory. Within this project's framework of discursive understanding, the means of discourse analysis are key components that facilitate the understanding of singular and relational elements of how understanding and meaning is situated, changed, transferred and assumed; in essence the utilising of an approach in which the "social field is understood as a web of processes in which meaning is created" (Jørgensen and Phillips, 2011: 2). A discourse, for Laclau and Mouffe, is thus a process of situating implicative and contingent meanings within a certain terrain, alongside the contingent, non-permanent exclusion of other (directly competing) meanings. Herein, the notional transition from Laclau and Mouffe is vital; it consists of a divergence from enduring categorisations found within foundationalist and structuralist approaches, to a method inquiring about the instability and movement of (political) discursive processes, how certain understandings are constituted and shaped in relation to attendant complimentary notions, and, accordingly, how other competing articulatory perspectives are conditionally excluded from the wider discourse. It is this method of analysing *process*, in which meaning (the referred object's 'constitution' – in this instance the 'humanitarian UAV', and its attendant theoretical and practical processes and thus implications) is formed and articulated, that is vital to the development of this thesis.

The understanding of discourse for Laclau and Mouffe is, vitally, one separated from narrow conceptions of discourse focused singularly on communicative 'speech'. Their understanding of discourse comes from an appropriation of all social experience. Whereas traditional notions of discourse may focus on a 'presumed existence of an objective social structure that analysis should reveal', Laclau and Mouffe's method of discursive interrogation observes that one should construct such backgrounds and resultant understandings through the investigation of *process*: "through the discursive production of meaning, it is that construction process that should be the target of analysis" (Jørgensen and Phillips, 2011: 4-5).

Consequently, the literature surrounding the Essex School of Political Discourse Theory outlines discourse as "relational systems of meaning and practice that constitute the identities of subjects and objects" (Howarth and Stavrakakis, 2000: 6). It is therefore prudent that to follow a discourse analysis within this research one must focus attention towards the processes of "creation, disruption and transformation" (ibid.) that stem from the articulations which make up discursive identities and understandings of the humanitarian UAV – i.e. its discursive 'constitution' and consequent implications. As noted by Howarth and Stavrakakis (2000: 3-4), developing prior understandings, "we take discourse or discourses to refer to systems of meaningful practices that form the identities of subjects and objects"; discourses

are thus all meaning bearing "systems" (Howarth and Stavrakakis, 2000: 5) or actions that refer to or construct knowledge about a particular topic, practice or institutional modality in society (Hall, 1997). More specifically noted through Laclau and Mouffe's understanding, these discursive 'practices' or 'actions' are conveyed under the banner of *articulation*, noted as "any practice establishing a relation among elements such that their identity is modified as a result of the articulatory practice" (Laclau and Mouffe, 1985: 105). Within this terrain of understanding, Laclau and Mouffe identify that articulation situates meaning through a creation of *moments* (differential positions –*elements*– connected in a discourse through articulation) which "partially fix meaning" (ibid.: 113) to an overarching central association (*nodal point*) within a discourse. This meaning is 'partially' fixed and conditioned as contingent in its construction in the sense that the discursive exterior –the necessary moments of a discourse that are also penetrated by their contingency (Howarth, 2000: 103); a "field of discursivity" (Laclau and Mouffe, 1985: 111)– is an environment "characterised by a 'surplus of meaning' that can never be exhausted by any specific discourse" (Howarth, 2000: 103). This is due to the potential for vast new relational arrangements to be formed owing to the numerous meanings that every articulation can form, leading to the understanding that a discourse can never be non-contingent or have an 'ultimate' closure. As discourses in this sense are also relational entities, dependent on their distinctions from other discourses, they are in and of themselves dependent on the contrast brought about by excluded discursive articulations (ibid.). The discourse is thus only a temporary closure of relational understanding as it is continually contested; it "fixes meaning [but] does not dictate that meaning is to be fixed exactly in that way forever" (Jørgensen and Phillips, 2011: 28-29). From these contingent (and temporary) internal/external unifications emerges a "structured totality resulting from the articulatory practice, [which Laclau and Mouffe] call *discourse*" (1985: 105). Through this understanding, the *discursive* is consequently a "theoretical horizon within which the being of [all] objects is constituted […] as their meaning depends on a socially constructed system of rules and significant differences" (Howarth and Stavrakakis , 2000: 3).

Herein, one can see how the notion of *how* discourse is constructed is one of significant importance. Discursively, the 'UAV' can be seen as a focus with multiple avenues of interpretation and understanding in relation to the social dimensions in which discourse is formed. To focus briefly on a related topic, for example, in prevailing notions of state-led operations the UAV can be seen as a tool of counterterror operations, and within this, layers of analysis and constitution transferred through differing domains of discourse. The militarised UAV, to name a few of its discursive boundaries, may be understood as a precise weapon to globally challenge radical militant groups, a problematic tool of –human–

insecurity, and/or a normalisation of the cyber/autonomous battlefield. The construction of such formations are thus dependent upon "the structuring of the social field" (Laclau and Mouffe, 1985: 108) and how we understand the process(es), logics and contingencies through which these understandings are produced. As Jørgensen and Phillips (2011: 29) posit: "what meanings do [articulations] establish by positioning elements in relationships with one another, and what meaning potentials do they exclude?". Through this method, one should aim to interrogate the discourse(s) that an articulation draws upon and the subsequent discourses it reproduces through its contingencies, alongside whether certain articulations challenge (or reproduce, in distinct ways) an existing discourse by an alteration of its 'moments' (ibid.: 30). It is these discursive paths that this project will be engaged with.

Herein, with regard to an often-displayed criticism of such methodological logics, it is not denied that objects "exist externally to thought, but the rather different assertion that they could constitute themselves as objects outside any discursive conditions of emergence" (ibid.). As previously noted, a UAV may have an 'official' or hegemonic delineative prescription of a technology whose primary articulated function is that which conducts overseas counter-terror operations, but the weight and understanding that is given to its primary and accompanying totalities is necessarily dependent on the "orders of discourse that constitute its identity and significance" (Howarth and Stavrakakis, 2000: 3). That is to say, the militarised drone may be, in an 'official' capacity articulated as efficient, 'surgical', and so forth, yet the discursive 'totality' of the UAV can similarly be flooded with meaning from distinct articulations that contest or renegotiate the primacy of such a signifier. As can be seen, discursive practices in this sense follow an anti-essentialism thread in which "there are no variables, or concepts, which can, *a priori*, serve to understand the political processes in all possible situations, and which might become 'ultimate' explanations" (Sayyid and Zac, 1998: 251). From this it is understood that within and alongside political processes the "'whatness' of any given entity is socially constructed" (ibid.) and deconstructed through antagonisms, subjectivity and agency, and the (often hegemonic) relations and rationalities that constitute articulatory practices (Howarth, 2000: 105-111). In this sense, discourses are contingent upon the contexts in which they arise, thus to understand how the humanitarian UAV is constituted it must be shown how differing understandings, exclusionary practices and nuances are revealed (sometimes through articulations that may, *prima facie*, seem identical, yet through their contingencies and discursive implications offer a distinct understanding) by interrogating the systems of social relations in which they occur. As observed by Howarth and Stavrakakis (2000: 5), this movement towards an anti-essentialist approach eliminates the possibility of predetermination within the research project insomuch that it facilitates flexibility and negates immovable logics which may beforehand have

"preclude[d] the possibility of innovative accounts of phenomena [and] organic development of the research project".

As stated by Laclau and Mouffe (1985: 109), and briefly touched upon prior, the practice of articulation "cannot consist of purely linguistic phenomena; but must instead pierce the entire material density of the multifarious institutions, rituals and practices through which a discursive formation is structured". Accordingly, this theoretical understanding of discourse has led to it being observed as a "syntactic galaxy in which words and signs are interconnected to create a meaningful set. In this theory, the concept of discourse includes a broad set ranging from linguistic to non-linguistic data (documents, presentations, notices, policies, institutions, organizations, etc.)" (Dabirimehr, and Fatmi, 2014: 1286). In this case, it is how the humanitarian UAV is comprised through such referred, attendant articulations, both in relation to its theoretical and practical boundaries; its consequent 'identity', and thus implied actions and consequences, of the humanitarian UAV as indicated by those who relate knowledge and experience throughout differing systems of social relations. Through this notion of discourse as a 'syntactic galaxy' it is consequently justifiable for a wide range of data and related methods of discursive production to be accounted for within this project, allowing for the de-privileging of separate, yet distinct, forms of data to be formulated as antagonistic, parallel, co-optive or reinforcing points of articulation in the broader discourse of the humanitarian UAV's constitution. As Jørgensen and Phillips (2011: 7) note, "in contrast to Saussure, who saw the uncovering of the structure as the goal of science, Laclau and Mouffe's discourse theory is interested in analysing *how* the structure, in the form of discourses, is constituted and changed. That is done by looking at how articulations constantly reproduce, challenge or transform discourses". In essence, within this research, this form of discursive analysis looks at how the UAV is constituted and (differently) understood as a humanitarian tool, and, from this, how the discourse of the humanitarian UAV (and indeed associated, competing notions of 'the humanitarian' and humanitarian practice) is articulated through its data sources.

Herein, the application of Laclau and Mouffe's theoretical framework of discourse allows for a wider conception of engagements that make up the contingent and contested nature of social reality. As a method of analysing the specific topics within the scope of this research project, the justifications and logics attendant to Laclau and Mouffe's understanding of discourse allow for an approach in which the discursive arena encompassing 'humanitarianism', the 'humanitarian UAV' and accompanying "public engagements" –from humanitarian actors, associated private bodies, governments (and so on)– can more clearly be seen as a formation of analysable subjects and discursive objects that can not only "be critically engaged [with] as a text and interlocutor" (l'Anson and Pfeifer, 2013: 50-51), but also help to

conceptualise the wider, contingent and contested nature of their discursive positioning, alongside the (humanitarian, political, technological) implications of such formations. Nevertheless, the prior overview of the foundational logics underpinning the adopted theoretical framework of discourse across this research project is simply that: an overview that wishes to situate and justify the discursive theoretical rationalities of Laclau and Mouffe within the project so that they can further be applied and that more developed discursive understandings can be established in specific analytical contexts throughout the main body of this work.

Data Collection

This research project engages with a collection of data points constituted through semi-structured interviews and desk-based research, and although employs a wider range of the latter form of data –for reasons that will be discussed in the following sections– sees both forms of data as equally important in analysing the humanitarian UAV's discursive landscape.

Semi-Structured Interviews

Through the de-privileging of separate forms of data this research project employed –as a way of partially helping to shape the formative outlines of this project– the information gathered from semi-structured interviews with several individuals working for organisations that employ UAVs to assist in humanitarian or otherwise hazardous operations. Such interviews are comprised of information given by: the local head of a globally recognised humanitarian UAV body that is situated in Nepal; individuals leading the Robotics Association of Nepal (RAN) in its operational capacity; a Drone Project Officer from the Sussex and Surrey Police (UK); and a lead figure of Médecins Sans Frontières' (MSF) UAV/Geographic Information System operations in Malawi and Mozambique (names and other specifically identifiable features of all individuals within this project have been removed to protect anonymity). As the research project deals in qualitative analyses to both supplement its areas of focus and remedy its overall inquiries, it was consequently important to employ primary data methods which work reflexively within this process, both engaging with and helping to expand upon current (humanitarian) UAV knowledge and discourse.

As such, semi-structured interviews allow for a 'repertoire of possibilities' (Galletta, 2013), facilitating –within a pre-determined but not 'fixed' structure– diverse and nuanced understandings from interviewees, whilst at the same time not stifling discussion through the formal and stringent customs of entirely structured qualitative data gathering methods. Semi-structured interviews additionally facilitate a layered discursive understanding as they allow both comprehension of the overarching perspective of the interviewee, whilst also

contributing nuanced personal understandings that allow for interpretations of *what their* articulations imply. This is in contrast to a more formal or stringent approach to questioning techniques that may only serve to provide the former of these two analytical options. As such, data received is utilised in tandem with the project's discursive framework to inform analytical themes and judgements of the research, in addition to contributing towards the project's overall findings within a wider data set.

Interviews across this project were conducted face-to-face, however in situations where this was not possible, a second alternative proposed was to interview individual(s) through VoIP clients (such as Skype, which provides a much clearer 'phone line' than traditional telecommunication), if this was not available then it was requested that the interview took place over the phone or via email correspondence. Where there was face-to-face or other forms of direct voice contact, interviews typically lasted between 1-3 hours, based on the questions asked, length of responses given, and questions and resultant answers which branched off from previous answers. Questions which 'branched off' were facilitated and seen as a good source of information as a result of the interviews being semi-structured, which offered a lot of flexibility with follow-up questions posed, the amount of clarification one could ask for, and the level of nuance and insight that would have potentially been lost had the interview been heavily controlled and 'structured'. The nature of the semi-structured interview also allowed for some level of replication insomuch that the initially structured, and thus most pressing, questions could be asked of and answered by participants, however, owing to the number of participants from varied, yet thematically connected domains, it also allowed for a level of natural, emergent insight coming from each participant.

Fieldwork

Fieldwork in this research project was related to the aforementioned semi-structured interviews undertaken for the purpose of data collection. Fieldwork was to be undertaken in areas that have established organisations conducting humanitarian work, or with individuals researching, through both practical and theoretical techniques, various applications of humanitarian/assistive UAV technology. The fieldwork within this project had a strong emphasis on focusing on individuals and organisations with robust knowledge/illustrative practie(s) of the adoption and use of UAV technology used within contemporary humanitarian frameworks. In this instance, interview participants are comprised of a key individual within a local (though globally recognised) UAV body located in Kathmandu, Nepal; individuals within the Robotics Association of Nepal; a Drone Project Officer of the Sussex and Surrey Police (UK); and a manager of Médecins Sans Frontières' UAV/Geographic Information System operations in Malawi and Mozambique. The project's fieldwork research looked to interview individuals/organisations for several collective and specific reasons, though principally for a

rich assortment of data that could help to constitute and inform a wider research project, yet for reasons that will be addressed, a large sample of this form of data could not be fully achieved within the means (both temporally and financially) of the project. Nevertheless, it is still important to contextualise and thus justify the locations and participants (though, herein, anonymised) that helped in informing the general framework, logics and thematic areas of focus for this research.

Nepal is recognised as one of the most disaster-prone countries in the world (MoHA & DPNet-Nepal, 2015: ix). Its propensity for natural calamities not only feeds insecurity of its citizens, but it also has long-term effects on the socio-economic stability of the country itself (ibid.). Within this, response, recovery and reconstruction are vital pillars of 'disaster response' and yet without the appropriate resources, state stability and foresight the exhaustive conclusions of these processes are unachievable (ibid.). In 2015, a $7.8M_w$ earthquake struck the centre of Kathmandu, Nepal, and though engineers and government officials had worked on retrofitting certain buildings, such as hospitals and schools, to be robust in the eventuality of an earthquake, many inhabitants, owing to civil unrest and urbanisation, found themselves in and around 'soft' urban areas, hazardous in the eventuality of an earthquake (Achenbach, 2015). Following this, numerous governmental and non-governmental organisations attended the disaster-stricken regions, looking to rescue individuals, treat and give aid to those affected, and rebuild the communities worst hit by the earthquake (MSF, 2015; and Oxfam, 2015), many of which, due to the terrain and location of some populations, were left inaccessible through conventional or expedient means (Sengupta, 2015; and Southall, 2015).

UAVs have been described as practical instruments in man-made and natural disaster cases such as these (Nambiar, 2016; and Robinson, 2016), furthermore, Nepal allowed for a first-hand insight into community applications of UAVs for humanitarian, mapping and disaster response scenarios. It also allowed for a discursive insight into the thoughts of practitioners operating humanitarian UAVs in a historically insecure region. 'WeRobotics', an organisation specialising in robotics emergency relief to individuals affected by natural disasters and multifaceted emergencies, successfully used UAVs fitted with high-megapixel cameras in the aftermath of the earthquake to provide ground mapping of areas affected by the disaster (WeRobotics, 2017). Additionally, WeRobotics have since utilised UAVs in Nepal to conduct hazard and vulnerability mapping of landslide areas surrounding remote settlements and villages (WeRobotics, 2017[b]) – a significant advancement when one considers that some of the most substantial obstacles to planning and post-disaster recovery frameworks in Nepal are the quality of satellite imagery available (FSD, 2016). Densely populated areas such as Kathmandu would usually be indistinguishable, yet under the guidance of non-governmental

organisations, humanitarian UAV organisations –in conjunction with individuals within the local populace– were able to map and label, in both 2D and 3D visualisations, large sections of razed, damaged and at-risk locations (MacFarland, 2015; DronesForGood.ae, 2015; and Wang, Purnell and Bhattacharya, 2015).

The Robotics Association of Nepal is another organisation within Nepal that utilises robotics to conduct 'social good' missions. This organisation additionally tied into the research project's scope insomuch that it also facilitated an understanding of the wider discourse surrounding the humanitarian UAV, how it is viewed and thus constituted by those using it, and finally what this discourse tells us about the UAVs potential, logics, limitations and implications within humanitarian operations. These fieldwork proceedings in Nepal allowed for a good level of information to be drawn from them and important topics to be identified regarding humanitarian UAV use and some of its attendant processes and logics. Furthermore, such organisations/individuals were also useful in helping to broaden the project's data set, contributing a wide variety of insights and first-hand knowledge.

Similarly to Nepal, Malawi is also a region beset by natural and aid-related emergencies. Médecins Sans Frontières, operating within this area utilises UAVs as a geographic information system to "plan the layout of a large camp, identify the location of boreholes in a cholera outbreak, or track a vaccination as it's being rolled out" (MSF, 2017), amongst other uses. In 2017, Médecins Sans Frontières employed UAV technology in order to conduct a preparatory aerial mapping exercise of Makhanga, a small region in southern Malawi that had been partially cut off from aid following flooding in 2015. The aim of the project was to survey and map out the region in advance of the seasonal floods so that they could be best prepared to deliver aid if the region was severely flooded again; yet undertaking this work has previously been hazardous, impractical and inaccurate. Whilst satellite imagery such as Google Maps is increasingly useful for some terrain mapping, humanitarian operators conducting exercises in Malawi state, "we still work in very remote or highly political areas which often remain completely unmapped. In an emergency, requesting satellite imagery often takes too long, costs too much, or offers only very rigid insights" (MSF, 2017). In both the Nepali and Malawi scenarios, one of the main issues surrounding reconnaissance operations lies in both the quality of imagery available and the availability of the tools with which to capture and process such crucial vistas. Within certain regions, UAV photography in combination with readily available 3D modelling software is viewed as beneficial in order to render high-quality interactive records of (potential) disaster zones and its surrounding environments, occasionally at some distance away from the area itself. The consideration of humanitarian action through the lens of established organisations such as MSF helps to form an understanding of humanitarian action and response in relation to the logics that underpin

them; the addition of the UAV, as a 'revolutionary' technology, alongside the articulations that flood its discursive constitution, consequently alters and reformulates ideas surrounding 'the humanitarian' in its practical, relational and spatial understandings.

Finally, the UK 'model' allows for a detailed perspective on the issues surrounding UAV implementation within a country with deeper infrastructure than those typically addressed by humanitarian action, and the more 'straightforward' concerns surrounding the adoption and usage of such a technology within varied contexts. Within this setting, the UAV is not utilised within a humanitarian environment, but in assistive response and rescue scenarios by governmental branches such as police, search and rescue, and fire services. Firstly, this branch of knowledge facilitates a deepened understanding of discursive logics surrounding the implementation and usage of the assistive UAV within heavily structured organisational, though, non-militarised, systems; and secondly, this also allows for a slightly clearer perspective on the logics attendant to the introduction and standardisation of UAV usage within developed nations, whilst also allowing for a discursive perspective on the overarching thematic considerations that constitute the UAV –and UAV usage– when touching more upon factors that fall outside of the traditional humanitarian scope. Herein, within this latter notion, the UAV can be better understood through a specific (though non-typical humanitarian) point in its discursive formation, as it is partially constituted by wider concerns that, although do not traditionally fall within the remit of humanitarianism, do nevertheless increasingly point towards its contemporary rationalities (i.e., efficiency, value, the professionalisation of practice).

Fieldwork Data Collection Complications

As with the nature of research there were a number of complications that arose throughout the data collection process, however, the main problem arising from the conducting of research was the response rate from (hopeful) interviewees. As the field of humanitarian UAV usage is still under on-going development, alongside the multiplicative reasons regarding a lack of information freely/willingly available to external observers, it was largely difficult to ascertain which organisations and groups in specific global locations were working with UAVs, and in what capacity they were being used – whether it be a trial, a demonstration of technology, training of individuals, or a fully implemented use of the technology, to give some examples. Consequently after research –and prior knowledge from previous research projects– a number of key individuals and organisations with experience utilising UAVs for humanitarian/assistive purposes were identified, alongside a broad number of organisations which had significant experience in the field of humanitarian action (or had expressed interest in UAVs for humanitarian operations). There were also attempts by myself to reach out to the (UK) UAV community in hopes of networking and facilitating interview

connections through the attendance of UAV conferences and exhibitions. However, these turned out to be fruitless, as both the conference and exhibitions were overwhelmingly focused on, respectively, non-humanitarian/assistive, commercial and recreational applications of UAVs, which were deemed outside the bounds of the research project's scope. Over this period of 6 months across 2016, approximately 70 individual interview requests were sent out –and repeatedly followed-up on– to various relevant individuals, NGOs, and private and governmental organisations that (either) worked with, had a connection to, or manufactured UAVs that are currently employed within humanitarian and assistive work. Only several interview requests returned in the affirmative –some were returned with various reasons why an interview was not possible– however, the vast majority of emails sent received no response, in addition to follow-up emails. Additionally, some of the interview requests that were returned to me in the affirmative were later non-responsive after follow-up emails expressly seeking to confirm the specifics of, and set a firm time frame for, the conducting of interviews. Nevertheless, some respondents did follow through on their responses, leading to a number of insightful and worthwhile interviews, which helped to contribute towards the overall thematic, practical and theoretical insights that constitute the understandings of this research project.

To return to the non-responses of potential interviewees: unfortunately, such a process is part-and-parcel of research, and while it could be argued that a wider range of interview data would have helped to initially refine some of the areas of investigation in a more streamlined manner, the incorporation of a wider range of data that was available to this project nevertheless permitted a robust thesis. Owing to the project's use of a specific logic and understanding of discourse (that broadens the scope of what is *permissible*, *justifiable* and, consequently, *applicable* in the context of relevant data), the project's framework implicitly motions that a wider array of data points is not only justifiable in helping to construct a discursive narrative and relay its wider implications, but is, in many senses, vital. It is this necessary incorporation of a wider range of data points within the research project that this section now turns to.

Desk-Based Data Collection

Consequently, owing to the aforementioned discursive de-privileging of data sources (as noted, Laclau and Mouffe's understanding of discourse comes from an envelopment of all social experience), this research project identified and utilised the predominant authoritative articulations surrounding the humanitarian use of UAVs in order to build up a discursive structure that allowed the project to map out key discursive points and differential positions that feed into the broader constitution of the humanitarian UAV: that is, its 'ethical' constitution, the UAV as symbolising and assisting with a 'democratisation of technology',

and the biopolitical considerations and implications that stem from these understandings. These overarching notions helped to constitute and inform the overarching theoretical and practical understandings of the UAV's discursive constitution across this project, alongside its implications for humanitarian assistance and the environments such practices are found within. To do this the project engaged with desk-based forms of research in order to collect, collate and examine publicly available articulations from authoritative sources established within the sector and attendant to the practical and theoretical rationalities surrounding the use of UAVs within humanitarian/assistive contexts. Such methodological practice, in the context of this project's understanding and application of 'discourse', gives a more thorough and complete perspective in formulating and analysing the nexus of meaning contained within the humanitarian UAV's discursive terrain. The predominant articulations within the remit of this project, attendant to the humanitarian/assistive use of UAVs –found through desk-based research– encompassed academic research papers; summary, strategy and policy outlines from global humanitarian groups and NGOs; case study documents from organisations that have used UAVs within humanitarian or other related assistive operations; websites (and contained publications, videos, documents) from predominant NGOs, public and private organisations linked to humanitarian/assistive UAV operations; other forms of grey literature; and more general articulations (speeches, interviews, news reports) from/towards bodies (private, public, and so forth) that speak to the supposed logics underpinning the use of humanitarian UAVs. As such, the collection and collation of such (de-privileged) articulations allowed for a –widely theoretical– analysis of what is signified through the contemporary discourse about the makeup of the humanitarian UAV, its contingent and contested logics, the rationalities that such technology helps to promote and embed (and is itself modified by) within humanitarian discourse/practice, the impact on and considerations of humanitarian beneficiaries, and how such understandings alter and (re)formulate notions of 'the humanitarian' in theory and across its processes.

Data Analysis

In order to collate the project's data, recognise emergent discursive themes throughout the research and discover insights potentially otherwise overlooked, the project utilised the software 'NVivo' to help examine key documents and discover (subjective, though most apparent) themes that emerged across them. NVivo is a programme specialising in qualitative data collection and arrangement (known in-programme as 'coding'), that here allowed for analytical threads to be woven in tandem with the logics associated with the aforementioned discourse analysis. Indeed, the methods facilitated by NVivo allowed for a more rigorous and streamlined engagement of the project's data points (such as policy documents, interviews, presentations, academic journal articles, and so forth) on the grounds

that one can more efficiently organise and make summary judgements and connections between emergent discursive themes across the data set. The utilisation of NVivo, in combination with the project's data, was consequently a beneficial (though not necessarily crucial) element in this research project's ambition to provide theoretical and methodological lucidity and parity. In this sense, it is vital to note that the 'analytical' elements or emergent themes of this research project were not complied and completed by NVivo itself, as the software simply allows for a streamlined process of collecting, collating and examining the data, and is still subject to the researcher's analytical perceptions (and possible biases); the analysis of the thematic areas that this project touches upon are found solely within the process of the researcher guided by the information collected. This is to say that the relevant sources compiled within NVivo are not inherently analytical or thematic, yet through its simplified enabling of document labelling, viewing, and the facilitation of moving between numerous documents in a single space –the productivity gains of which cannot be overstated– NVivo assists in researchers more easily collating (and thus understanding) information in efficient ways, which one *can* more easily be analytical with. As Durian summarises (2002), NVivo provides several features that supplement the methodological and theoretical framework of projects, which otherwise may be cumbersome or unreasonable to accomplish without.

Although it has been stated that under certain frameworks computer-assisted qualitative data analysis software (CAQDAS) may 'depersonalise' or remove background elements from certain analyses of discourse (Fowler and Kress, 1979: 198), it is important to note that the research project specifically did not wish to remove contextual, historical or otherwise thematic elements from these meaning bearing systems – on the contrary, the use of NVivo in this specific research scenario (a framework underpinned by the logics of Laclau and Mouffe's understandings of discourse) allowed for a broader contextual understanding to be more reliably constructed, due to the consistent arrangement of robust data within the project's outline and questions. As a part of this wider analysis, NVivo facilitated the arrangement of a broad range of data points in the delineation of key focal points which – although, some may argue, are not as positivistically 'precise' or replicable as quantitative systems and methods– allowed for emergent trends to be identified and recognised as significant (for example, helping to facilitate the structuring of the 'main body' of this research project) yet nuanced perspectives that could be elaborated upon, whilst also assisting in keeping the project's data points internally coherent, consistent with elements and developments external to the project, and helping to keep these data points within a structured research framework.

Although not without downsides typical of qualitative forms of research, in assisting in the more efficient development of an analytical structure of the emergent logics, rationalities and perspectives attendant to the humanitarian UAV's discourse, the collative features of NVivo aided the critical interpretations and understandings of the discursive subtleties that influence the constitution of the humanitarian UAV as understood across the research project, allowing the consequential implications of such notions to be conceptualised and developed.

Ethical Impacts on Methodology

Criteria for individuals recruited to take part in the collection of data (the project's semi-structured interviews) were ones based on their job title, work experience within the humanitarian or UAV sector and current practical knowledge of the aforementioned sectors, as opposed to any personal characteristics the individuals may or may not possess. The institutions and organisations that were drawn up and considered had a wide breadth of suitable individuals, falling into the research's inclusion criteria. This not only ensured that individuals were aligned with the requirements for fulfilling the research project (i.e. providing relevant and accurate information), but also made certain that they aligned with LJMU's requirements vis-à-vis safe research environments and participants suitable for the research project's level of ethical clearance.

Participants to be contacted were chosen carefully by myself and research supervisors and contacted in the appropriate manner. Those contacted and chosen to take part did not fall into any 'at risk' categories (medical, emotional or psychosocial classifications), nor were they individuals with an insufficient knowledge of the subject matter. Participants were identified as being over 18 years of age (with no upper age limit), of a sound mind and were –seemingly– of a voluntary disposition to engage in questions pertaining to their area of speciality. Combined, this allowed for a safe environment to conduct the research project, for both the participants and researcher, whilst also allowing for the project to gain access to a range of data, helping to partially constitute and influence the themes within the research project. Issues of sex, race and ethnicity were not relevant to information being gathered in the research project; although this did not directly contribute towards the inclusion criteria, it also did not fall into the project's exclusion criteria. Individuals were strictly chosen and contacted on the basis of their knowledge, experience and job title, not their sex, race or ethnicity. Consequently these factors, although necessary to mention, were not defining elements in either the inclusion or exclusion methodological criteria.

Individuals that were excluded and are not suitable to take part in this research project were those who did not work within humanitarian organisations or groups directly involved with UAVs (within the last 3-5 years, depending on seniority and previous history in the sector);

and individuals who had no prior experience in either of these sectors. Individuals that were classified as 'at risk', or of an unsound mind (aside from this and any *immediate and vital* medical conditions there were no overt medical qualifiers that would disqualify an individual from taking part in the study) were not to be contacted in order to conform to the ethical guideline criteria set forward by the project and research institution. There was no upper age limit to the inclusion/exclusion criteria, although, individuals under the age of 18 were not considered for the study, owing to the potentiality of relative inexperience. Furthermore, when contacting an organisation, as opposed to a specific individual, the chances of being referred to an individual that did not meet the inclusion criteria were moderated owing to the Participant Information Sheet containing details regarding participant criterion within relevant organisations.

Data gathered from individuals during the fieldwork stages of this project, in addition to its resultant collation and storage (electronic and physical), has been collected and secured in accordance with the laws of the United Kingdom and EU, in addition to the research institution's guidelines on data protection, storage and management. No data or information has been extracted or transmitted from the research transcripts for reasons external to this research project, nor has data been sent to, or stored on, the property of anyone except the project's sole researcher. Although there is no data of a potentially harmful nature within this thesis, nor were any of this project's interviewees of a vulnerable disposition, no specific identifying features have been noted where reference to the project's semi-structured interviews is made. Upon the completion of this project, data will be kept and then deleted in accordance with the time frames set out by the research institution's guidelines, and the research project's Participant Information Sheet.

As such, there were few ethical considerations that were forecast to have an underlying impact on the general tailoring of this project and the carrying out of its research methods, and since the completion of this project it is important to note that there were no ethical issues that arose during the project – either in its formative, data collection stages, or the latter, more analytical stages. Nevertheless it was still of vital importance to adhere to all stipulated ethical conditions in order to conduct this project in an ethical and considered manner, and ensure the maximum safety and trustworthiness of the data received.

Limitations and Considerations

There are, of course, a number of limitations one must put on any research project, both for the practicality of the research, and also for the safety of those conducting the research. The research project was fortunate insomuch that the locations in which fieldwork took place, and those interviewed, were of both great importance to the formation of the overall project and

were listed as safe to travel to by both the UK Foreign & Commonwealth Office, and LJMU. This helped to ensure safety for the researcher, but also allowed for qualitative data to be collected, where/when possible, in an uninterrupted and secure manner. Consequently, research was only conducted in areas that conformed to the UK and LJMU's foreign travel advice index. Fortunately, this project's semi-structured interviews –as noted– fell into these boundaries, and the further research and collection of data points through desk-based research inherently offered no such issues.

Although the data obtained from semi-structured interviews was not at the level initially hoped for (quantity-wise, with regard to respondents), it did not necessarily change the scope or parameters of the project as the humanitarian UAV's discourse is understood to be articulated across multiple and dispersed nodal points that interact with one another, in turn, informing the thematic elements of the project. Indeed, the research project's de-privileging of data –which is seen as distinct articulations across the humanitarian UAV's discursive field– necessitated a broadness in its data points in order for the thesis to establish thorough, yet critical and nuanced, forms of understanding and analysis.

The considerations employed regarding the selected locations to conduct fieldwork not only had their justifications in the theoretical scope of the research project, but also came from a place of financial and temporal expediency. The research project had both a financial budget and time-scale within which it was to be completed. In looking for regions to conduct fieldwork it was necessary to give consideration to the financial and temporal budgets associated with each locale, nevertheless, the financial and time-based aspects were not seen as major contributors to the locations selected; locations were chosen for their benefit to the practical and theoretical elements of the research project. Moreover, having a schedule and financial limit facilitated a research project design that was stringent, yet expedient in conducting fieldwork that would partially inform the wider analyses taking place across this project. This is to say that the constraints allowed for the design of this element within the project's research to be focused on the utility of *where* it was going and *why*. Had the research budget and time limit to gather data through fieldwork been longer, one may suggest that the research areas and aims may have become too fragmented (both temporally and conceptually) to produce manageable and consistent 'threads' running across the research project. A stringent focus on gathering 'more' of one specific form of data would have narrowed the focus and reach of this thesis considerably, as the humanitarian UAV is constituted through a wider nexus of data points that inform its discourse. In situating the research through the aforementioned methodological application of 'discourse' that de-privileges all data points due to them being understood as nodal points across a relational discursive field, this research project was able to incorporate and analyse data from a

broader range of perspectives, thus facilitating a richer understanding of the humanitarian UAV's discursive constitution.

Although a number of the environments from which the research project took its data points from are spatially distant, the analysis derived from them highlights a number of considerations that demonstrate the importance of their de-privileging. Primarily, it allows for a number of separate, yet linked/overlapping, understandings to be fashioned due to the inclusiveness of the discursive framework located within the project's methodological design. The regions, individuals and organisations with which this project engages with are all somewhat distinct, yet, as shown, facilitate a wide nexus of data points with which the project is able to translate into a more specific discursive environment. Additionally, the scope of this research allows for separate, yet –again– related considerations of the humanitarian UAV's constitution to be brought to light, some of which demonstrate distinctions in their utilisation of specific justifications/rationalities, but are nevertheless aligned into certain formations of understanding across the research through its theoretical/methodological core. As UAVs are still an emerging humanitarian technology/technique it was not only necessary to incorporate articulations which highlight how the theoretical and practical processes/rationalities of the humanitarian UAV are (re)negotiated and (re)interpreted, but it was also vital that these articulations –whilst still being located within the attendant discourse– were of a broad enough range to allow a more thorough investigation and analysis of these considerations (and their implications).

Summary

The constitution of the humanitarian UAV is articulated and perceived in a variety of ways across its discursive landscape. Simply viewing the emergence of this technology through a narrowed lens would consequently tell us little of the multi-layered, variegated constitution of the humanitarian/assistive UAV and the values, rationalities and processes that are assigned to it by those influencing its discourse. As a discourse –as it is understood in the context of this project– is never truly stationary or imbued by a permanently fixed set of agents, nor are there necessarily essential elements that *have* to constitute a discourse in a certain way, the articulations, contestations, contingencies and signifiers that make up the make-up of the discursive field of the humanitarian UAV must be seen as arriving from a wide nexus of actors. Consequently, as this thesis de-privileges its varied forms of data –seeing them instead as nodal points within the wider discourse of the humanitarian UAV– it allows for a deeper, richer understanding and analysis of the considerations that feed into its discursive structure. As such, the following chapters examine and analyse three intertwining and overlapping considerations that constitute the discursive tapestry of the emergent

humanitarian UAV. Firstly, however, this project engages with the varied articulations and agents that attempt to, through their own rationalities, constitute the humanitarian UAV as an ethical (and thus legitimised) technology/technique.

Discursive Constructions of the 'Ethical' Humanitarian UAV

This chapter engages with the constitution of the humanitarian UAV through its increasingly signified 'ethical' understanding, alongside the contestations that surround this element in the discourse through attempts to legitimise the technology (and its varied techniques) as 'ethical', albeit by way of differing processes, rationalities and motivations. This chapter firstly sets out a number of the predominant, though various, understandings of 'ethical' best practice within the humanitarian system, acknowledging that while humanitarianism is underpinned by a series of typical values, principles and perspectives, these are conceptually contested and make it problematic to locate an fixed ethical centre across humanitarian discourses; the 'ethical' is consequently understood, alongside the notion of 'best practice', as a floating signifier in the discourse that highlights the non-essentialist composition of technology, and, consequently, the variegated meaning that constitutes and underpins an 'ethical' understanding/formation of the humanitarian UAV. From this, the chapter moves on to examine the 'humanitarian UAV code of conduct', a series of documents (stemming from a series of meetings, interactions, field-research and so forth), that articulate how the UAV may be able to renegotiate a number of humanitarianism's problematic dominant practices, whilst still referencing its foundational values and principles, yet is nevertheless unable to secure a closure within the ethical considerations of the discourse. To this, the chapter also engages with distinct, antagonistic articulations from non-humanitarian, corporate bodies that attempt to flood the 'ethical' signifier and fashion –by virtue of their established power– an ethical understanding of the humanitarian UAV in order to legitimise it in accordance with their logics and market-based rationales. Across and within these perspectives can be seen antagonistic points that demonstrate the impossibility of a discursive closure for understandings of the 'ethical' and 'best practice', yet these articulations also point to moments of similarity through some of their shared logics, for example, the promotion of forms of 'professionalisation', marketisation and efficiency within humanitarian practice – signifiers that do not necessarily, or exclusively, constitute an understanding of the ethical, and may well have implications for the discursive constitution of the humanitarian UAV that move beyond 'ethics'.

Introduction

The relationship between the humanitarian and the ethical is one that is intrinsically linked. Humanitarian actors, as noted by Jean Pictet in the proclamation of *The Fundamental Principles of the Red Cross* (1979), are to be born out of a fundamental appreciation for humanity; the "desire to bring assistance without discrimination, [and in an] international and national capacity, to prevent and alleviate human suffering wherever it may be found". The

purpose of humanitarian action is consequently to "protect life and health", above all ensuring the fundamental respect for the human (ibid.). In doing so, Pictet stresses the importance of impartiality, neutrality, and independence within humanitarian action. These ethical ideals are encapsulated in the notion that all of these values are to be seen as universal in their understanding and application (ibid.). This decree by Pictet, building upon discursive boundaries from the enlightenment movement to Dunantist humanitarianism (Pringle and Hunt, 2015: 2), is one that has continued to position the essence of normative ethical custom within contemporary humanitarian action, as shown by the overview of humanitarian organisations' signatures to *The International Federation of Red Cross and Red Crescent Societies'* code of conduct (IFRC, 2018), and the implementation of it through the *United Nations Office for the Coordination of Humanitarian Affairs* (OCHA, 2012[b]).

In addition to the developmental understandings that help compose the domain of humanitarian action, ethics –in a humanitarian sense– focuses on how we should also appropriately judge or estimate the value of humanitarian acts and the logics that underwrite them; it is a terrain that is both broad and contested. Barnett and Weiss (2008: 43-46) note four ethical positions that traditionally dominate the discursive humanitarian landscape. Firstly is the application of deontological (or duty-based) ethics. Herein, it is supposed that, derived from Kantian claims of duty and 'humanity', some actions are good in and of themselves, irrespective of their consequences, and that it is the ethical duty of humanitarian actors to recognise and perform these duties to prevent and alleviate immediate human suffering. Within this framework of ethics, humanitarian actors are thus to distinguish that, with regards to the humanity of others, humanity is an end in and of itself; and as a consequence of this perspective "ethical action is, in short, defined by the act" itself (ibid.: 43). Secondly noted is the role that consequentialist ethics plays in humanitarianism. Consequentialist ethics focus on the 'rightness' of an act by determining whether or not the outcome it brings about is greater than its alternatives, and can naturally be employed by those who favour humanitarian action within a developmental, interventionist, or more generalised 'long-term' course of operation; the consequentialist thus asserts that "certain acts are only morally permissible if they produce the most possible amount of good that the situation allows" (Heinze, 2006: 171). However, this has been critiqued through the observed difference between promoting the virtuous and honouring it: if the overall goal is the future welfare of a group then, taken to a utilitarian extreme, it would be permissible, in lieu of any other alternative, to violate one person's well-being to promote that of a larger number. In doing so you fail to honour the well-being of the few, though you are still promoting it overall since you have created the maximal amount of welfare and humanity for the majority (ibid.). Furthermore, at the same time, this perspective is challenged through the notion that not all

outcomes are foreseeable or set in stone; premises for development may have flaws, perspectives on what constitutes long-term 'good' vary –alongside the implicit acceptance of potentially having to violate the humanitarian ethos of 'doing no harm'– and scenarios may branch-out in ways hitherto unexpected, nor can one emulate a reversal of our actions to accurately project an ontological comparison of welfare and humanity had the actions taken been different. As such, qualitative effects of humanitarian action and aid are difficult to estimate and measure, and, as Slim (2015: 128) suggests, although the aforementioned notions of 'duty' and 'consequence' play a significant part in ethical humanitarian understandings and approaches, "neither system seems to speak completely to life as it is felt and lived".

From this Barnett and Weiss (2008: 45) identify a third ethical tradition established throughout humanitarian dialogue and practice, that of 'virtue ethics'. Virtue ethics, separate from deontological and consequentialist understandings, are concerned with "the character and quality of the individual and his or her inner states and reasons for actions" (ibid.), and a promoted painting of "a realistic picture of morally difficult situations [within which] ethical standards can be used as pedagogical tools for developing virtues" of humanitarian actors (Löfquist, 2017: 42). Central to the tenants of virtue ethics within a humanitarian context is this understanding that organisations and actors are to critically discuss their perceptions of their work "and to communicate examples of modest virtues to staff in order to stimulate continual advancement towards moral excellence" (ibid.). It is accordingly not a prescriptive ethical standard, but focuses instead on a more didactic approach to how a "virtuous relief worker should respond to achieve excellence in their profession" through reasoned –good faith– discussion, debate and the specific, historical understanding of contexts (ibid.). In this sense it is an understanding that "the motivation behind an action is important because it is the motivation combined with the outcome" that leads to action that can be recognised as ethical (Fraser, et al., 2014: 25); for instance, one may attempt to uphold 'ethical' humanitarian values through acts that engage with "the virtues of kindness, compassion, altruism, solidarity and respect – and not because it is driven by profit or other strategic objectives" (ibid.). A brief fourth tradition is also alluded to by Barnett and Weiss (2008: 45), in which they state that ethics in a humanitarian context are situated and produced through "momentary interactions and by face-to-face encounters", and can only be understood through the lenses of historicised interactions and individual contact, as to involve those who may be affected by decisions of action –in the Levinasian sense– is to exposit and recognise the embeded *alterity* of humanitarian beneficiaries and consequent relationships towards the Other. As Critchley and Bernasconi observe (2002: 12), the face-to-face relationship here is not categorically defined by vision or perception, but rather one based in language and

practice. Through this understanding of the ethical one is not reflecting upon the other but is intrinsically engaged with them; one is not merely contemplating, one is conversing and formulating new social practice (ibid.). Through this lens one can see that the ethical is not an *a priori* "conception of ethics that then instantiates itself (or does not) in certain concrete experiences", rather the ethical is an adjective that describes, *a posteriori*, "a certain event of being in a relation to the other irreducible to comprehension". Much like attempts to ground humanitarian action in diffuse logics that promote agency, liberty and the 'humanity' of the recipient, it is thus "the relation which is ethical, not an ethics that is instantiated in relations" (ibid.).

Hence, understandings of what is 'ethical' within humanitarian action are accordingly contested conceptually, as the varied tensions and privileged logics across (ethical) positions and understandings "make it nearly impossible to provide fixed evaluations of whether a particular action is, in fact, ethical" (Barnett and Weiss, 2008: 46). Yet at the same time, antagonistic relationships are ones that are vital in understandings of how logics and objects of discourse are constituted. As Torfing notes (2005: 13): the result of a rejection of the "transcendental centre" is not "total chaos and flux, but […] determination of social meanings and identities within a relational system which is provisionally anchored in nodal points that are capable of partially fixing a series of floating signifiers". Accordingly, it is not the purpose of this chapter to give a value judgement on the totality of how 'ethical' the articulated humanitarian UAV is, in the sense that there might be a maximal ethical standard that than which nothing greater can be thought, but instead wishes to set out and bring to light the discursive evaluations, justifications, contours and contestations that make up its ethical constitution alongside further discursively contested and contingent terrains. The framing of the ethical in this sense can be seen as an arrangement of discursive articulations that attempt to locate and structure the UAV as such within certain contextual and disputed understandings, rather than a prescriptive theory of right and wrong. As such, locating these positions, and how this informs the constitution of the humanitarian UAV, is to be a main area of focus for this chapter.

To operate within the humanitarian system is to think and act in accordance to humane standards discursively prescribed by humanitarian institutions and individuals that are in turn shaped by their underpinned ethical foci. These standards also link both legal and non-legal norms. Concepts enshrined in international law such as 'humanitarian', 'impartiality' and 'neutrality' bridge a gap between ethical values and lawful humanitarian action (Mackintosh, 2000: 13), while additional standards such as those promulgated by –for instance– the Sphere Project, which thematically promote "transparency, sustainability [and] equity" (Ahn, et al., 2015), attempt to shape the ethos of humanitarian organisations and individuals alike

through 'soft law' codes of practice; ethical rudders to "steer a course through the murky waters of relief provision" (Mackintosh, 2000: 1). Whilst we can point to these standards as a generalised outlook of the 'ethical' humanitarian character, ethical considerations regarding humanitarian scope and action remain, at the same time, imprecise across the broad spectrum of institutions, with no unified delineation of understanding within the field. Noting the contestations between differing understandings of humanitarian perception and action, Barnett states, "we live in a world of humanitarianisms, not humanitarianism" (2011: 10), and indeed, as Slim succinctly observes (2015: 8), "when 'speaking humanitarian', people can mean different things when they say the same thing". These perspectives underscore the recurrently shifting boundaries surrounding the acceptability of humanitarian action that complicates its ethical dimension; differing factors such as actors, rationalities, methodology and context all serve to give conceptual and practical understandings an elasticity that further problematises underlying discursive assumptions and associations (ibid.) This notion of humanitarian contestation is further expanded upon by Calhoun who states that it is "the hope for an ethically pure way of responding to global problems and suffering" (2008: 90) that serves as a driver for modern humanitarianism, yet at the same time humanitarianism is inescapably drawn back into the realms of politics, development and markets (ibid.). This is not to say that this 'inescapable draw' is an inherently ethically problematic feature of the discursive field, however, it adds to humanitarianism's ethical complexity a layer of inquest in which the humanitarian system is seen to function as both a "moral community" –an integrated, albeit conceptually imprecise, collective– and in many instances a continuous (re)formation of an arrangement of powerful, contemporary governance (Donini, 2018: 417). As a collective, therefore, these considerations of the 'ethical' dimension of humanitarian action can constitute a dislocation in what is understood *as* ethical, and, as such, the meaning that constitutes and underpins the rationales of the 'ethical' humanitarian UAV.

Alongside the milieu of legal and 'soft law' standards of humanitarian ethics is the continuous notion of evolution within some of the humanitarian sphere, owing to the potential for continuous emergent socio-political complexity within crises, and the materialisation of new humanitarian operational modalities over time. Indeed, as the Harvard Humanitarian Initiative notes in the opening to its report on the 2010 Haiti earthquake, in which novel data gathering methods through technological advances were articulated as essential throughout the crisis, "each major humanitarian disaster rips open a gap between the past and present, between what once was and what is now" (Harvard Humanitarian Initiative, 2011: 8). Needless to say, changes in humanitarian paradigms –the "once was and what is now"– not only modify the actions of the humanitarian agent, but also further alter the relationship (and our understanding) of the ethical settlements within which they operate; it aids in de/re-

legitimising practice. As Sandvik, et al. note (2014: 221), "just as man-made or natural disasters present different types of challenges to humanitarian action in general, they may also present different types of challenges in the application of new technologies", consequently, the application of new technologies may additionally form new (ethical) challenges in how they are considered as appropriate and applied. Such challenges also include the refinement of the technology, not just practically, but crucially, in a (re-)formative, conceptual sense, through the articulations that are given primacy across the discourse. As such, to introduce burgeoning technology into a humanitarian setting may well be to alter the notional composition of the humanitarian (i.e., what the values/rationalities of 'the humanitarian' are) as well as that of the technology.

A host of technology that was once seen as innovative or disruptive is now viewed –or at least moving towards being seen– as standard and routine. Moving on from the first SMS message that was sent in the early 1990's, the use of and access to information within disaster scenarios is viewed by some organisations (IFRC, 2005: 7-9) as comparable in importance to that of food, shelter and medication. Through innovative and openly available channels such as the "crisis mapping" process (Meier, 2010), SMS and mobile technology – which was only recently cemented in humanitarian contexts through the creation of guidelines towards a working code of conduct (GSMA, 2013)– have shown themselves to not only be instrumental within the day-to-day lives of consumers, but also a dependable technique for those assisting within humanitarian scenarios. Additionally, as observed by Frost (2014), before they were naturalised throughout civilian sectors, humanitarian actors and organisations in the latter years of the 20th century identified their concerns with satellite phones and miscellaneous Global Positioning System (GPS) devices. Initially, many were worried they would be viewed as state-employed intelligence agents if they were seen with such instruments and that these anxieties may introduce intersecting ethical concerns to their work, yet GPS functionality now serves as a vital, yet banal, feature alongside many items that constitute the *de facto* paraphernalia of the contemporary humanitarian actor. This is not to say, however, that technology will ultimately progress into a position whereby it is simply accepted – in fact, advances that expand the scope and reach of technology across the humanitarian sphere are likely to accelerate, and have been articulated as necessitating an increasing need for ethical scrutiny (Hunt, et al., 2016). This work towards 'acceptance' and legitimacy through a model constituted as ethical is thus an iterative and contested terrain.

As Kranzberg observes (1986: 545), it is argued that technology is "neither good nor bad, nor is it neutral"; the impacts of technology often have further social, ethical and political reaches than their initial purpose, and, moreover, technology can have significant conceptual and practical differences when introduced under different contexts and circumstances (ibid.). This

too is reiterated through Feenberg's non-essentialist view, as stated by Doppelt (2001), within which technology is the embodiment of a social process of constitutive discursive and practical change whereby "empowered groups of experts choose to express certain sets of specific interests and standards in specific technologies, which in turn are re-experienced, challenged, and redefined by their users" (ibid.: 157). As Sandvik, et al. note (2014: 225): "society and technology engage in a mutually constitutive relationship". The humanitarian UAV is no different, and this notion is one alluded to by actors working with UAVs and robotics technologies within humanitarian contexts, who note the variegation in its reach and applicability (New America, 2015: 4-3). The 'humanitarian' use of UAVs, in this instance, can be best understood as that which does not have complete agency over itself or its potentialities. As it is instead contingent on the social groups and varying contexts within which its discursive development and understanding is shaped (Matthewman, 2011: 95), technology's re-contextualisation and re-constitution through its broadened processes of availability facilitates new discursive horizons of contextual ethical understandings. Entwined in the notions of non-essentialist technology and the consequent accessibility of it, one therefore must consider the broad ethical understandings and implications *qua* its discursive constitution. As the humanitarian UAV –and thus its assumed purpose and role– overlaps numerous organisations and actors, each with distinct rationalities and different handles on contextual understandings and applications of the ethical, alongside this project's understanding of 'discourse', we can suppose that these ethical properties of the humanitarian UAV are contingent; the humanitarian UAV is not built as 'ethical', it is utilised as such (or not) in relation to how it is articulated, legitimised and understood as 'ethical' by varying actors. Its constitution is one that is partially fixed through the discursive terrain –a syntactic galaxy– in which it is situated. This rejection of an essentialist paradigm –that technology, in this instance the humanitarian UAV, has innate qualities external to their contextual or meaning-imparted understanding– further justifies and requires the interrogation of the discursively characterised ethics of the humanitarian UAV.

This chapter so far has aimed to outline the contours of what it's consequent investigation will be based around: how the humanitarian UAV is discursively constituted (supposedly) as an ethical technology in an environment in which the 'ethical' –and the UAV itself– is continually contested and, additionally, discursively altered to in relation to differing logics and rationalities that wish to be legitimised within this space. In its simplest expression, the term 'ethics' stems from the Greek word *ethos*, meaning 'character' (Slim, 2015: 25). Far removed from the perception of UAVs being counter-terror and surveillance tools of the state, conceptualisations of the UAV are additionally becoming reconfigured into a discursive context of assistance, humanity and humanitarianism (Sandvik and Lohne, 2014).

Nevertheless, this conception of the 'ethical' can be understood as a term, which, as Gallie observes, is an "essentially contested concept" (1955: 168), insomuch that "there is no one clearly definable general use […] which can be set up as the correct or standard use". As such, this chapter seeks to identify the articulated and aspirational 'character' of the humanitarian UAV through its discursive ethical settlements, constitution, and its hegemonic antagonisms. The ethical constitution –albeit contested and non-fixed– of the humanitarian UAV is most clearly revealed by the way humanitarian actors discursively mould the functions and goals of the UAV in contrast to its antagonisms. To repurpose the notion of Feenberg (1999: 79) –whereby he states, "what singles out an artifact is its relationship to the social environment, not some intrinsic property"– there is not a non-contested 'ethic' of the humanitarian sphere and consequently the humanitarian UAV; indeed, such contestations become further entangled from the incorporation of varying (non-traditional) logics within the humanitarian system. To identify *how* the technology is constituted as such it is necessary to identify how its predominant, surrounding discourse signifies its character. Consequently, this chapter focuses on the lacuna of analysis regarding the ethical constitution of the humanitarian UAV from those both within the international humanitarian system and beyond its traditional boundaries; it seeks to recognise what ethical 'character', through discursive practices, varied agents give the UAV in order to constitute it (and legitimise its attendant logics) as such; and, furthermore, how divergent articulations that arise and attempt to also constitute this discourse in distinct ways prevent it from achieving a fixed form of closure.

Attempts at Situating the Ethical UAV

Much like broader humanitarian action, norms, practices and documents are continually utilised in influencing action and (re)producing understandings of the ethical. In the context of the humanitarian UAV, this chapter, broadly speaking, wishes to trace, locate and analyse the discursive ethical constitution of the aforementioned technology, across both 'new' humanitarians that seek to engage with a more 'critical' understanding of humanitarian action, and those with varying logics that seek to repurpose such notions for other, nebulous causes.

Within the global legal realm of the UAV –as is the case with any other sphere of action or governance– multitudes of regulations, stipulations and legal norms surround the civilian and organisational use of the technology (GDRD, 2018). Aside from these considerations, though UAV use in humanitarian scenarios is still a formative process, there are a clear number of global agents and organisations that help constitute and attempt to consolidate understandings of the ethical, with regards to the conceptual and applied nature of the humanitarian UAV. Most notably within this arena are the standards promoted by

internationally recognised individuals and organisations surrounding the sphere of humanitarian UAV (and also broadly, robotics) technology, led, in part, by individuals such as Patrick Meier. Meier, whose self-identified mission is the "pioneering of next-generation humanitarian technology" (Meier, 2018), works as the Executive Director and co-founder of WeRobotics, an organisation that has (and continues to cultivate) 'Flying Labs' branches in developing countries across the world, which specialise in increasing "the positive impact of humanitarian aid, development and environmental projects through the use and localisation of appropriate robotics solutions" (ibid.). Furthermore, WeRobotics' Flying Labs work in conjunction with local partners who "gain direct access to the professional skills and robotics technologies they need to scale their impact, [whilst] in the process, WeRobotics works with these partners to incubate local businesses that offer robotics as service" (ibid.). The Flying Labs Meier has helped develop utilise marine, terrestrial and aerial robotics, but are perhaps most broadly displayed and known for their work with UAVs in an assistive or humanitarian capacity (WeRobotics, 2018).

In 2013, Meier was requested by the UN to join their information team to help support response efforts following the category 5 typhoon, Haiyan, in the Philippines. Throughout the response was an unprecedented level of commercial and civilian UAVs being utilised to support efforts, however, a large proportion of response teams were not sharing imagery captured by UAVs with the local government of communities. Additionally, "most teams were not coordinating their efforts with each other or with relevant humanitarian organisations" (UAV Code, 2018) and many were not aware of how to distribute images they had gathered to the United Nations and other international humanitarian organisations on the ground (UAViators, 2015). In looking to coordinate and help inform operations Meier sought out a code of conduct, yet finding that no document existed and being concerned that this type of disaster response "wasn't just going to be a one-off" (Ong, 2018), he launched the Humanitarian UAV Network, also known as 'UAViators' –a community-based online resource hub which aims to "document lessons learned and disseminate best practices" regarding humanitarian UAV operations (UAViators, 2018)– and penned a one-page code of conduct (UAV Code, 2018). In 2014 UAViators drafted a broader and more inclusive second edition of the humanitarian UAV code of conduct, which was distributed as an open and publicly editable (contingent on moderator acceptance of changes/additions) electronic document. From this, the code of conduct was revised a dozen times in 2014, and was reviewed again for the final time that year during a key stakeholders meeting held at the United Nations Secretariat in partnership with OCHA, entitled the 'Experts Meeting on Humanitarian UAVs' (Meier, 2014). Within this meeting were a number of individuals from organisations such as WFP, UNDAC, UNICEF, OCHA, UNHCR, IOM, American Red Cross, and the European

Commission, in addition to several other groups that were also starting to use UAVs in a civilian capacity, or had a strong interest in leveraging this technology, such as leading UAV manufacturer DJI (ibid.). Furthermore, this meeting was articulated (Humanitarian UAV Network, 2014: 3) as an avenue to build upon the recent 'Occasional Policy Paper' focusing on UAVs and humanitarian response that had been published by OCHA, and "made possible with advice and support" from Meier, alongside several other distinguished individuals – notable for their previous work in humanitarian/UAV fields, or a combination of the two– that were in attendance at the meeting (OCHA, 2014).

To this end, we can posit that even in its most formative stages the humanitarian UAV was being ethically constituted through the discourses of individuals and international organisations already highly versed and influential within the realm of humanitarian action, in both a real-world and theoretical sense. This too was reflected through the *Principles for Ethical Humanitarian Innovation* (University of Oxford Refugee Studies Centre, 2015), the first "authoritative" set of principles specifically relating to ethical humanitarian innovation –as opposed to innovation management (ibid.)– that was published in participation with many of the same actors and organisations that contributed towards both the OCHA 'Occasional Policy Paper' and the humanitarian UAV Code of Conduct which derived from the 'Experts Meeting'. Across these discussions, proposal papers and codes of conduct, a number of similarities regarding the key ethical contours suggested for the humanitarian UAV converged and intertwined: the general humanitarian standard of 'do no harm', including the notion that humanitarian UAVs must be consistently structured alongside the core humanitarian principles, and the perception of 'best practice'; notions of community engagement; informed consent and the concern for vulnerable populations and communities regarding power imbalances characteristic of provider/recipient relationships (ibid.); 'risk mitigation' and 'minimisation'; and the problematic consequences associated with data misuse and improper (humanitarian and UAV) training. Through these proposals was also the clear assumption that a further structured and identifiable standardisation of conduct was required, with the 'Experts Meeting' summary arguing the position that there exists a "broad consensus that the humanitarian UAV space needs a solid policy or code of conduct soon or else other less qualified individuals will be creating it" (Humanitarian UAV Network, 2014: 15). From this it can be identified that the organisations and individuals creating the ethical nexus for the humanitarian UAV saw themselves not only as the moral arbiters on the uses of this technology, but also, owing to their authority, that their contribution was viewed by themselves as somewhat of an obligation to the field. As such, the aim of these (and future) meetings was to contribute towards and establish "a political and moral-intellectual leadership through the articulation of meaning and identity", in which a number of decentred,

strategic, articulatory practices undertaken by political actors attempted to forge a modification of the UAVs identity and thus expand a surrounding discourse that re-negotiated and fixed an understanding of the (humanitarian) UAV (Torfing, 2005: 15).

In July of 2015, following the active solicitation of feedback from humanitarian organisations, UAViators, with sponsorship from the Rockefeller Foundation, hosted an 'international policy forum' to additionally review and amend the UAV Code of Conduct, and to further "draft guidelines for the safe, coordinated and effective use of UAVs in humanitarian settings" (Meier, 2015). Over the course of three days, 22 experts from global organisations (listed as OCHA, UNHCR, DPKO, WFP, ICRC, American Red Cross, European Commission's Humanitarian Aid Organization ECHO, Medair, Humanitarian OpenStreetMap, ICT for Peace Foundation, DJI, BuildPeace – in addition to research groups, academic institutes and unspecified independent experts), gathered to draft guidelines for policy areas noted as absent or insufficient in the previous year's Expert Meeting (ibid.). The key guidelines that were identified as a priority were thus listed as the 'code of conduct'; 'data ethics'; 'community engagement'; 'principled partnerships'; and 'conflict sensitivity'. After three days of discussion and deliberation an initial set of drafted guidelines within each of the key areas had been produced (ibid.). In August of 2015 the revised UAV code of conduct and guidelines were distributed and reviewed internally by a number of humanitarian organisations present at the previous policy forum. This iterative process, that also included a number of web-based meetings and discussions (ICRC, 2015), culminated with the '2015 UAV Experts Meeting' on humanitarian UAVs, organised alongside the UN/OCHA, the World Humanitarian Summit, and MIT. As with previous meetings, participants included a large group of globally recognised humanitarian institutions, research and academic bodies, and individual experts. Within the meeting another round of revisions to the guidelines were taken up, focusing carefully on the "nuances of language around safety, privacy and data security, priorities for data collection and data sharing, and detailed guidelines for community engagement", whilst also seeking to comply "with government regulations and promotion of awareness among humanitarians about civil aviation standards" (Schroeder, 2015). Within the memorandum of the meeting it was also made clear that these guidelines were not only to inform the ethics of humanitarian UAV action, but were also to be "presented to donors", including USAID and the UK Department for International Development (UAViators, 2015[b]). As noted by Schroeder, within this meeting was the perception that a serious convergence was taking place: the rapid innovation of humanitarian UAV technology, structured alongside a "careful community discourse, deep ethical concern and a real sense of shared purpose" (Schroeder, 2015). In February of 2016, a review of the code of conduct and guidelines took place involving an executive committee of 5 individuals

from separate organisations in order to review and incorporate feedback from a broader spectrum of individuals. From this it was noted that the "donor community" had additionally expressed their support of this iteration of the code of conduct and guidelines, though, regarding the latest version, it is not specified who and what organisations constitute the 'executive committee' and the 'donor community' (UAV Code, 2018).

In 2017 no further meetings or iterations of the code of conduct and guidelines were noted as taking place, yet in 2018, one further 'experts meeting' took place, involving participants from humanitarian organisations such as the ICRC; academia (Harvard and MIT); local government; and technology companies (Luterbacher, 2018). The purpose of this meeting was again to focus on the UAV code of conduct, and to develop and expand its guidelines on cargo delivery by humanitarian UAVs (ibid.), based upon recent field research by influential humanitarian and UAV organisations (WeRobotics, 2018[b]; and WeRobotics, 2018[c]). Attendant to this, it was additionally stated that throughout 2018 the main focus was to "add new signatories […] and to continue promoting these best practices and international standards (UAV Code, 2018). As humanitarian UAV actors look to further establish protocols they are also admittedly aiming to integrate the UAV Code of Conduct within country-level regulation, though this was perceived as no easy task owing to "uncertain or unstable" (Ong, 2018) laws around UAVs in many –especially insecure or developing– states. Nevertheless, the "ultimate end-game", according to experts working on the UAV code of conduct, is for "drones [to] become an unremarkable part of our technology, that are about as normal as cars or airplanes" (swissnex Boston, 2018: 1:15-1:25s). The creation of the UAV code of conduct, further proposals, enterprises and dialogues from global humanitarian actors and organisations can be seen as the establishing of a hegemonic venture based around the UAV that attempts to "construct and stabilise systems of meaning or 'hegemonic formations' […] organised around the articulation of nodal points" (Howarth, 2004: 259). From these articulations it can be supposed that for the time being the humanitarian UAV code of conduct and guidelines –as created and contributed to by leading humanitarian and UAV organisations and individuals– are moderately internally stable, yet, alluding to the iterative process that precedes it, one can assume that this process will also inform its future as the technology and its applications, alongside external antagonisms, develop.

The UAV Code of Conduct, Guidelines, and 'Best Practices': 2017—

The code of conduct and guidelines created and endorsed (FSD, 2017: 56) by humanitarian and development professionals, UAV specialists, and other noted key stakeholders, are ones based upon the foundational humanitarian principles of Humanity, Neutrality, Impartiality, and Independence (UAV Code, 2018[b]), noted as the 'core' principles of humanitarian action (OCHA, 2012[b]). The code of conduct and guidelines are further constructed upon the notion

that humanitarian UAVs can only reach their assistive potential if they are based upon a framework that engages them "in a responsible and ethical manner" (UAViators, 2017). Accordingly, in framing the document's necessity within positions of responsibility and 'ethical' practice, the articulations that inform it seek to situate the humanitarian UAV Code of Conduct, and the consequent constitution of the humanitarian UAV, as such. Additionally, much like Fowler points out regarding the ethical composition of the ICRC's widely acknowledged and adopted humanitarian code, it can also be noted that, owing to their outlined conceptual similarities in 'core' principles, the posited standards for the humanitarian UAV further "represents an effort to establish an ethical framework that will advance effective humanitarian action by agencies" (1997: 35); the UAV Code of Conduct and guidelines are, in essence, "an initiative to establish a consistent ethical ethos within the sector" through the articulation of what constitutes 'best practice' (ibid.). This sentiment is one echoed by WeRobotics, noting that the code of conduct, as a facilitator for humanitarian action and social good, is about "more than just flying", it packages ideas of coordination, safety, and efficiency as notions of 'Best Practice', jointly alongside and submerged by considerations of the ethical (Pudasaini, 2018). As such, it is imperative to firstly relay the established code of conduct and the adjoining guidelines, which feed into broader points within the code of conduct, whilst also analysing the discursive articulations that constitute and attempt to (partially) fix understandings of the ethical humanitarian UAV, and its discursive antagonisms which endeavour to transform its signifiers into different logics of action.

The 'Humanitarian UAV Code of Conduct'

From the long process of deliberation, discussion and iteration, the UAV Code of Conduct contains 15 elaborated points in total, all of which focus on considerations of the UAV from perspectives of core ethical humanitarian principles, transparency and engagement, safety, legality, effectiveness, data ethics and accountability. As such the humanitarian UAV in this instance is ideally constituted as 'ethical' through notions that can be generally categorised into understandings of 'best practice', constructed through 'social good', 'openness and transparency', and 'risk management/mitigation and responsibility', and cloaked in the joint application of the 'do no harm' imperative and the core ethical principles of humanitarian action.

Firstly noted within the UAV code of conduct is the 'prioritisation of safety above all other concerns', insomuch that benefits gained from conducting UAV operations should firstly be humanitarian in nature, and the risks associated with achieving these benefits should unmistakably "outweigh risks to persons or properties" (UAViators, 2017). Following on from this, and second on the list, is the necessity to "identify the most appropriate solution" (ibid.). Herein, much like the first point, UAVs are only to be operated and subsequent action

is only to be taken when "more effective means are not available and when humanitarian purposes are clear" (ibid.); yet the reliance on a term such as 'effectiveness', which is not uncontested, can be seen as problematic. Within this perspective it may well be understood that the notion is predicated on the requirement for a contextual understanding of the operational and geographical terrain, and, if not possessed, should be gained through other humanitarian actors and experts with a direct knowledge of the aforementioned context (ibid.). Though again, the language of effectiveness is not easily quantifiable or replicable in its distinction, even with contextual insight, and is subject to the merits of those distinguishing it as such. Thirdly within the UAV code of conduct is a direct reference to the core ethical humanitarian principles of humanity, neutrality, impartiality and independence: UAV operations are to be based on "needs and vulnerabilities", with special attention paid to ensuring that "actions are not, and [are] not perceived as being, politically or economically influenced", and that operations and operatives "do not discriminate or make distinctions on the basis of nationality, race, gender, religious belief, class or political opinions" (ibid.).

Attendant to these notions is the fourth point, which is again the recognition and adoption of the core humanitarian ethical principle: that of 'do no harm'. Within this principle is the defined, albeit conceptually terse, understanding that the potential for unintended consequences that UAV operations may have on affected communities (and humanitarian action in general) should be assessed and mitigated, lest 'harm' is caused –unbeknownst to operators– on a singular or continuous level. The notion of 'do no harm' is nevertheless a well-examined principle within conflict and further humanitarian dynamics (Anderson, 2004; and Geale, 2012), yet the inclusion of this principle is striking in light of the idea that the use of developing or 'untested'/'experimental' technologies within humanitarian operations may well be problematic in and of itself insomuch that they may well lead to unknown or adverse harms (Sandvik, et al., 2017). Nevertheless, this principle, at it stands, invites operators to consider their actions and to actively assess and mitigate any potential harms in relation to fundamental humanitarian principles; it is thus not a stipulation to achieve 'perfection', *per se*, but to be consistent in their ambitions towards it. The fifth imperative within the code of conduct moves away from overt ethical interests and relocates to within a more legislative framework. Herein the code of conduct instructs that UAV operators conduct their work in accordance to relevant permissions that are "in compliance with relevant international and domestic law" including any applicable regulatory outlines such as "customs, aviation, liability and insurance, telecoms, [and] data protection" frameworks, including any other frameworks not mentioned (UAViators, 2017). As such, the humanitarian UAV is structured as a tool that may well invite ethical tensions upon itself, as was the case in Nepal following the 2015 earthquake whereby UAV operations were limited following complaints from locals

surrounding haphazard use (Hern, 2015). Yet, in this instance, the UAV is also framed by those constituting it as an instrument that can be stabilised and formulated to work within existing frameworks in order to avoid such a discord.

The sixth imperative marks somewhat of a departure in house style for the code of conduct insomuch that a full elucidation of its meaning is contained within a separate 'guideline' document, (as is the case with three other points contained further within the code of conduct). Nevertheless, the broad emphasis and description is one focused on the engagement and development of trust with and within communities, through the continuous providing of information to them related to the "intent and use of UAVs" (UAViators, 2017). As stated by the WeRobotics' Flying Labs Coordinator in Nepal, only 20-30% of humanitarian missions stems from knowledge of how to operate the technology; "the main thing" he notes, is that "you need to know how to work with the community, [and] you also need to know what kind of local laws exist in the particular place" in order to garner trust (Researcher's Interview, no.1, 2016: 2). In accordance to the code of conduct this notion of continuous engagement is necessary in order to encourage active partnerships within communities where UAV operations are taking place, build "local capacities and leadership", and to overall 'enhance the impact of the mission' taking place (ibid.). This premise has furthermore been demonstrated by partners to this code of conduct through the fostering and development of local UAV operational hubs, and UAVs as a means of market-oriented development (Richiez, 2017). The discourse adopted here may well be seen as another exercise in "the language of business [becoming] the language of aid" (Little, 2016), yet as Meier –one of the lead architects of this framework– states (2018[b]), his perspective is less to do with 'business' and more to do with ethics. Nevertheless, the language and logics of business are still key components within such articulations. He contends that his observing of foreign operatives with technology while locals stand watching as passive observers is tiresome, and it should, in his mind, be the other way around, as the "fourth industrial revolution", the 'rise of robotics and reshaping of the global labour market' is a way to "localise opportunity" and right the wrongs of past 'revolutionary' turns in history (ibid.). The discursive structuring of the humanitarian UAV is here seen as not only a technology that is disruptive, but also one that –articulated through the prism of ethical 'best practice'– acknowledges a desire for humanitarian beneficiaries to be incorporated into marketised formations of labour.

Following on from the earlier notion concerning the standard of 'do no harm', the seventh principle refers to the need for UAV use to be responsible through the adoption of contingency plans always in place for unintended consequences. From this it is the duty and responsibility of UAV operators and teams to ensure that "any issues involving harm to people and property, including liability" (UAViators, 2017), are resolved. From this point, the

code of conduct moves onto its eighth principle, which stipulates the notion of coordination between UAV operatives and "relevant local and international actors and authorities" (ibid). The concept of coordination here is positioned as a notion of 'embedding', opposite to that of 'interference', and, as a consequence, operatives are tasked with ensuring any UAV use strictly constitutes the complimenting of "formal humanitarian coordination mechanisms or operations" (ibid.). Dependent on context, these procedures may be seen to focus on both large-scale coordination efforts, such as multi-stakeholder operations (FSD, 2016[b]), private-body operations, or smaller missions in which operatives may only need approval from governmental sources and/or minor supervision from local authorities (Researcher's Interview, no.1, 2016: 6). The ethical consideration here is that through coordinating and embedding the UAV within structures that enable it and beneficiaries to be formalised within humanitarian or market practices (or a combination), 'best practice' and trust can be built around the UAV in its current perception and future use. Furthermore, the practice of coordination allows for, as stated by the Nepal Flying Lab's Coordinator (ibid.: 10), a wider level of institutional integration of the UAV code of conduct via different organisational stakeholders and governmental agencies.

The ninth requirement revolves around an ethical duty to be considerate and aware of environmental implications of UAV use. This point is one wrapped in the language of conservationist ethics insomuch that use of the UAV should not be positioned as to cause any "undue risk to the natural environment and wildlife" (UAViators, 2017). Again, it is stated that UAV operators have a duty of care towards the environment within which they work, and "must take responsibility for any negative environmental impact their mission causes" (ibid.). Furthermore, through a broadened lens of humanitarian development and further 'social good', UAVs are additionally positioned by originators (and partners to originators) of the UAV code of conduct as assistive in expressly conservationist and environmental contexts within developing nations (Whittaker, 2018; and WeRobotics, 2018[d]). Moving to a more context-specific code, the tenth ethical position designed for the humanitarian UAV revolves around appreciation, understanding and the potential for severe unintended consequences arising from UAV use and intervention within conflict zones. This specification is not meant to encompass the practice of state mandated intervention, but as with other points given is seen as applicable to individuals and organisations utilising mini/micro-UAV models. Nevertheless, many of the same ethical considerations that accompany broader practices of monitoring, visual analysis and cargo transportation can be seen as pertinent – especially so if those involved have solely decided that operations conform to *their* organisation's 'ungrounded' understanding of 'ethical' practice. Herein it is briefly noted that extreme caution must be employed when UAVs are deployed in these environments, as "all

interventions in conflict zones become part of conflict dynamics" (UAViators, 2017), from which ethical standards can become –within contexts of conflict– both magnified and potentially unstable in their upholding. This provision is another that is further embellished in the separate guideline documentation.

Also further elaborated within the separate guideline documentation is the eleventh code, which references the ethical collection, use, management and storing of UAV-received data. The 'ethical' nature of this point, it is said, is comprised through collecting, storing, sharing and discarding of data using a "needs-based approach, applying informed consent where possible and employing mitigation measures where it is not" (ibid.). With reference to UAVs, however, the notion of consent is a problematic one, with some suggesting that such a premise is unrealistic: UAVs are employed, in many cases, where there is limited or no access to communities; in circumstances whereby access would not pose a problem, one issue still at centre-stage is that it is "almost impossible to obtain consent" from all individuals potentially affected by the data collection and subsequent processing that initially stems from the UAV (Kuner and Marelli, 2017: 89). However, establishing that the collection and processing of data is necessary in order to protect the "life, integrity, health, dignity, or security" of an individual or community, or retrieving the "consent of the community or consent of authorities" (ibid.) may well demonstrate the aforementioned 'needs-based approaches' and 'mitigating measures'. Yet, whilst the structuring of this point may have the appearance of ethical stability, the nevertheless revealing form it takes is that non-consensual data gathering may facilitate humanitarian agents to collect data, seen as beneficial, without further assessing the human costs. In some instances, marginalised individuals and communities may become further marginalised or placed into other dynamics of harm or insecurity simply because they are viewed as 'ethical' data points in a broader humanitarian context (notions which this project will return to in due course). Furthermore, to constitute the humanitarian UAV and its data collection as ethical, it is stated in the UAV code of conduct that information gathered, and the potential for it to put communities or individuals at risk if lost or shared, must go through a process of assessment and mitigation of that risk – for instance the limitation or ceasing of data collection or sharing (UAViators, 2017). Regardless of whether or not information gathered directly identifies individuals, the use of UAV technology may still have "substantial" impacts that contradict fundamental humanitarian principles, and further jeopardise the "life, liberty and dignity of individuals and communities" (Kuner and Marelli, 2017: 88). For instance, as Greenwood rightly observes, what would happen if humanitarian actors were to upload –to the internet– aerial data gathered from a UAV, which someone is able to combine "with pre-existing census data, and is able to figure out where a vulnerable group of people is?" (Luterbacher, 2018). As such,

the articulations stemming from the humanitarian UAV code of conduct and further guideline, highlight the potential problematics in practices of data collection with regard to its appropriate sharing with humanitarian participants and partners –and the varying rationalities and motivations– but also the broader conceptual principles surrounding the notion of 'do no harm'.

Similar to previous points on coordination and engagement, the twelfth condition of the humanitarian UAV is the development of "effective partnerships in preparation for and in response to crises" (UAViators, 2017). Herein, there is a given preference that one should work with groups that offer complimentary understandings of, for example, "humanitarian action, UAV operations, local context, data analysis, [and] communications" (ibid.), in order to more creditably operate in tandem with the aforementioned codes. Additionally, this code is the fourth and final point that is elaborated upon in the external guidelines. The ethical rationale towards effective partnerships in humanitarian UAV practices can be seen in part through disaster-recovery operations following the 2015 Nepal earthquake, in which UAVs were employed to map large regions under cloud cover in order to "quickly assess disaster damage and the resulting needs" (Meier, 2016: 0:08-1:13s). In partnership with Kathmandu University, humanitarian UAV organisations mapped large areas affected by the earthquake and its aftershocks, and printed a high-resolution image of what was recorded. Moreover, communities were invited to "annotate the map directly with their own local knowledge" producing many hours of conversations surrounding the best ways to assist in the disaster recovery from "priorities" to "strategies" (ibid.: 3:33-3:55s). Combined with partnerships that (in this instance, for example) seek to facilitate local endeavours of humanitarian data collection and management, humanitarian UAV advocates view its use as a facilitator towards another understanding of the 'democratisation' of technology. As Meier states (ibid.: 4:09-4:20s), during this operation the affected community was, for the first time, able to engage with the same dataset as the humanitarian operatives in order to "inform their recovery efforts". Herein, there is somewhat of a focus in the UAV code of conduct on the potential for interplay between not just humanitarian agents and organisations that are utilising UAVs for the benefit of local populations, but also humanitarian actors and local populations with access to, or a willingness to partake in the utilisation of, this technology. Indeed, the main ethical consideration located within this perspective on UAV use is that the inclusion of local partnerships helps to transfer "knowledge, skills and technology" (Meier, 2015[b]) in order to facilitate local capacities that are less reliant on external aid and recovery operations.

Following on from the idea of developing partnerships, the final three points within the UAV code of conduct all explicitly address notions of didactic best practice within partnerships,

collaborations and those associated with humanitarian UAV operations. The thirteenth point alludes to the requirement of transparency, insomuch that flight activities should be shared publically and as widely as possible, within reason. The reason for this, it is said, is so operators can "convey lessons or issues to communities, relevant authorities and coordinating bodies" (UAViators, 2017), ideally as immediately as one can. Related to this, the fourteenth point takes the position of stating that one should ensure that UAV operations contribute towards knowledge and "inform the betterment of UAV use for humanitarian action" (ibid.), through the production and sharing of evaluative reviews post-operations. Finally, the UAV code of conduct summarises its collaborative position, recognising in its fifteenth point that the worthy humanitarian UAV will be involved in operations that are "open and collaborative" (ibid.), and that this collaboration is a process that involves numerous stakeholders. As such, for improvements and lessons that can be taught regarding UAV 'best practice' within humanitarian scenarios, it remains imperative that these –alongside "any related workshops, trainings and simulations" (ibid.)– continue to be open and transparent; in essence a promotion of accessibility towards building upon the foundational premises already established. Acceptance of and adherence to the UAV code of conduct as presented displays an understanding of 'Best Practice', a notion comprising the "safe, coordinated and effective use of UAVs in a wide range of humanitarian settings" (UAViators, 2018[b]). Through this it can be observed that 'Best Practice' is situated not as a standard to just uphold an ethical understanding, but is structured, endorsed and relayed through the humanitarian sphere to itself (attempt to) become an ethical understanding. As such, UAV Ethics and 'Best Practice' can be seen as a key nodal point within the humanitarian UAV's discourse, yet what helps constitute such understandings are, as will be explored, contested.

As previously noted throughout the UAV code of conduct, four of these principles are further elaborated upon within a related document of guidelines, drawing upon the knowledge and insight given by the same organisations and agents that helped in the design of the UAV code of conduct in order to help formulate wider understandings of 'best practice'.

Guidelines

Much like the UAV code of conduct these guidelines –which are situated as 'further guidance' on certain points within the code of conduct– note the imperative that humanitarian UAV deployments are conducted "in accordance with the best interests of affected communities, and with the humanitarian imperative of doing no harm" (UAV Code, 2018[b]), in addition to the observation of the four core ethical humanitarian principles of neutrality, independence, humanity and impartiality. As such, these guidelines expand on the aforementioned principles relating to the ethics of humanitarian UAV use regarding data protection, community engagement, effective partnerships, and conflict sensitivity. As such it

is necessary to outline out the thematic positions these take in order to fully flesh-out the discursive ethical constitution of (this conception of) the humanitarian UAV.

i. 'Humanitarian Guidelines on Data Protection'

The guidelines for "Humanitarian UAV Data Ethics" (UAViators, 2017) lay out several thematic areas relating to responsibility, the proportionality of collected data alongside clarifications for privacy and ethical sensitivities, and the assessment, mitigation and minimisation of risk and harm (UAV Code, 2018[c]).

The guideline firstly states that the use of UAVs, the collection and analysis of data should conduct operations in a fashion that is "impartial" as to "avoid discrimination" (ibid.). Through this perspective, as with the outline set out in the code of conduct, the application of informed consent is noted as something that should be proactively obtained "as far as the situation allows" as to keep individuals and groups abreast of plans, changes and unforeseen circumstances; data collected from UAVs and its subsequent analysis should consequently "highlight the needs and aspirations of vulnerable and marginalized groups" (ibid.). The application of informed consent is later elaborated on, wherein it is stated that consent should be acquired "where appropriate and feasible", and where consent cannot be found one should "take extra care vis-a-vis sharing this data with respect to data privacy and protection" (ibid.).

Before UAV operations are deployed it is also stated that a plan for managing the collected data should be established alongside clarification on who will own the data, the standards that will be used, and "whether it is interoperable with other systems and existing platforms" (ibid.). With regards to UAVs, occurrences of crowd-sourced, open-source platforms for aerial data, such as OpenStreetMap –in which understandings of *who* owns and can access the data are malleable– may constitute a problematization of this dynamic. Yet at the same time, platforms that encourage the responsible distribution and access to data may also be seen as facilitating the rejection of previous norms of inequality that exclude "because of lack of resources, knowledge, capacity or opportunity" (United Nations, 2014: 2). Further noted within the guideline is the observation that there should additionally be in place a plan for "storing, sharing and discarding the data" that will be collected, alongside guaranteeing its security whilst stored and transmitted (UAV Code, 2018[c]). Furthermore, "needs" must also be 'carefully determined' before identifying a suitable data collection platform, from which operators must make certain that the data to be collected is "necessary and proportionate given the need you are intending to meet" (ibid.). As also articulated by external humanitarian organisations (FSD, 2016[c]), it is outlined that in most instances UAVs should employed in

addition to other sources of data, and should not be the exclusive method of data collection and resultant analysis (UAV Code, 2018[c]).

As noted within the guideline, one overarching 'ethical' priority with data collection and storage is the mitigation of risk for the individual (ibid.), and this sentiment is one that is sustained throughout the document. Before gathering, storing or sharing data that is "particularly sensitive", it notes that an assessment should be conducted to "mitigate the risk and benefit". Data outlined as sensitive includes religious sites, information that may be considered military intelligence, and, according to local context and the nature of the response, may also include information gathered such as "religious and critical infrastructure, pictures of the deceased, communication records or personal data" (ibid.). Furthermore, before deploying, it is stated that a risk assessment must be conducted that takes into account the context within which operations will be taking place, and identifying "the data that will be collected and the tools that will be used" (ibid.). Related to this it is briefly stated that one must also "consider solutions for privacy and ethical sensitivities", including methods such as image blurring and the 'localisation' of hosted data (ibid.).

Through this guideline, the user is advised to relay these points through the lens of already-established frameworks of humanitarian data ethics, such as "ICRC Data Protection standards, the UN Guidelines on Confidentiality and Handling of Sensitive Information and the UNHCR Data Protection Policy" (ibid.). Although in this instance the ethics of UAV-led data collection are surrounded by notions of risk mitigation, consent, data ownership, and proportionality, they can be seen, as Berens, et al. (2016: 2) rightly observe, as referenced and constituted through a "patchwork of individual institutional codes of conduct and checklists", which largely refer back to the ambiguous standard of 'do no harm' that, as noted, can be interpreted in various ways to justify a number of practices. Viewed within this a significant challenge is established owing to the seeming disconnect between conventional models of ethical data collection and management, and the burgeoning "cross-institutional nature of digital data systems" (ibid.). Indeed, there are those who see the flexibility of UAV technology and its related practices as heightening issues concerning the humanitarian principles of impartiality and accountability, not lessening them (Lichtman and Nair, 2015).

ii. 'Humanitarian Guidelines on Community Engagement'

The guidelines on community engagement regarding the humanitarian use of UAVs are ones generally focused on the dynamics arising between humanitarian actors, local communities/recipients of aid or development, and the interplay of these dynamics attendant to the introduction of the UAV. As such, the main themes that comprise this guideline are those of relevant communities being made aware of how UAVs are to be, or consulted on

how they should, be employed; building trust and the facilitation of active aid and development partnerships; and a further reprising of safety and risk management/minimisation. As noted at the outset of the guidelines, "building trust with local communities allows them to be active partners, decision makers and enablers, thus enhancing the mission and humanitarian/development impact" (UAV Code, 2018[d]). Just as it has been noted that a "functional ecosystem" over "traditional coordination mechanism[s]" contributes a vital method of contemporary humanitarian collaboration (OCHA, 2014[b]: 21-22), in this understanding, a twinning of the notions of 'enhanced' engagement throughout missions and heightened 'humanitarian/development impact' is directly tied into the following practices that are seen as a necessary and ethical utilisation of the UAV in humanitarian contexts.

Before addressing the notions surrounding engagement and consultation, the opening of the guideline focuses on operatives being culturally sensitive with regards to languages, norms and customs within the region in which they are conducting operations. Communities affected by disasters, it is noted, may additionally be traumatised, marginalised or discriminated against, with access to basic provisions disturbed. With this in mind, UAV operators are reminded to have the awareness that within conflict and disaster scenarios UAVs may also cause more harm than good (UAV Code, 2018[d]). Indeed, as Orenstein relays, a local population's awareness of UAVs may solely be through the direct lens of harm and suspicion, and thus will need to know what UAV operators are doing, which can be accomplished through an 'ethic of teaching' (Orenstein, 2018: 45:00-46:22s). The humanitarian use of UAVs, albeit articulated as distinct from their militarised counterparts, is nevertheless still somewhat understood through perceptions that centre and amplify the harm of militarised use and other non-humanitarian forms of intelligence-gathering (Raymond, Card and Al Achkar, 2012), and, to an increasing extent, may also be understood through a lens of mistrust regarding growing corporate influence/practice within the humanitarian sphere. To combat this, individuals are told to pinpoint "community representatives" or "local community representatives" –or within larger locales, provincial or regional representatives– responsible for the setting which the UAV is intended to operate in, again with an attempt to understand the contextual dynamics of scenarios in case 'local representatives are not so representative' of marginalised and vulnerable communities, or those "who may have the greatest needs" (UAV Code, 2018[d]). In an effort to gain trust and establish the authenticity of humanitarian actions it is also stated that upon meeting with representatives operators should provide them with credentials such as "business cards, [a] letter stating that you have legal permission from a government entity to operate UAVs, an official partnership letter from a humanitarian organization" (ibid.).

Furthermore, when meeting with communities and representatives it is stated that it should be made clear that expectations of the UAV and its subsequent operation(s) are to be managed, noting that missions may not immediately and noticeably "result in aid or other forms of support" (ibid.). Indeed, this notion of community engagement is not only to combat the perception of heightened expectations, but also to contest negative expectations. As noted by an operative within Nepal's Flying Lab (Researcher's Interview, no.1, 2016: 15), at-risk populations or populaces viewed unfavourably by governments may well be sceptical of UAV use, seeing it as a tool to surveil or map them for the purpose of control and/or retaliation. Through this lens, community engagement is viewed as key, not only within a practical sense, but also when considering the dual impact such use may have on current and future perceptions. Ultimately, to not consider and engage with these ethical challenges is seen by humanitarian UAV actors constituting this framework as problematic; to use communities as simply a means to an end is not only in contrast to established humanitarian principles, but also jeopardises other future endeavours and their ability to establish the UAV within opportune (humanitarian or otherwise) locations (ibid.: 10). To manage these expectations, according to guidelines, the purpose and importance of the mission must be explained alongside with whom data will be shared, how it will be employed and how long it will be stored. Practical disclosures such as showing the technology and giving examples of aerial data are also stated as necessary to help facilitate a building of trust and permissibility in undertaking the UAV mission/flights. Flight plans and further details are also to be discussed within meetings, as well as ensuring that marginalised areas are not ignored and that planned operations do not signify conflicts of interest (UAV Code, 2018[d]).

One other thematic arrangement for this guideline revolves around collaborative community involvement through the publicising of UAV missions, their main focus and the proposed flight plans, in addition to public relations engagement surrounding understandings of the UAV. On the basis that permission is granted from community representatives the UAV is herein seen as a tool that should be partially constituted as operating from advice and recommendations to both "engage the community and support their needs and aspirations" (ibid.). In this instance, community awareness has been observed as a first-step within the approach towards capacity building that is "grounded in local concerns and needs" (Eichleay, et al., 2015: 7). Alongside these notions of engagement are also ones of collaboration with local and international organisations and individuals, insomuch that it is noted as vital to inquire and find out whether any previous assessments have been carried out and if these assessments contained aerial surveys/data. If so, it is seen as necessary to contact those who carried out the assessments to request the data and/or propose arrangements to share data, and to additionally ask for further detail on their mission and clarification on which areas

should be given priority or avoided (UAV Code, 2018[d]). As stated by Cohen and Gingerich (2016: 1), the humanitarian system is one that is overstretched and further perpetuates an unstable reliance from aid recipients on assistance that is often "insufficient, late and inappropriate for the local context"; the humanitarian UAV is thus constituted within these guidelines as a facilitator of the attempt to shift and situate "more power, resources and responsibility […] to local actors" (ibid.), yet, there is no deterministic guarantee that such elements within the humanitarian discourse will be given prominence –when they have not been previously– due to the sole incorporation of UAV technology.

This notion of collaboration and engagement is consequently viewed as key within the guideline: representatives are to be asked to contact and make aware local police so they can better assist with the dissemination of information and operational safety; guidance should be sought on how to engage with local media and influential actors that additionally represent the most marginalised or vulnerable groups; community discourse through flyers and local public meetings should be emphasised in order to answer questions, fears, complaints and suggestions, and to additionally demonstrate the technology alongside local civil society groups (UAV Code, 2018[d]). Indeed this premise is one that is in-line with ethical considerations from broader humanitarian institutions regarding UAV use. The IFRC's 2015 'global dialogue' on the humanitarian applications of technology observes a recurrent theme of distrust that community members have in government or privately-owned UAVs operating for the "public's benefit" (IFRC, 2015: 26). Yet, this distrust is one that is transformed into a 'comfort' when UAV technology is in part managed and owned by the communities themselves (ibid.). There is a further linguistic dimension to community engagement insomuch that humanitarian UAV operators have also noted that when communities hear the terminology 'drone', "they think it's a kind of plane that the US is using to drop bombs in different countries. So instead of using the term 'drone', it would be wise to start calling it a UAV" (Researcher's Interview, no.1, 2016: 4). In this sense, the (ethical) discourse of the humanitarian UAV is one that is attempting to break from the stigma attached to it from military-led drone operations and situate it within distinctly separate arenas of understanding (humanitarian or otherwise). Following on from this, the guideline also signals the intent to (partially) relocate a nexus of action from humanitarian actors onto recipients, as an ethical form of humanitarian practice, via the localisation of UAV operations, stipulating that community members should have their roles in operations explained, alongside the potential for them to build and fly UAVs as well as analyse the data collected (UAV Code, 2018[d]). This model is articulated as not only helping innovative processes by facilitating the use of UAV technology, but is, as also stated by OCHA (2014[b]: 22), a lifting of the "barriers to ethical, user-led innovation". The 'correct' –i.e., ethical– approach towards and usage of this

technology is an attempt therefore to support "principled and participatory innovation [a]s the norm" (ibid.), and to de-mystify and de-stigmatise perceptions of UAV. These practices are both promoted as a cornerstone of this understanding of ethical UAV community engagement and development within organisations such as WeRobotics, and, at a more base level, also serve as a means to dispel rumours surrounding the use of UAV technology (UAV Code, 2018[d]).

As with the previous guideline regarding data protection, this guideline too has a strong thematic focus on risk and harm management and mitigation. As briefly adduced to beforehand, it is noted that in instances where risks are identified they should be communicated, as should the method for how unintended consequences such as accidents are recognised and recorded, for instance through the sharing of "incident/accident reports with local representatives and police" (ibid.). Furthermore, the potential for UAV imagery and related data to cause harm to local communities and individuals, and humanitarian actors should be assessed. It is stated that, for example, the sharing of data and information could exacerbate tensions within communities, "so measures must be taken to mitigate that risk including the option of not sharing information" (ibid.). Following UAV missions, data is to be shared with local communities and representatives, with it being encouraged to display "hard copy images in public areas for all to see" (ibid.). As stated by operators in Nepal's Flying Labs (Researcher's Interview, no.1, 2016: 9), "it is always better to explain what you are doing to a group of the community first"; "talk with people in the community and let them understand the project that you are trying to do", to not only balance potential risk factors, but also to alleviate and mitigate 'invisible' harms such as insecurities surrounding the technology. The guideline makes a final point by stating that if UAVs are to be used for 'payload delivery' –i.e. the remote transportation and distribution of cargo– then the same conventions should be accounted for, yet in many arenas this may not be feasible within the previously outlined focus on imperatives such as 'do no harm' (UAV Code, 2018[d]).

Consequently, within these thematic arrangements is the implicit ethical consideration that UAVs have attached to them a certain stigma, yet is something that can be alleviated through (what is stated as 'active') engagement practices with relevant communities. The guidelines here are nevertheless an attempt to reduce or combat community perceptions that may well view UAVs as an instrument of discord, insecurity or colonial/imperial practices of knowledge extraction, and to promote and utilise the UAV as a method of encouraging –in the eyes of those relaying the guidelines– discernable emancipatory practices.

iii. 'Humanitarian Guidelines on Effective Partnerships'

As the FSD state (2017: 18), only a few organisations that have utilised UAV technology for humanitarian endeavours have dedicated operational capacities. Instead a large number of humanitarian organisations opt to collaborate with "service providers or in partnership with other non-profit actors or local communities that have an active field capacity for drone deployments" (ibid.). Furthermore in some instances, technology organisations have allowed *pro bono* use of their equipment in order to test and perfect their technology, and to favourably distinguish themselves amongst their competitors (ibid.). As such, the third set of guidelines, those focused on 'relevant' and 'effective partnerships', can be regarded as a necessary elucidation within the current context of humanitarian UAV use. The guideline is one that is split across two points of emphasis: individual UAV operators, providers, and volunteers looking for humanitarian partners; and organisations wishing to partner with UAV groups (UAV Code, 2018[e]). As such, the thematic trends for this guideline are split across two distinct areas of focus. With regards to individual operators, providers and volunteers, the main points of emphasis surround the necessity for 'contextual awareness', with a heavy focus on community assistance and engagement, whilst also being aware of liabilities and knowing when to "take no for an answer" or not operate at all (ibid.). Secondly, regarding organisations that are looking to partner with UAV groups, the main thematic arrangements are those which revolve around a more managerial/administrative anchor point, continued allusions to risk management and mitigation, and finally a further focus on the prioritisation of local partnerships.

Regarding UAV operators/providers/volunteers wishing to partner with humanitarian actors it is firstly stated that "the most useful UAV uses in disasters" are carried out through organisational partnerships whereby the operator acts in accordance with the requirements of the partnered organisation, which is aware of the broad context of the situation; and within which mission(s) can jointly be cultivated to "assist the affected community", whilst also working through the organisation "to engage with the community" (ibid.). Attendant to this understanding is the logic that partnerships are not just important for humanitarian coordination, but that they are also vital as a "means to draw in ideas, good practices and resources" from private organisations, universities and individuals affected by the crisis (OCHA, 2014[b]: 6). Within this can be seen an attempt to solidify the emergent nature of the technology by following the reasoning that the more knowledge individuals can contribute in order to constitute the 'best practices' of the humanitarian UAV, the more effective and ethical its use will become. Furthermore it is presented in the guideline as necessary for UAV operators to additionally be aware and understanding of disaster and developmental contexts in order to "position [themselves] and [their] equipment as to not become a liability" (UAV Code, 2018[e]). Related to this notion of liability and the ethical quandary of having oneself be

charged with being a burden or endangering operations or perceptions, this stance is further expanded through the guidance that one must know and be willing to state when a partnership is not feasible or detrimental to the upholding of humanitarian values (ibid.).

Regarding organisations that are attempting to partner with UAV groups, the notion of UAV 'utility' is brought up in the sense of what one should focus on in assessments of tackling the "needs of affected communities" (ibid.). Additionally, much like the previous section it is stated that organisations should undertake partnerships with those of "compatible principles" and those that also recognise the aforementioned guidelines of 'effective partnerships', whilst also giving priority to local operators, including those that are "acting independently and in good faith" (ibid.). To gauge 'compatible principles' it is maintained, for instance, that transparency regarding objectives and funding should unequivocally be made clear in order to corroborate an organisational alignment (ibid.). To elaborate upon this, in the context of cargo UAVs, while it may be found that the effectiveness of such a partnership is beneficial, many of the largest commercial manufacturers currently develop UAVs for military applications, and the arrival of such a technology into civilian space and humanitarian operations may be viewed as "ethically problematic for humanitarian partners" insomuch that it signifies a conflict of interest in practice and/or a contradiction of humanitarian principles (FSD, 2017: 45). To strategise against conflicts such as this, organisations party to the humanitarian UAV code of conduct are requested to consider making partnerships firstly through Memorandums of Understanding, letters of mutual intent, and partnership agreements with the appropriate bodies prior to crises (UAV Code, 2018[e]). Many of the notions espoused throughout this theme reflect a number of recommendations found within the 2007 Global Humanitarian Platform, in which leading humanitarian bodies –several of which also contributed towards the creation of UAV code of conduct– identified that they would be basing partnership choices on the principles of "equality, transparency, result-oriented approach, responsibility [and] complementarity" (GHP, 2007: 5). Herein can be seen an attempt to again align the best ethical practices of the humanitarian UAV with existing humanitarian frameworks that, though more established in the conceptual framework of the humanitarian, are nevertheless imperfect, contingent and contested formations.

As previously mentioned, one main theme to emerge from this section of the guidelines encompasses a managerial/administrative focus within which one understanding of effective humanitarian UAV organisational partnerships is anchored. Though this thematic shift can be seen as a more prescriptive and administrative function of the guidelines, it can also be viewed through the lens of risk that is often utilised throughout the code of conduct and guidelines (and contemporary humanitarianism in general (OCHA, 2014[c])), insomuch that

there are not only efforts to mitigate and manage organisational risk and liability, but also disperse it through partnerships and the incorporation of distinctly separate bodies. Herein, it is stated that it should be identified which parties will cover firstly financial costs, such as shipping, travel, insurance, and the importing/exporting of devices; and secondly, non-financial elements such as the obtaining of waivers and permissions, and the analysing of data (UAV Code, 2018[e]). Moving these guidelines into a more overt risk-oriented understanding, the standards acknowledge the need to establish customary operating procedures, including processes for continuous information relaying. Furthermore, the guidelines specify the need to define and discuss organisational and individual risks that encompass staff, individual operators, local communities, and elements related to overall mission completion (the supporting of broader humanitarian operations and daily reports to "avoid disruptive and/or overlapping UAV flights and congestion of airspace"), and "financial and reputational risk" (ibid.). Continuing along this theme, organisations are invited to clarify positions in which it is legitimate to terminate partnership contracts before the completion of mission, and to define internal standards encompassing the aforementioned principles of community engagement, ethical data collection, protection, management, sharing and analysis, both throughout and after the partnership has concluded (ibid.). The heavy emphasis seen throughout the guidelines surrounding risk and harm mitigation is one that resonates with the positions forwarded by Clarke and Dercon, who posit that a 'dulling' of humanitarian disaster response through prior planning, early action, rules-based decision-making, and a clarification of risk accountability cultivates more effective responses that have less of an intense impact on local populations (2016: 11), yet it also opens up the considerations that critique the professionalisation and increasingly business-like logics of the humanitarian system (Wallace, 2004). In short, it is an outlook that articulates the attempts to bring more vividly the "principles of insurance" (ibid.: 108) and risk management into the humanitarian operation in order to both create 'efficiencies' regarding UAV use and reduce its liabilities (ibid.: 106). In justifying this approach, the guidelines state that the main ethical focus –the "primary obligation"– of the standards lays with the "prioritisation of the affected communities", which the aforementioned outline of risk management attempts to crystallise through the identification of compromising practices or conflicts of interest (UAV Code, 2018[e]).

iv. 'Humanitarian Guidelines on Conflict Sensitivity'

The fourth set of guidelines focuses on the underpinnings of ethical UAV deployment within conflict scenarios and areas of intensified insecurity. Throughout these guidelines, the UAV is situated within the naturally heightened environment of 'intervention', transected with humanitarian activities. As such, ethical responsibilities are also outlined as increased.

Thematically, the guidelines on conflict sensitivity establish a summary of the previous guidelines' thematic arrangements, yet with specific consideration paid to them operating within scenarios of intense scrutiny and risk. As such, there is somewhat of a reiteration of the values regarding 'do no harm', risk, community engagement and perception, partnerships, and data management, yet nevertheless, the stakes are immediately established as higher (UAV Code, 2018[f]). Furthermore, though the notions surrounding UAV's within strictly conflict zones lay outside the scope of this project, the previously noted values, here presented in an altered landscape, quilt the discourse more intensely and thoroughly, and as such allow for a deeper understanding of what may be at stake in the ethical constitution of the humanitarian UAV. As Smith observes (1998: 63), one can hardly comprehend the dynamics of intervention without firstly recognising that the notion of ethics is abound in the way one defines goals, interests and the measures adopted to pursue them – a notion that, as seen, can be equally applied across prior discussions. Understandings and standards set of interventionist practices are thus –much like the aforementioned code of conduct, and guidelines– characteristically interconnected to understandings of the ethical, whatever diverse and varied shape those considerations may take.

This guideline opens with the relaying of the notion that the sole overall purpose and characteristic of UAV missions is the strengthening of humanitarian action, the alleviation of suffering and the protection of populations (UAV Code, 2018[f]). In sum, the principle of 'do no harm' is here overarching and writ large. With regards to the principles attendant to community perception, it is stated that UAV operators must firstly determine whether or not (un)armed UAVs are currently utilised within the conflict zone, as widespread use may make it difficult for those involved in the conflict to determine what individual, organisation or other third party it belongs to (UAV Code, 2018[f]). From this, and similarly to suggestions elsewhere which state that it is "illusory" to believe that distinctions between 'good' and 'bad' intentioned UAVs can be made in conflict zones (FSD, 2017: 20), the guidelines suggest that the use of UAVs within conflict scenarios may further prompt fear, confusion or suspicion (UAV Code, 2018[f]), or, as others believe, potentially "jeopardise humanitarian organisational space" altogether (FSD, 2017: 20).

As with the notions surrounding community perception, many of the broad principles are similar to ones previously mentioned; but yet again, the tensions between humanitarian actors, the humanitarian UAV, and those embroiled in conflict are herein intensified. As an overarching premise, the guidelines state that UAV operatives and organisations must "ensure adequate action and communications" in order to address local sensitivities towards the UAV –such as negative associations with the UAV in conflict settings, hostility, and perceptions of hostility from local populations– in regions in which it is employed (UAV Code,

2018[f]). In addition to vital principle of distinction (Apuuli, 2014), the opinions and understandings from affected populations are thus viewed as vital in constituting the UAV as ethical, and, as similarly noted in research on the value of UAV perception (Soesilo and Sandvik, 2017: 6), any oversight on this behalf could "jeopardise or contaminate the humanitarian purpose" (UAV Code, 2018[f]). The potential for a jeopardising of the humanitarian purpose in this instance can be seen through the joint 2006 venture by UN and Belgian troops in the Democratic Republic of Congo, in which one surveillance UAV was shot down and another crashed, killing one individual, harming several others, and ultimately ending efforts to employ the 'peacekeeping' technology (Karlsrud and Rosén, 2013: 1-2). Though elucidation is seen as a vital endeavour in 'proving' the humanitarian UAV as ethical it is nevertheless stated that engagement with local communities within zones of heightened insecurity should be approached cautiously and carried out only when "appropriate and safe", as to not do so may invite further risk upon them (UAV Code, 2018[f]). As such, perception management regarding the humanitarian UAV not only serves to show its (unarmed) endeavours in such scenarios as ethical, but, in relation to these guidelines, also attempts to constitute the humanitarian UAV as embedded within humanitarian economies of risk management and mitigation.

Risk, including risk in relation to UAV partnerships, comprises the next thematic arrangement within this guideline, and, attendant to the concept of conflict, encompasses –and attempts to resolve– the humanitarian UAV's broader 'institutional' and 'contextual' risks alongside its specific 'programmatic' risks (Humanitarian Policy Group, 2011: 2). Firstly addressed is the requirement of UAV operators to have insurance and necessary security training, alongside experience working within or alongside security services (UAV Code, 2018[f]). Regarding the humanitarian UAV, it is stated that operators should never accept tasks asked of them by agents party to the conflict or tensions, such as the aerial transportation of payloads, nor should data gathered from the UAV be distributed to them. The caution is further extended for operatives to be diligent with regards to all groups within conflict scenarios, including government officials (ibid.) Though previous guides specify the ethical necessity of including local operatives in the process, when related to the scenario of increased vulnerability, it is argued that positive and negative risk factors must be seriously and diligently taken into account, engaging with how they may affect the broader context of the humanitarian scenario. In a pragmatic sense the guidelines display concern that data from UAVs may be stolen, leaked or manipulated, operatives may be coerced into (or conceal the logics of) unethical practices, or that UAVs may be co-opted for other nefarious purposes (ibid.) as highlighted by the logics and practices of Hamas (Fishman, 2018), and demonstrated –albeit unsuccessfully– against Venezuelan President, Nicolás Maduro (Bond, 2018).

Nevertheless, the guidelines note that there may be some positives to local operative recruitment within arenas of conflict, such as acceptance of humanitarian operations and, in a development sense, local sustainability (UAV Code, 2018[f]). In this vein, humanitarian organisations and actors have constituted the UAV as a tool that can not only potentially fit into varying dynamics without causing harm, but can in fact galvanise works of social good that can be maintained over time. As stated by heads of the Syria Airlift Project –an organisation which aimed to fit small-sized UAVs with cargo such as food, water purifiers and medicine, launch them from neighbouring countries into Syria to drop its payload and then return 'home'– project leaders envisioned Syrian refugees in Turkey helping to build UAVs that would be easy to construct and launch, in order to "bring medical supplies and food back into their country" (Gibbons-Neff, 2014). To some, such as Mark Jacobsen, one of the founders of Syria Airlift Project, when referring to UAV technology, the notion of humanitarian aid and assistance via the UAV creeps into the realm of ethical necessity, as "you can always find a way to get humanitarian aid through" (Brewster, 2015: 22). Yet at the same time, an uncritical or nebulous movement of rationalities towards techno-ethical obligations can in and of itself be problematic from a number of perspectives. As Jacobsen reflects, the complexity of the project embarked upon "grew beyond anything [they] had initially imagined", and failure to mitigate risk effectively led to a crash, followed by a battery catching fire and burning three acres of land (Jacobsen, 2016). Their project was consequently seen as toxic; large organisations did not want to be associated due to liability concerns, and the group found themselves and their idea dead in the water (ibid.). Again, the humanitarian UAV is constituted as ethical insofar that its work is predicated upon humanitarian principles of impartiality and the contributing of no harm to the dynamics of the scenario. Regardless of how reflexive the articulations are, in the instances shown, the articulation of 'do no harm' may often shift itself into a presentation of 'social good'; yet at the same time there is a fine balance between principles of 'do no harm', 'social good', and harm, especially when related to perception, which is itself elasticated, and other external antagonisms vying for primacy. Consequently, in this instance, the scenario the humanitarian UAV finds itself in is one of a discursive struggle, whereby understandings of the ethical can be seen as ones abound in heightened tension, uncertainty and variance.

This notion of variance also carries through to the guideline's approach to risk insomuch that the dynamics of the surrounding context are viewed as items that must continuously be measured and acted upon. Assessments of risk posed to local parties involved in UAV use, such as data collection and cargo delivery, are articulated as necessary, in addition to a consequent assessment of "mitigating actions" that may alleviate ethical dilemmas (UAV Code, 2018[f]). In respect to UAV teams located within areas of conflict and amplified

insecurity, it is further stated that they too may be at risk of coercion or direct attack (ibid.). In a similar vein, whilst international bodies and local militaries operating in the same zone may be willing to assist and/or share UAV data and capabilities, operators are warned to consider whether or not appropriating resources from certain sources could be alleged as being in contradiction of the humanitarian aspirations underscoring their purpose (ibid.). The key message presented here, alongside risk management, is one that attempts to emphasise a reflexive movement towards humanitarian independence and neutrality, and away from potential causes of physical, emotional and reputational harm. Nevertheless, though it has been noted that associations with armed actors are largely confined to conflict zones, "national armies are frequently called on to support government-led efforts to provide post-disaster assistance" (Svoboda, 2014: 3) in scenarios that have been also been viewed, by leading humanitarian UAV operatives, as suitable situations –through their own justifications– to employ UAVs in (Sharma, 2016). Herein can be seen allusions to already established codes of practice, such as the UN's "basic principles in monitoring and contacting armed opposition groups" (United Nations, 2001: 327), which articulate the ethical necessity of humanitarian actors and organisations to assess serious concerns, be transparent with those being worked with and working around, preserve operational impartiality, and engage in activities that promote standards that are set out in broad human rights apparatus. As such the guidelines, by not categorically ruling out alliances with armed parties or other nebulous (potentially nefarious) bodies, allow for humanitarian operatives to assess situations on their own merits. Again, the notion of 'do no harm' is constituted through understandings and practices that constitute 'best practice', yet what this *specifically* entails is left to the rationalities and justifications offered by such (varying) actors.

As seen, the humanitarian UAV Code of Conduct, guidelines and resultant practices attempt to –in order to help legitimise the 'humanitarian' UAV– make stable a conceptual understanding that is in and of itself unstable, largely open to interpretation, and only as 'ethical' as those carrying out such practices. Furthermore, although industry leaders have developed the Humanitarian UAV Code of Conduct and guidelines, there is no guarantee that other organisations will take into consideration its stipulations, nor is there a guarantee that the meaning imposed on certain signifiers will be distributed equally across the humanitarian system's wide range of actors. Herein, we can see one of the main areas of contention surrounding such articulations: they are seen by those involved in the creation of it as a 'universal' element in the ethical discourse of the humanitarian (UAV), but at the same time constitute non-mandatory and variegated understandings of practice (Luterbacher, 2018). As the humanitarian UAV, and articulations that either directly or indirectly feed into its 'ethical' constitution, overlaps numerous humanitarian organisations and bodies, each with

differing handles on their perception of and approaches to 'ethical' action (i.e. the distinct methods of justification, and thus ethical legitimacy, of action), we can suppose that there is no essential ethical properties of the humanitarian UAV, only discursive articulations with meanings that are partially fixed through the discursive terrain in which they are situated. As such, the purpose of such an overview within this chapter was firstly to set out an articulated idealised (ethical) form that the humanitarian UAV is constituted as taking (or is capable of taking) in various humanitarian contexts, whilst also recognising the impossibilities contained within such articulations for a discursive closure.

It is important to relay and engage with this significant element of the humanitarian UAV's discursive terrain as it not only constitutes the most developed articulation of the UAV's ethical 'character', but because it also points us towards the areas of vulnerability found throughout the code of conduct (as well as overlap between other articulations of 'the ethical'), through which notions that form the legitimacy and incorporation of variegated understandings/practices of the UAV can be contested, co-opted, subsumed or supplanted by other formations of power. Within these so-called ethical logics and practices that make up the humanitarian UAV Code of Conduct and guidelines is contained the kernels of their contestation and the replacement of meaning with other forms of meaning and practice, albeit under the same –or similar– signifier(s). Consequently, the contingent nature of such articulatory practices, which flood the empty signifier with meaning in an attempted 'closure' of how the humanitarian UAV is to be understood and utilised, invites external discursive understandings to contest, co-opt/supplant and (re)configure underlying meanings within the discourse. The following section highlights a prevalent example of this.

Further Mapping the Humanitarian UAV's Ethical Discourse

As shown, the terrain for those attempting to discursively unify the ethical character of the humanitarian UAV is one that follows, feeds into, and reengages a number of thematic paths revolving around the dominant notions of humanitarian ethical understanding and practice. In this sense, as Torfing states (2005: 15), Laclau observes that attempts at hegemonic practices of articulation that "unify a discursive space around a particular set of nodal points always involve an element of ideological totalisation". In this instance, the totalisation can be best viewed through the lens of humanitarian legitimacy, in which the UAV and its operations are quilted in the aligned values of the participating organisations and agents attempting to constitute, map and (partially) fix its meaning through articulatory practices.

Key nodes revealed through articulatory practices, which attempt to constitute the humanitarian UAV as ethical, can thus be realised through the distilling of the aforementioned discursive arrangements found surrounding the humanitarian UAV code of

conduct and guidelines. The established humanitarian principles of 'humanity, neutrality, impartiality and independence' are viewed herein as a key articulation insomuch that understandings throughout the UAV code of conduct are directly stated as being established attendant to these notions. Encompassing this premise is the principle of 'do no harm' as a vital conceptual notion, which seeks to actively demonstrate what is at stake through the utilisation of UAV technology –*vis-à-vis* perception, 'risk management/mitigation', 'data ethics', and 'sensitivity' of arenas of conflict and heightened insecurity– in a further attempt to drive the ethical value-judgements of agents and organisations conducting such operations. Additionally, the facilitation of '(social) good' as another form of 'best practice' is also observed as a node within the discourse through the stated first and second-order benefits that they are positioned to assist with. Here this is articulated through a broadening of 'ethical' collaborative and engagement techniques, and the development of 'emancipatory' practices through, in this instance, the incorporation and embedding of a 'revolutionary technology'. These nodes –previously *elements*– through the process of articulatory practices are thus linked together as *moments* within the humanitarian UAV's ethical discursive structure, helping to formulate the humanitarian UAV's discursive, albeit contingent and contested, nexus.

Following the discursive framework of Laclau and Mouffe, these nodes, in relation to the ethics of the humanitarian UAV, can be seen as positioned in a signifying chain in reference to the ascribed notion of 'best practice'; that is, the 'best practices' that are noted throughout the UAV code of conduct are continuously referenced and framed within the ascribed dominant logics of 'ethical' humanitarian frameworks and considerations. Herein, 'UAV Ethics and Best Practice' can be positioned as a nodal point within the discourse of the ethics of the humanitarian UAV, but also, as will be further shown, as a *floating signifier* attendant to the antagonistic discourse of broader attempts at the assistive/humanitarian UAV's discursive closure. Whereas, as Laclau and Mouffe observe, nodal points act as "privileged discursive points of this partial fixation" (1985: 112) and allow representative meaning to be conferred upon the discursive interior –a "point of crystallisation" within the discourse (Jørgensen and Phillips, 2011: 30)– floating signifiers represent the sign that "different discourses struggle to invest with meaning in their own particular way", representing the "on-going struggle between different discourses to fix [their] meaning" (ibid.). Consequently 'UAV Ethics and Best Practice', operating as the point of successful 'temporary unification' which broadcasts across the discursive field of humanitarian UAV ethics, also constitutes its own discursive undoing insomuch that, by also being the main point of (empty) discursive relation, it indebts itself to further contestation, revoking the potential of any settlement or permanent fixation of meaning from exterior, nebulous sources.

Through the articulation of ethical meaning and identity surrounding the humanitarian UAV there has been a clear discursive endeavour to modify the UAV and its understandings into an object that not just engages with dominant humanitarian ethical considerations, but satisfies its approaches towards them, attempting to bring to a closed resolution the meaning imposed upon the object. The intervention of the nodal point, 'UAV Ethics and Best Practice', imposes a transformation of the discourses' *elements* into internal *moments* of humanitarian UAV discourse (Howarth and Stavrakakis, 2000: 8). Yet at the same time, the ethical identity of the humanitarian UAV is only (and eternally) "partially constituted", regarding its character which is created by the articulations of specific sets of actors. The discursive corollary to this is that its identity is also "partially threatened" by the characteristics of this floating signifier that are absent or discursively articulated by separate actors (Laclau, 1990: 27). This discursive exteriority is viewed as not just establishing a threat to the discursive interior, but is also a component that is necessary in order for the interior to confer meaning: "the inside is marked by a constitutive lack that the outside helps to fill" (Torfing, 2005: 11). In constituting an object as such within a field of discursive limitations there are fundamental discursive antagonisms that are propelled against it: a prevention of the object from attaining both identity and attendant interests by an 'enemy' or enemies deemed responsible for this failure (Howarth, 2004: 260) through a "construction of threatening otherness that is incommensurable with the discursive system" which "constructs its unity and limits" (Torfing, 2005: 16). As will be shown, the cost for composing the congruence and boundaries of the humanitarian UAV's discourse around this nodal point/floating signifier is specifically this problematisation that dually threatens its discursive system and meaning, and prevents it from achieving a full closure (ibid.: 16).

Discursive Antagonisms of the Humanitarian UAV Code of Conduct

While the (humanitarian) UAV code of conduct is currently the most robust and well-articulated framework in attempting to understand and present the ethical logics of the humanitarian UAV, there is nonetheless a larger body attempting to rearticulate such discursive 'moments', placing the UAV within a structure of its own; a new "field of discursivity" indicating and determining "at the same time the necessarily discursive character of any object, and the impossibility of any given discourse to implement a final suture" (Laclau and Mouffe, 1985: 111).

As stated, the conceptualisation of ethics is in and of itself an 'essentially contested concept' owing to the multifaceted identifications and understandings that are attached to it (Gallie, 1955: 168). Yet the previously mentioned humanitarian organisations and actors focusing upon the humanitarian UAV have attempted to fix this contestation and bring about an ethical object through the process of articulation, and, as such, have focused the moments

underpinning its constitution around the nodal point noted as 'UAV Ethics and Best Practice'. Nevertheless, such conceptualisations that feed into the meaning that underpins it are still not ones that are fixed or uncontested. As noted, technology, specifically the UAV in this instance, is seen as an anti-essentialist composition; it is neither "good, nor bad, nor is it neutral" (Kranzberg, 1986). As such, the anti-essentialist qualities of both the technology itself and the *nodal point* around which its 'character' is articulated and formed, serves as the enabler of any breaches in the discourse as it is understood in relation to the humanitarian UAV, thus transforming it into a *floating signifier* in the broader discourse of UAV ethics. "The struggle around the empty signifier is a highly political process embedded in the overall matrix of sociopolitical and economic power relations" (Wullweber, 2015: 86), and as such, the 'breach' of the humanitarian UAV's ethical nodal point comes from this realm of political and economic power relations. The antagonistic content that attempts to flood the floating signifier of 'UAV Ethics and Best Practice' consequently comes from an exteriority of the humanitarian UAV's aforementioned ethical discourse, which can be seen through its own constitutive lens as an 'otherness' that it primarily attempts to negate in order to construct its own stabilised internal unity.

AUVSI

The Association for Unmanned Vehicle Systems International (AUVSI) is the world's largest non-profit UAV organisation, lobbying on behalf of almost five hundred unmanned systems and robotics organisations from more than 60 countries (AUVSI, 2018). Founded in 1973, their mission is dedicated to "the advancement of unmanned systems and robotics", and represents "corporations and professionals […] involved in industry, government and academia" (ibid.) through the "shaping of global policy" by ensuring that "obstacles to advancing and fielding unmanned systems and robotics are removed" (AUVSI, 2018[b]). Currently, while not entirely focused on the promotion of the UAV for humanitarian purposes, AUVSI cloaks the UAV and its members (some of which, like DJI, are party to the creation of the humanitarian UAV code of conduct) within a discursive formation that is entirely relational and, through its desires to push UAVs into the mainstream through its articulated corporate logics, can be seen as antagonistic to the prior understanding of the humanitarian UAV's ethical constitution. Indeed, their talk of 'removing obstacles' in the way of 'advancing' the marketplace is not unfounded, as AUVSI have previously noted that their suggestions to influence US legislation to benefit the private organisations that make up its membership are willingly welcomed, with recommendations implemented and "often taken word-for-word" (Fang, 2012).

While this can be seen as an endeavour that seeks to further the promise of the civilian and commercial UAV –ones that are heavily utilised also throughout humanitarian missions–

within the boundaries of AUVSI's representation includes members that are manufacturers of, and direct participants of, global defence and security operations. These include –or have included– multinational corporate entities such as BAE Systems, General Atomics Aeronautical Systems, L3 Technologies, Lockheed Martin, Northrop Grumman, Schiebel, Aeryon, alongside multiple United States defence/security branches (AUVSI, 2020). Additionally, AUVSI hosts the 'Unmanned Systems – Defence, Protection, Security' event, noted as the "most comprehensive government-focused event within the unmanned systems industry", and includes "defence leaders, government decision makers and technology experts responsible for unmanned systems, intelligent robotics and components" (AUVSI, 2018). AUVSI's advocacy programmes also comprise of awards and publicity given to organisations that manufacture and promote UAVs utilised for humanitarian/assistive purposes such as DJI, Swoop Aero, Zipline International, and Wingcopter, alongside other start-up companies and for-profit organisations (AUVSI: 2018[d]; 2019; 2020[b]). As Emery observes (2015: 158), these manoeuvres function as not just attempts by AUVSI to financially benefit from the emergence of the (humanitarian) UAV market, but also function as an explicit attempt to obfuscate and amalgamate commercial, military and civilian manufacturers/usage of UAVs alongside their humanitarian/assistive use. In relation to this, AUVSI has itself created a shorter 'code of conduct' that revolves around three thematic positions of 'best practice': "Safety, Professionalism, and Respect", and seeks to hold themselves and members (both manufacturers and organisational/individual users) "to a high professional and ethical standard" through acting "in accordance with these guiding themes and do[ing] so in an open and transparent manner" (AUVSI, 2018[c]). Moreover, the code of conduct is presented by AUVSI as one that is offered "on behalf of the UAS industry" (ibid.). Consequently, much like the humanitarian UAV code of conduct, which is articulated as a necessary ethical underpinning to humanitarian operations, AUVSI have additionally attempted to position their articulations surrounding the character of commercial, civil, and humanitarian UAV use and production by its members as a necessary element in constituting the nodal point of 'UAV Ethics and Best Practice'.

UAVs, accordingly, have been brought into the realm of humanitarianism through a determined effort by overtly humanitarian operatives, the wider defence industry (Sandvik and Lohne, 2014), and corporate/commercial bodies in an attempt to legitimise the use of UAV technology within humanitarian practice, yet at the same time, regarding 'UAV Ethics and Best Practice' as a floating signifier, the "diverging motives of these actors create a number of tensions and challenges" (Emery, 2016: 157-158). Indeed what can be seen as at stake here, arising from the discursive tensions and strains the humanitarian UAV's ethical constitution encapsulates, is the potential for discursive articulations from those with pre-

existing authority and power to establish and entrench articulations that flood the aforementioned floating signifier, in an attempt to –owing to AUVSI's global reach and influence– form a hegemonic discourse which negates the character previously set out (albeit idealistically) as 'ethical' by the humanitarian bodies and individuals who are more critical of established, hegemonic rationalities.

Do No Harm

As seen throughout the humanitarian UAV code of conduct and guidelines, the notion of 'do no harm' is attendant to the broader characterisation of the humanitarian UAVs ethical constitution, both in regards to physical harms, in which attempts to alleviate them are undertaken through practices of risk management and mitigation, but also, non-physical harms operating around articulations such as 'data ethics' and 'sensitivities' concerning humanitarian beneficiaries. This notion, too, is closely linked to issues of perception that surround the humanitarian UAV, in particular the upholding of core humanitarian principles such as neutrality and independence, and additionally how the UAV is conceptually perceived in relation to its associations with militarised operations. As such, these nodes, when contested under the AUVSI banner of what constitutes 'best practice', establishes an discursively antagonistic relationship between itself and the prior imagined 'ethical' humanitarian UAV.

In discursively constructing the ethical humanitarian UAV, the notions of 'do no harm', neutrality and independence are tied up within a significant aspect of concern surrounding the use of UAVs within humanitarian operations, that is, how data, attendant to UAVs, should be ethically collected, stored and used. Within the humanitarian UAV code of conduct and guidelines, the key understandings that are presented in relation to 'data ethics' are centred on ideas of community-focused and transparent operating practices. Whilst these practices may well have critiques of their own, such as the potential for new 'harm dynamics' to be introduced through the operation of emergent technologies, the code of conduct nevertheless demonstrates an attempt to underscore the practice of data collection in a way that is conducive to *some* articulated overarching 'ethical' humanitarian characteristic, whilst also showing an awareness of –alongside ways to alleviate and avoid– potential fears and harms. On the other hand, the AUVSI code of conduct expresses a small number of vague positions such as "respecting privacy of individuals" and "the concerns of the public" (AUVSI, 2018[c]), without a predominant articulation of what this practically entails, how these positions can be upheld, the challenges that may be associated with them, or the wider implications for non-compliance; indeed AUVSI's code of conduct does not outright have any statements of intent regarding 'data protection' or 'data ethics' at all, and is instead reliant on those utilising it to infer meaning and flood the few brief points related to data ethics with their own

understandings of 'good practice' and significance. Private, corporate and state-facing bodies constitute the core membership bloc of AUVSI, and some, as previously mentioned, have a tendency to also bend towards military and defence-oriented concerns. Consequently, the key questions that arise are, if the collection of data is necessary for humanitarian operations –with the involvement of these bodies/organisations– what are the ethical considerations given to data collection and management, and "into whose hands does it [or could data] fall?" (Blunt, 2015); it furthermore raises the issue of whether or not the consequences of a further privatisation of humanitarian objectives –in relation to the corporate wing of AUVSI's membership– are in keeping with the articulated positions of fundamental humanitarian principles of neutrality, independence, and so forth. As such, to leave ethical scrutiny and meaning to "a convenient checklist" (AUVSI, 2018[c]), which does not primarily attempt to engage with the issues and broader contexts in which its members and users seek to operate, is thus an attempt to further naturalise associations between corporate bodies and an unproblematised humanitarian (data) sphere.

The AUVSI 'checklist' reveals that current power-dynamics are viewed by those they represent as non-negotiable insomuch that dominant bodies can set their own terms for what constitutes a 'respect of privacy', how 'public concerns' should be defined and acted upon (if at all), and, broadly speaking, what practices –if in name only– 'data ethics' encompasses. In this sense, this disparity between the two codes of conduct enables a battle for discursive primacy insomuch that, on the one hand, the humanitarian UAV code of conduct articulates a necessity to even the 'data playing field' between recipients and providers of humanitarian relief; it motions that 'Ethics as Best Practice' is constituted through the necessity of issues surrounding data ethics, humanitarian action and human ('recipient') agency being given robust consideration, and that these considerations are, fundamentally, in full sight of core humanitarian principles. On the other hand, the AUVSI code of conduct, owing to its short and imprecise articulations, and the deliberately 'blurred' membership it represents, finds itself as a resource for the potential further consolidation and legitimisation of humanitarian inequalities that additionally help to structure political, financial and organisational imbalances (Sandvik, Jacobsen, and McDonald, 2017: 340). Herein the notion of 'Ethics as Best Practice' is a collective dismissal –built through a malleable linguistic checkmark– of the aforementioned perspective in which there is articulated a vital need to discursively renegotiate precisely these dominant arrangements.

The notion of 'do no harm', with regards to the discursive antagonisms of the humanitarian UAV, can be taken further than just a focus on data ethics. In 2015, the search and rescue organisation MOAS operated in the Mediterranean Sea in an endeavour to locate and rescue migrants that were attempting the hazardous cross from North Africa into European countries

(MOAS, 2015). In addition to standardised equipment and personnel, the search and rescue boats were also accompanied by two of Schiebel's *Camcopter S-100*, a UAV with "high-definition payload imagery", stated as operational through day and night cycles, "under adverse weather conditions, [and] with a range out to 200km" (Schiebel, 2018). The use of this technology was seen as vital to the operation, as the director of MOAS, Martin Xuereb, stated in mid-2015: "I believe drones were central to five of the last 10 operations that we did […] you are able to 'see' the boat before you are able to with your own eyes, which makes a big difference", allowing the making of "informed decisions" (Bryant, 2015). Yet, the donated use of UAVs in this context was additionally an attempt by Schiebel and MOAS to change the perception of the *Camcopter*, a UAV operated by several states and intergovernmental organisations (such as the Organization for Security and Co-operation in Europe) for state security purposes. As MOAS founder Christoper Catrambone stated, "all you hear about is drones killing people. We wanted to change that dynamic" (Weiners, 2015). Yet the extent to which the partnership altered perceptions significantly is uncertain as, ultimately, Schiebel had facilitated MOAS in becoming "the first civilian organisation to use these military-grade drones" for humanitarian operations (MOAS, 2015[b]). While the Schiebel-MOAS partnership was the first of its kind, it also enables the logics surrounding the humanitarian use of UAVs to trend towards such rationalities, owing to the willingness of other corporate and security organisations to enter their UAVs into the humanitarian dynamic, facilitated, as Schiebel is, by hegemonic bodies such as AUVSI opening up the necessary discursive space for its legitimacy. General Atomics, also included under the umbrella of AUVSI's membership, state that the capabilities of their modified *Predator 'C' Avenger* UAV ensure that the large remote aircraft can provide food and medical supplies to otherwise inaccessible locations, for example, in crisis situations such as aid emergencies and natural disasters, and are looking to formally partner with humanitarian organisations to conduct missions (Ostrower, 2016). Additionally, Northrop Grumman's *Global Hawk* has been utilised to support the mapping of large-scale humanitarian relief efforts following the destructive power of Typhoon Haiyan in the Philippines (Northrop Grumman, 2014); and Lockheed Martin have made manoeuvres towards legitimising their *K-MAX* and *Sikorsky Autonomy Research Aircraft* UAVs as a method of conducting search-and-rescue missions and as a tool in the alleviation of natural disasters (Judson, 2017). Yet these are not the only 'capabilities' that General Atomics, Northrop Grumman, and Lockheed Martin's UAVs are proficient at: all of these UAVs have a long history of being sold as technologies within theatres of war (General Atomics, 2018; and Lockheed Martin, 2018), with Northrop Gumman recently commemorating the *Global Hawk's* 20 years of flight and "15 years of service supporting the war fighter" (Northrop Grumman, 2018). 'Best Practice', here, is thus seen as an articulatory method to facilitate the whitewashing of (justified) negative perceptions surrounding UAVs, which have been

rearticulated by manufacturers from tools of conflict into tools of (humanitarian) assistance. Yet, in the war of perception, the advocating for, and willing acceptance of, militarised technology within a humanitarian context may only seek to further solidify the prior connotations that surround it, contesting and casting doubt upon the neutrality and independence of humanitarian operations, and further pushing humanitarianism towards rationalities which are conducive towards corporate power.

As reported by FSD, UAVs are continuously confused with their weaponised namesake, and furthermore perceived by the general public "as related to military operations and/or intelligence gathering" (FSD, 2017: 20). As shown, this understanding is one that is well recognised throughout the humanitarian UAV's code of conduct and guidelines in an attempt to combat it, and although largely lies outside the scope of this project, is still useful to touch upon. The notion of upholding humanitarian principles is related especially to this, as Emery argues (2016: 159) that the perception –even if incorrect– that UAVs are "somehow linked to a military power that has a specific stake in the conflict or humanitarian crisis" would constitute a compromising and subsequent discursive renegotiation of these positions and principles. Understood through the lens of AUVSI's motivations, it can be seen that the UAV, operating as a corporate-humanitarian tool –albeit within AUVSI's defined 'Best Practices'– functions as a direct antagonism to the Humanitarian UAV Code of Conduct and its constitution of the UAV as ethical, insomuch that it induces multiple discursive confusions that do not always converge (Hofman, 2018: 1). Indeed, much like the many of its military-defence oriented members that, with a Janus-faced approach, sell both weaponised UAV technologies and repurposed UAV technologies aimed at humanitarian assistance, AUVSI endeavours to both heavily promote, represent and decorate the corporate and 'militarised' factions of its membership, whilst also articulating the promise of and distributing awards for "those using unmanned technology to save lives and improve health and the environment" (DJI, 2018; and AUVSI, 2018[d]). The contradictory modality is one that has the potential to obfuscate and crystallise under the economic and political hegemonic weight of its membership; the seeming contradiction allows for the realisation that AUVSI's (alongside its members') articulations concentrate a vision of humanitarianism that is simply another means to further 'grease the wheels' (Giridharadas, 2018: 124) of entrepreneurial, commercial ventures and their market-based logics, no matter how incompatible or incongruous they may be as a whole.

As such, the associations and suspicions of UAVs with contradictory purposes run deep, and is an important feature in what is brought into focus in the discursive constitution of the 'ethical' character of the UAV within humanitarian contexts. As, for example, the UAVs of General Atomics, Northrop Grumman, and Schiebel are already a staple within operations of

securitisation for many nations, it may be argued that their reputational use precedes them; yet, as private organisations such as Zipline, Swoop Aero, and so on, attempt to re-frame humanitarian needs within market-based concerns such clear, delineative associations become more problematic to bring into focus. As AUVSI and likeminded bodies push towards a discursive solidification of the UAV as a corporate, commercial asset first and humanitarian asset second, it may –by virtue of their hegemonic, established authority– establish the UAV to be perceived and utilised in ways that are contrary to fundamental humanitarian principles and otherwise more critical, humanitarian constitutions of the 'ethical' UAV. Consequently, whilst the humanitarian UAV code of conduct and guidelines projects the air of an apolitical consensus on shared ethics and values, its discursive structuring of the 'ethical' may well be untenable as the nodes and signifiers utilised to conduct its operations are increasingly and "precariously situated between the politics of solidarity and the politics of governance" (Calhoun, 2008: 38).

'Social Good'

Throughout the Humanitarian UAV Code of Conduct and guidelines, the furthering of 'social good' is another recurring notion attendant to conceptions of the ethical use of the UAV. In this sense, 'best practice' is also viewed as an understanding that ethical UAV use within humanitarian scenarios is additionally focused around forms of humanitarian development, labour, and the coordination and cooperation with native populations/organisations. The introduction of the UAV to assist in alleviating humanitarian crises within this context of 'social good' is also one that reflects articulations from some corners of the global aid and development sector to an agenda that attempts to not just 'localise' aid, but build native expertise blocs so that local communities and groups are not just able to better respond to and prepare for future disaster scenarios and (IRIN, 2018), but also demonstrate value within emergent markets. Andrew Schroeder, a contributor towards the humanitarian UAV code of conduct, expands upon this by noting that UAVs can have a significant impact towards work that constitutes 'social good', yet notes this can only be possible through the adoption of individuals and organisations "paying attention to the human context […] and to sustainability issues, rather than just technical wizardry" (Radiant Earth Foundation, 2018). The understanding posited by those constructing the humanitarian UAV code of conduct is that the UAV should not be seen just as a 'tool' that can be introduced to humanitarian contexts in order to assist with problems faced –for instance by wilfully ignoring the underlying perceptions and competing, contingent discursive articulations surrounding the UAV– but should in fact be sustainably embedded and managed locally within developing countries to help solve "very concrete social problems" (Seydtaghia, 2018).

Within this arrangement –and as articulated across the humanitarian UAV's code of conduct– is the implicit recognition that in order to facilitate a course of development, cooperation and coordination between external and native actors, leading to the prospect of internal sustainability, the technology and techniques utilised in this approach must be primarily accessible to civilians in order for them to familiarise themselves with it, and ultimately, utilise and help shape its developments; in essence, the agency of local populations is seen as central to a de-escalation of a prolonged external reliance on humanitarian endeavours. This position may be one that is untenable or unable to get a substantial footing if humanitarian operations are ones that accept –possibly necessitated to accept– or are themselves a source of the continuation of privatisation of key humanitarian response elements that draw from or (re)produce technologies and rationalities attendant to the ever-encroaching corporatised nexus of humanitarian action.

The promulgation of global corporate organisations within humanitarian UAV operations is consequently problematic with regards to the attempted discursive introduction of 'social good' within the same realm. Were corporate bodies able realise objectives that involve them becoming a predominant technology utilised within humanitarian UAV operations, it can be argued that efforts to institutionalise locally-coordinated and sustainable programmes would be negatively affected by the economic and political powers and logics that would be operating inside humanitarian locales, as operations –owing to varied market-based justifications– may be distinctly removed from the input of local populations. This can be seen insofar as that while estimated UAV costs –and per-hour flight costs– vary significantly, one aspect of re-purposed military UAVs and other, private and proprietary systems, is that their readiness and disposal is, as it currently stands, available predominantly to economic and political bodies with means far more substantial than general populations and small-to-medium organisations which they seek to supplant. Northrop Grumman's *Global Hawk*, for example, has been reported to cost approximately USD$35million –its complete support system costing over USD$123million (Singer, 2009: 110)– with some reports declaring a per-hour flight cost of USD$18,900 (sUAS News, 2013); and Zipline, a for-profit 'humanitarian' UAV organisation, has financial requirements so great that they can only be feasibly fulfilled –alongside investor capital– by payments directly from the countries that they operate in (Samuel, 2019). Subsequently, throughout supplementary materials of and articulations attendant to the aforementioned logics of AUVSI and its membership base, a salient perspective is missing: how (if at all) local populations may be able to engage with such technologies or utilise them themselves for their own means.

The details of aforementioned UAVs produced and marketed by corporate bodies both attempt to demonstrate a high level of sophistication regarding their technological prowess,

yet their language is primarily that of market-based activity and technological advancement that may *secondarily* be useful within humanitarian contexts (Northrop Grumman, 2018; Zipline, 2019). This holds true, for example, for Lockheed Martin's *K-Max*, insomuch that their marketing profile attempts to bridge a gap between themselves and humanitarian endeavours (Lockheed Martin, 2018[b]), yet at the same time is also resolutely focused upon the marketing and supply of the *K*-MAX and other similar tools within large-scale commercial operations (Lockheed Martin, 2018; and 2018[c]). As such this element of the discourse is articulated as problematic not just in the financial and practical costs that are attendant to such relations, but additionally the costs associated with the proposed discursive understanding of the UAV's social good.

Chapter Conclusion

In relation to the more 'critical' bodies within this discursive formation, a number of the developments highlighted within this chapter signal a concern that private, commercial and corporate organisations (and their technologies and logics), when placed within a context of humanitarian operations, would strengthen and promote a model of hegemonic humanitarian action that is overseen and implemented by such multinational, corporate organisations with varying –sometimes incongruous to typical humanitarian values– rationales. Whether the frequency of operations that utilise such techniques and technologies is high or low, it is –for those advocating for the UAV to become an embedded method of fostering 'social good'– still an issue of contention, and one that intensifies the problematics of humanitarian operations. When humanitarian operations are viewed as being solely 'technologically driven' –that is, when humanitarian crises are viewed as solvable through a lens focused entirely on the advances and utility of UAV technology and the manoeuvres of the marketplace, without considering broader societal issues– the social good factor, the "human element of trust between aid workers and locals" and the potential for workable internal sustenance, is absent (Emery, 2016: 163-164). The introduction of figurative and literal corporatised operations –no matter how many or few– operating above the heads of those the technology is aiming to help thus weakens or outright denies their agency in the eyes of those attempting to renegotiate such practices (ibid.). Consequently, for the actors that see the 'ethical' humanitarian UAV as a technology/technique that can foster 'social good', UAV use within humanitarian operations must be used reflexively, but also employed with a strong awareness of the agency and futures of those it is attempting to assist. In contrast, what may be seen through the significant corporatised focus of AUVSI's membership programme –which also floods 'the ethical' and 'best practice'– is an attempt at a closure of the discourse that prioritises the hegemonic corporate and market-based values of its members and their economic weight; the doing of which theoretically negates the questioning of any of the

underlying assumptions at stake in humanitarian UAV use, foreclosing the –separately articulated– transformative capacity of the humanitarian UAV.

As such, we can see a highlighting of the notion that as corporate interests attempt to dually design, manufacture, incorporate and naturalise hardware (and their attendant techniques) which can be rearticulated as 'non-conflicting' to humanitarianism through the articulated floating signifier of 'Ethics and Best Practice', the upholding of the ethical constitution of humanitarian UAV, as imagined by Meier, *et al.,* becomes unstable, contested, and increasingly contingent on the movements/articulations of hegemonic, corporate power relations and their logics. Moreover, the possibilities promoted by more critical bodies are themselves affected/influenced by and contingent on the wider conditions through which humanitarian action is re-legitimised, redefined and made possible, and the processes through which this is brought into focus. Through their articulations regarding the humanitarian UAV's ethical constitution –which, in part, were initially set out to emphasise and renegotiate what was viewed as problematic humanitarian practice/logics– we can see how more critical bodies themselves are also influenced by and responsive to the wider demands and changes found across the humanitarian system. The broader focus across the 'ethical' discourse on, for example, market-based concerns, professionalisation, efficiency, and incorporation of humanitarian beneficiaries within (humanitarian) labour formations does not necessarily speak exclusively to specific understandings of the 'ethical', but also speaks to wider transformations in humanitarian practice and the rationalities of 'the humanitarian'. It is, consequently, these shifting rationalities and processes attendant to the humanitarian system (as seen through the humanitarian UAV) that the next chapter engages with.

Democratisation

This humanitarian UAV is articulated as being a part of, as well as being a conduit for, a 'democratisation of technology' within an alleged, contemporary process described by some as a 'fourth industrial revolution'. Nevertheless, as with the previous examination of the humanitarian UAV's 'ethical' constitution, there is somewhat of a disconnect between what this signifies and –in relation to how it is articulated in various ways across the discourse– how it is understood in practice. This chapter firstly engages with how such a varied concept is to be understood in context and, in relation to the humanitarian UAV's attributed –supposedly– 'revolutionary' character, develops Feenberg's understanding of technological 'deep democratisation': technology that is embedded across societies in such a way so as to renegotiate established formations of power, a privileging and then normalising of individual politicisation, social good and agency by helping to transfer this power to citizenries. Subsequently, the chapter then examines the prevailing antagonisms to this arrangement, which is chiefly found in the form of neoliberal rationalities. From this and further examination of the discourse, it is highlighted how neoliberalism both floods the discursive field of humanitarianism (and the UAV), and is additionally articulated across the humanitarian system –by both corporate bodies attempting to breach the humanitarian sphere and humanitarian organisations that have 'invited' in such logics– as a 'neutral', efficient and, in some cases, necessary rationality. Here a dislocation is reached in relation to 'deepened' forms of democratisation as the humanitarian UAV is increasingly permeated by these neoliberal, corporatised logics, establishing the technology as that which is predominantly articulated within formations of hegemonic market-based practices/logics, fetishisation and commodification (of the technology and of the humanitarian beneficiary) and forms of extraction from the humanitarian sphere (data, capital, and so on), which, moreover, facilitates forms of depoliticisation and a negation of supposed transfers of power through neoliberalism's processes of neutralisation. Consequently, this signifies not a 'democratisation of technology', but a (neoliberal, corporate) technologisation of how 'democratisation' and humanitarian practice is articulated and understood within the discourse, opening up further considerations of the wider implications of such processes.

Introduction

Following on from the discursive ethical contestations demonstrated in the previous chapter, various attempts can be seen to have been made towards a delineation of the humanitarian UAV's *ethos* – albeit contested and contingent on varying rationales. Nevertheless, entwined across a number of articulations from bodies and organisations attendant (if even peripherally) to the humanitarian sphere is the notion that as the UAV becomes a tool that

moves more deeply into the realm of contemporary humanitarian action, it can be seen as an object that both helps to facilitate, and is a part of, a wider movement: a 'democratisation of technology'. Over the past decade the discussion regarding the cost of UAVs has adapted from a more fixated strand of attention, questioning the political and ethical rationality behind weaponised 'Predators' and 'Reapers' –their militarised, moral cost– to a discourse also focused around the UAV's humanitarian and assistive capabilities, as an accessible (reconfigured) technology with a potentially non-militarised operational legitimacy (Leetaru, 2015). As it transitions from state and military dividends into the realm of individual consumers and organisations worldwide, the recent commercial accessibility of the UAV to the public at large, in both the wholesale sphere, and as a rebuildable technology to those knowledgeable and resourceful enough to do so, has contributed towards these planes of increased availability being noted as assisting in the "democratisation" of, specifically, UAV technology within the humanitarian sector (Friedman, 2000: 66-73; Greenwood, 2015; Meier, 2015[b]; 2015[c]; Scher, 2016: 105-108; Garrett and Anderson, 2017). Nevertheless, as the conceptualisation of democratisation has profound effects on the potential scope of the humanitarian UAV and thus humanitarian action and attendant logics more generally, it is vital to scrutinise what the term is predicated upon through how it is understood, how this notion functions throughout the broader discourse, and the critical implications for such understandings.

As already seen in the past decade, UAV technology is proliferating, not only in technological advances –be they small or large– but also in global adoption rates (Murfin, 2018; and The World Bank, 2017), including adoption by humanitarian agents and organisations. In addition to UAVs becoming more transferable, as the technology has become more economically viable to import, reproduce in one's country and even maintain by oneself, the notion of humanitarian UAVs commonly 'in-house' on stand-by, or external organisations regularly utilising them, has become an idea that to certain interests, *prima facie*, seems both reasonable and welcomed. As Brooks argues, to synchronise both the expansion of the humanitarian UAV's capabilities and its integration within the humanitarian system, relevant interested parties "must continue to work with governments, organizations, and communities to develop this technology and apply it further to aid victims of every disaster" (Brooks, 2018). To some also, an increased refinement of how humanitarian action is ordered is an attempt to reconcile the imbalances of an inadequate system, instead of indeterminately bloating it or further failing to recognise and act upon, for instance, disparities in technology and/or power (OCHA, 2012[c]). As Greenaway observes (2000), this logic of the 'new humanitarianism' is not necessarily focused on expanding relief and/or assistance indefinitely, but instead attempts to solidify the notion that complex emergencies require

multifaceted responses that intend to foster distinct forms of political agency. As stated, this enthusiasm has included the call from some humanitarian agents and organisations to refine the scope of their work to include historically overlooked and neglected issues within the sector. These problematic issues often take the form of the "expansive management of crisis effects rather than causes", disparities between the needs of the affected and conventional humanitarian action, and the failure to "ensure the transformative promise of humanity by placing human beings and human communities at the centre" of humanitarian action and response (DuBois, 2018:1). Through their propagation, humanitarian agents have stated that UAVs are progressively seen as a tool to, in relevant circumstances, help achieve these corrections, being viewed as a instrument that is "increasingly coming to the forefront of humanitarian innovation" (Aid and International Development Forum, 2016). The introduction of this technology –and the attendant considerations it produces– within the humanitarian realm has been stated by such actors to generate both "new settlements" in how humanitarian labour is structured (Sandvik, et al., 2014: 229) and a redistribution of power "from capitals and headquarters to the people aid agencies aim to assist" (OCHA, 2012[c]: 2). As reports from the *World Economic Forum* suggest, the developments articulated as possible via the UAV have not only been afforded the language of a more inclusive humanitarian politic through the assertion that "private citizens increasingly have access to capabilities that have historically been available only to governments or large corporations", but have further been assigned a "revolutionary power", distinctive in its opportunity to "drive social change alongside societal impact" (World Economic Forum, 2018: 5-6) – to some, a 'fourth industrial revolution' facilitated through technology, robotics and AI (PWC, 2017). Consequently, these argued shifts within the humanitarian system that have been discursively associated with a so-called 'democratisation of technology' conceptualise the UAV being both an internal part of this notion and a broader conduit of its discursive progression. As the humanitarian UAV is discursively situated as a contemporary illustration of the democratisation of (humanitarian) technology, so too are certain values that, through differing forms of conceptualisation and implementation of the UAV, mediate understandings of democratisation and demonstrate what is at stake in its various discursive formations.

Understandings of 'Democratisation' and its Antagonisms

Democratisation is often viewed as a diffusion of power: a transition towards "empowering social conditions"; and that that gives "people choices in governing their personal lives", which consequently allows them "to shape public life" (Alexander and Welzel, 2011: 272, 286). Furthermore, depending on what element of discussion is given priority or emphasis, democratisation can be conceptualised through multiple avenues, such as the movement from less to more equality (Tilly, 2003), organisational rights, transparency of government,

and political pluralism (Freedom House, 2019; EU, 2018: 19); in sum, an expanding and strengthening of political and social agency. Broadly speaking, democratisation refers to "any change in the direction of more democracy, no matter how small" (Bogaards, 2010: 476). Yet the coherence of this premise is one that may start to unravel and bare its limitations when combined with more problematic notions. Adjacent to this, one can see how democratisation as an expression can be utilised as an indiscriminate rhetoric device to promote distinct, sometimes discordant, political interventions, most recognisably in cases whereby (Western) governance is exported and forcibly administered (Perry, 2006). For example, it could be stated that the 2003 intervention undertaken by the USA in Iraq –in the name of spreading (or 'promoting') democracy– was successful insomuch that, as was reported, it led to the "first free elections in half a century, following decades of brutal oppression" (CNN, 2005). In this understanding, 'democracy' and the processes concerning its actualisation, as noted by MacEwan (2005: 171), is seen as revolving around the fundamental principle of "one person, one vote". Yet this would be a misguided and superficial endorsement of how Iraq's post-Saddam elections came to take place. For Baghdad to fall, Saddam Hussein to be captured and the resultant administration of the 2005 Iraqi elections to happen the overwhelming price paid for 'democratisation' –even if in name only– can paradoxically be most vividly seen through the attendant disorder and outright elimination of Iraqi civilian lives directly brought about by Western 'democracy promotion' (Yamada, et al., 2006; IBC.org, 2019). Here, one can see how 'democratisation' can also conceptually be both an influential and problematic signifier that may conceal surreptitious or nebulous intentions, empower the unintended consequence, or, as Salame observed (1994), the composition of a "democracy without democrats". As Rancière states, the process of "democracy stirs, but the mess stirs alongside it" (2010: 47); the 'mess', adjacent to democracy as practice, includes the interpretation that democracy may also be considered and valued conceptually as both a "name and 'thing' […] a difference that constitutes democracy as something other than [solely] a kind of government" – a continuously negotiated process, too (2010: 45). Within, we can see the conceptual contingency of 'democracy'/'democratisation': though hegemonic discourses often give the appearance of a fixation of meaning centred on a certain master signifier, there are –continuously– other competing discourses that attempt to challenge and/or reassign this ideological meaning through divergent articulatory contestations (MacKillop, 2018: 189; Agamben, 2012). Consequently, a deeper understanding of democratisation is one that –instead of singularly focusing on the (in)appropriateness of the edicts and behaviour of the nation state– encompasses an appreciation of how, in practice, this diffusion of power is articulated as possible and transferrable across citizenries, conjuring notions –amongst others– of accessibility, influence, and a renegotiation of dominant power arrangements. Democratisation, then, should not be viewed uncritically as

an essentially affirmative and progressive signifier, nor should it be seen as a fixed or non-contested state-signified notion, as –in this instance, technological– elements that have been discursively allocated the potential to 'democratise' or mediate democracy are additionally contested, and –as will be shown– establish what is at stake not only in their 'democratising' immediacy, but also in a broader humanitarian and social sense.

One key interpretation of technological democratisation can be, as noted by Feenberg (2001: 195), viewed through a critical philosophy of technology as embedded within a technological-civilizational understanding: how we understand the so-called democratising power of technology is in many ways dependent upon ideas attendant to participation, power and consequences at a civilizational level. Herein, with reference to humanitarianism, individual power is seen as not just a "procedural matter" (ibid.) to placate beleaguered minorities, make insecure regions temporarily more hospitable, help 'trial' emerging technologies, or share the liabilities of humanitarian action, but is instead a crucial operational contingency of how technology assists in the enabling of political and social agency. Within this conception, effective technological democratisation is, as articulated by Feenberg (2001), a notion that revolves around this nexus of potential power diffusion. Feenberg articulates a need to engage with a public process of what he notes as "deep democratisation", which contrasts with simple formal changes in procedures that do not, and often do not *attempt* to, alter hegemonic power relations (2001: 193). 'Deep democratisation', in this sense, is a re-articulation of the conditions necessary for technology to re-distribute agency between the "lay[man] and expert" (ibid.), a normalisation of agency instead of it "appearing as an anomaly and an interference" with the 'self-evident' logics that political and technological hegemony fosters and reproduces (Feenberg, 1999: 147). A conceptualisation of deep democratisation here is understood within the context of the so-called 'fourth industrial revolution' as that which can disestablish or react against conventional power by those who are 'within', as "individuals immediately engaged in technically mediated activities […] able to actualize ambivalent potentialities suppressed by the prevailing technological rationality" (Feenberg, 1999: 105); a denunciation of technocratic politics and formalised power settings. As crucially adduced to in the previous chapter, Feenberg's notion is one that moves away from the alluring essentialist or deterministic conception of technology, and is consequently a critique of the idea that technology is itself "value free and outside the realm of political negotiation and social influence" (Haklay, 2013: 60). Thus, it is a view that technology (here the humanitarian UAV) is able to be renegotiated through social and political lenses that dismiss the 'value-neutral logical necessities' of, for example, seemingly obligatory "special bodies of expert professionals who enjoy a monopoly over knowledge of these imperatives" (Doppelt, 2006: 85).

Humanitarianism & Neoliberalism

Consequently, by separating the logic of (technological) democratisation away from a supposed contingency on ordained, regimented and particularised interests, articulations that encourage or relate to the understanding and arrangement of a 'deeper' democratisation are ones that are inevitably at odds with current global hegemonic (market and governance) practices that is here understood as neoliberalism. Indeed, as Giroux states (2005: 3-4), "part of the broader struggle over the relationship between democratisation […] and the global public sphere" is notably interconnected with how "political agency, civic education and cultural politics" contests neoliberal customs. In practice, neoliberalism seeks to "commodify all that has never before been treated as commodities", drive "open markets in spaces where they do not exist or are underdeveloped", and move governance away from state-centred institutions and onto a more networked assortment of actors, each with various interests (Daley, 2013: 377). Consequently, neoliberalism is not a new feature of contemporary capitalism; it is, as some have noted, its more destructively embedded intensification (Thompson, 2005: 23; Comaroff and Comaroff, 2000). Neoliberalism here can be seen as a depoliticisation of collective life, as the market is, for its proponents, the embodiment and pinnacle of "rationality in terms of an efficient distribution of resources" (Munck, 2005: 61), and the resultant arrangement of the "competitive individual" within these environments (Hall, Massey, and Rustin, 2013: 9) in which politics is "packaged and marketed like any other commodity" (Munck, 2005: 66). Through the attempted elimination of activity across the political landscape (via the rigorous delineation between a passive body politic and an ever-encroaching economic jurisdiction) the "neoliberal programme makes democracy in the political realm of limited relevance to economic affairs" (McEwan, 2005: 172); further politicisation of life is thus seen as redundant and unmanageable owing to the contingency of the 'rules of the (economic) game' being incontestable. This denial of politicisation and agency can be observed through examples of attempts by developing states to consolidate a politics of democracy, only for its citizenry to be "suffocated" through a paradigm that preserves informal power and privilege, and elite control of "markets and material rewards" (Springer, 2009: 139; Teichman, 2009).

The salience of the neoliberal order is –paradoxically– its shrouded omnipresence throughout contemporary Western life; an obscured arrangement that nevertheless is seen as the "dominant trajectory" of our time (Leitner, et al., 2007: 3). Largely operating from within the ideological boundaries of the Global North, the humanitarian (aid and development) realm is no stranger to accusations of facilitating the exportation of this policy agenda (Bernal and Grewal, 2014; Kamat, 2004). Indeed, often neoliberalism and humanitarian action are discursively summoned with similar signifiers, as projects that wish to "protect democracy,

human rights and freedom of trade", with their distribution to all corners of the globe framed as requisite obligations from "the greatest powers on earth, as the way to obtain perpetual peace" (Hahn, 2008: 144). The discursive parallels between these two notions further demonstrate the frictions arising from the humanitarian realms' problematic relationship with neoliberal policy insomuch that a significant understanding of humanitarian practice is woven in a tapestry alongside an ideology that eliminates political negotiation and agency (Ismail and Kamat, 2018: 572). It is not just this revocation of agency that can be seen as problematic within the humanitarian realm, but also that the neoliberal framework is one that works to be perceived as a 'neutral' facilitator of humanitarian action; firstly by depoliticising its own existence, which forecloses the possibilities of political agency, and secondly as an ideological justification for this closure – a reinforcement of the perception of 'apolitical' humanitarian judgement, which, simultaneously through its own validation, eliminates the need for political contestation (Radice, 2005: 98). This notion of depoliticisation and its justification(s) can furthermore be seen through the problematic nature of consumer-driven humanitarian platforms, in which aid and development within the Global South is conflated with 'ethical' forms of consumption, consumerism and enhancement. Critics have observed this illustration of neoliberalism as capitalism with a human(itarian) face insomuch that the individual is authorised to feel good about their broader role in tolerating/sustaining global hegemonic imbalances as long as they 'buy into' the systemic values that the ethical brand/opportunity articulates (Zizek, 2009; Kapoor, 2012; Daley, 2013). Through this intensification of capitalist relations, individual redemption and assumed betterment for Others is sought, as is often seen, for example, in the market-informed 'gap year' assembly of substandard hospitals and schools (and so on) in the Global South, alongside other attendant (humanitarian) social relations that view the "volunteer as [a] client", and "experience as [a] commodity" (St-Amant, et al., 2018; Biehn, 2014).

Herein, we can see how neoliberalism permeates both the discursive structuring of a broader humanitarian language, and additionally, how it is articulated within the boundaries of humanitarian action as a 'neutral' form of practice and commodification that, moreover, facilitates depoliticisation of life. Overall, the embedding of neoliberal ideology within the humanitarian realm is a notion that is well established, yet, as some have argued, under-scrutinised and under-scorned from within the sector. As Wallace observes (2004: 204), even many of the humanitarian organisations that critique prevailing neoliberal agendas do so in a superficial or limited capacity, with "almost no deep questioning of the roots of that paradigm"; these barbs more often than not functioning as permissible condemnatory adjacencies to dominant humanitarian discourses. Moreover, despite –limited– critiques of this order (or even a lack of critique potentially due to established apprehensions about

political neutrality) many humanitarian organisations are seen as postulating from self-sustaining positions of power, "campaigning on behalf of the poor as part of the global elite" instead of facilitating practice that affords such insecure individuals and groups the prospect of political and social agency (ibid.). A realisation of the latter point –the articulation of a deeper form of 'democratisation'– would (at least partially) help envisage a dismissal of conditions that lead to the reliance on –and self-sustainability of Western– humanitarian bodies. Yet, instead, what is presented is a fragmentary and misguided articulation of supposed emancipatory conditions that can only be achieved via the current arbitration and sustained involvement of dominant corporate institutes and attendant rationalities.

The UAV as a Democratisation of Technology?

Much like the wider context of social practice and bonds, which are becoming more frequently mediated through technology, the UAV's growing adoption in the humanitarian sphere hosts a number of critical discursive points of inflection that serve to highlight its contested nature. The UAV, initially understood solely within the discursive assemblage of militarised operations, is now additionally viewed as a technology that aids in reconfiguring humanitarian processes. As made clear by its global proponents, in both perception and practice, UAVs are no longer a tool solely capable of ending human life; they also save and augment it (Harwood, 2011). Within the landscape of humanitarian action, the UAV is positioned in a number of various nascent formations: for example, as a tool that assists in search and rescue (NSF, 2005), post-disaster land mapping (FSD, 2016[d]), environmental observation (senseFly, 2019), medical and cargo delivery (FSD, 2016[e]; Field, 2018), and conceivably as a technology that facilitates these processes as ones that are conducted in a local and sustainable fashion (Elrha, 2016; Betschart, 2019). Nevertheless, these arrangements of the UAV's humanitarian potential are not devoid of critique. As previously noted, there are a number of pertinent ethical contestations revolving around the UAV's discourse, such as data collection and use, privacy considerations, and additional issues surrounding the constitution of 'best practice' and the humanitarian UAV's *ethos*. Furthermore –and as will be examined through this chapter– is the supposition that the UAV, now embracing a new-found acceptability, facilitates legitimised forms of 'emancipatory' articulations that function within and perpetuate dominant arrangements of power and control instead of challenging them. The political relations of any technology, and thus the humanitarian UAV, cannot be understood *prima facie*, with technologies having the potential to be embedded throughout constellations of many competing initiatives (Sørensen, 2004: 185). Consequently, depending on who is engaging with the technology, and at what level of 'instrumentation' this engagement is at (Feenberg, 1999), *what* the humanitarian UAV is constituted as is articulated through expectational lenses that situate it across a myriad of

discursive subject positions: as a simultaneously naïve, disruptive and promising adoption of technology; and as a technology that further enables depoliticising frameworks, yet at the same time fosters processes of democratisation (Sørensen, 2004: 186; DuBois, 2018: 3). If we are to conceptualise the discursive significance of a so-called democratisation of technology (and its resultant implications), it is these contestations –and the contexts in which they appear– that must be recognised and understood. Furthermore, the underpinnings of the UAV's contestations should additionally be recognised and analysed not only in terms of the 'social and political processes in which is it constituted, but also in terms of the contingent role it plays in constituting social and political processes itself' (Verbeek, 2005: 125); with regards to the latter point specifically, *what* role the humanitarian UAV plays in both sustaining and –as more critical humanitarian actors hope the UAV will help to facilitate– negating the previously noted hegemonic market-led practices. As noted by Feenberg, conceptualisations of politics that are routinely abstracted from technology –or technology that is conceptualised as distant from an understanding of politicisation– "will prove more and more irrelevant to many of the most compelling problems we face" (2001: 195). As such, a 'democratisation of technology' may well be articulated through superficial means by those who wish to 'fix' this discourse as non-contestable, but, as can be seen, the amalgamation of a deconstructed politic and the technological (i.e., the 'humanitarian' UAV) negates this desire. Within these contexts the humanitarian use of UAVs is thus related to as both an illustration of a democratising technology and a conduit of this articulatory development; however, as the notion 'democratisation of technology' is non-fixed within the discourse, what this stands for –and thus what is at stake– is consequently brought into dispute. Accordingly, it is not simply enough to embed these discursive interactions within dominant (superficial) arrangements, as current hegemonic relations deny possibilities of deeper politicisation and agency that *could* contest it. As imagined by the more critical proponents of the humanitarian UAV that do attempt to bring these arrangements into debate, it is precisely this affirmation of political agency –and thus re-politicisation of civilian life– that they aim to reconcile and align with, as previously mentioned, a 'deeper' form of democratisation.

With reference to the humanitarian UAV, one can see some movement towards this notion of deep democratisation as praxis from smaller organisations more critical of current humanitarian practice: the creators and principal adopters of the Humanitarian UAV Code of Conduct articulate the UAV as a tool that can facilitate, as they state, "a world based on equal opportunity and shared prosperity" (WeRobotics, 2019), empowering communities through a technology that is both "accessible and applicable" to historically marginalised and insecure global communities (WeRobotics, 2019[b]). Following the 2015 earthquake in Nepal,

humanitarian agents, allied under the banner of Humanitarian UAV Code of Conduct, utilised UAV technology in order to map regions damaged by the disaster. Throughout this process, the printed maps were made available to communities for them to view and modify with their own direct knowledge of the area (Meier, 2015[b]) and thus contribute to a deeper regional 'sociology of knowledge' (Berger and Luckmann, 1966). In addition to this participatory model of humanitarian response, locals were also given demonstrations of the UAV utilised and partly trained how to operate it in order to help facilitate the creation of more sustainable local partners. The process, as one contributor stated, enabled "another way to unlock and liberate digital data" for local populations and institutions in their post-earthquake responses, alongside developing measures of preparation for future disasters (Meier, 2015[c]). As Warf and Sui (2010: 200) argue, the UAV functions –in both a humanitarian and non-humanitarian sense– as a tool, which fosters amongst other considerations "an unprecedented democratisation of geographic knowledge". Continuing this theme, the humanitarian UAV is perceived as not only as a tool to help liberate, but as a technology that –almost paradoxically– "helps us become more human" (Greenwood, 2015), firstly by rejecting (or at least attempting to reject) the connotative spectre of bodily negation that haunts the UAV, and secondly by facilitating a combination of "the human desire to help with new technological tools that can enhance human abilities" (ibid.). Within these articulations the UAV is seen as assistive towards a reconciliation of the humanitarian agenda within which local populations and organisations have historically been largely external to decision-making and the furthering of humanitarian processes. Indeed, the Robotics Association of Nepal (RAN) –which focuses on "local problems, and local solutions" through robotics in Nepal (RAN, 2018)– note that their intention is to alleviate "natural calamities", and to promote "human empowerment" through –now– more accessible technologies and sources of information. As such, their methods are ones based upon a widened availability of electronics in Nepal, and partial funding from external diplomatic sources. As RAN note: "We have, just recently, done 3D mapping by drone. We are using *Phantom*, and we are using our own [electronics] board – we use this for the 3D mapping and video mapping" (Researcher's Interview, no.2, 2016). This intent can also be seen in the Maldives, whereby in 2017 (at least) 20 islands were equipped with consumer-grade *DJI* UAVs, with local emergency officials having received training from professional first responders within the United Nations Development Programme "in how to integrate drones into their disaster preparedness and response setups" in order to prepare for extreme weather, sea surges, and flood levels, in addition to utilising data gathered to plan evacuation routes, and build and prepare crucial infrastructure (DJI, 2017). The discourse surrounding the adoption of UAV technology here is one of positivity: for nations that "[rely] heavily on proactive community teams for its national emergency response strategy" (ibid.), the introduction of

UAVs, and the subsequent training of local response forces, was said to highlight how accessible technologies may be utilised across vulnerable nations in innovative disaster preparation and response strategies. One can also see measures to put this notion into practice from other established global organisations. In its 2013 World Disaster Report, the *International Federation of the Red Cross* note that technologies newly employed in humanitarian scenarios operate as a prospective link in facilitating a stronger 'voice' for local populaces, but only if the relevant sectors can augment their behaviour to "meet those expectations" of said communities (IFRC, 2013: 171). As discussed in the previous section, burgeoning technologies within the humanitarian landscape, like the UAV, do not inherently promote political agency or have transformative powers in and of themselves. How the UAV not only 'meets expectations' but helps negotiate a 'deeper' politics of increased agency is thus partly contingent on understanding attendant contextual factors that facilitate or set the limitations of this mediation (Madianou, Longboan, and Ong, 2015). OCHA note the need to widen these parameters so as to incorporate crisis-affected populations in the development and application of humanitarian technologies (2017), yet at the same time acknowledge that technology should not be applied without critical thought or in contexts in which the gratuitous use of technology promotes the frequently-founded charge of humanitarian paternalism (Barnett, 2011: 34). What is requested here with (and through) the use of the UAV is that a reliance on the "traditional coordination mechanism" is replaced with a "functional ecosystem in which actors can work collaboratively together" to both bring in non-traditional expertise and "share the risks that hinder innovation" (OCHA, 2014[d]: 22). This is additionally recognised by FSD, who argue that the most effective use of UAVs within humanitarian scenarios can be traced back to operations that actively engage with notions surrounding deep democratisation such as agency promotion, coordination with local communities and the implementation of local knowledge, experience and skills (FSD, 2017). Herein, we can see –albeit small– attempts from these larger bodies to further practices that "represent a larger range of interests", and in doing so principally reject the notion of "disseminat[ing] power for its own sake" (Feenberg, 2001: 193).

Nevertheless, although accessibility of UAV technology has grown over the last decade and facilitated this notion of a democratisation of technology, within a broader context UAVs are not currently an instrument that is ubiquitous, nor are UAVs immediately at hand for all populations and organisations around the world. Within disaster relief operations in developing and historically insecure regions, UAVs are overwhelmingly used within 'response' situations relating to "data collection and observation" (OCHA, 2014[d]: 5), as opposed to other stages of disaster relief such as 'prevention', 'preparation', and 'recovery'. Nonetheless, even in 'response' stages, UAVs are still viewed as a broadly underused tool

by humanitarian and national organisations (Measure, and American Red Cross, 2015: 12). Within scenarios of humanitarian-led development, UAVs are additionally discussed as a technology that can, *in potentia*, offer a sustained role in the small-payload ('cargo') delivery of developmental materials such as vaccines (UNICEF, 2018), medical supplies (Scheibenreif, 2018), blood (Kelland, 2019), and contraception (Schiller, 2016), due to its 'leapfrogging' potential with regards to inhospitable terrain and traditional transportation infrastructure that many developing and insecure regions lack (Scott and Scott, 2017). Similarly, the humanitarian UAV is also largely seen as under-utilised in these scenarios, with 'cargo' UAVs not developing to the degree of readily available commercial UAVs employed for non-cargo-related operations. Crucially, it has been noted that the humanitarian realm will not be a "primary driver" in the development of this technology, but will instead largely follow the direction of other sectors and broader market conditions in how the cargo UAV is placed within humanitarian contexts (FSD, 2017: 36). For example, private organisations such as Matternet and Zipline have been utilised by established humanitarian organisations (World Health Organisation, MSF, and UNICEF) as platforms to demonstrate, study and field-test their cargo UAV systems, in order to prove operational value (ibid.: 37-40); this –already blossoming– competition is only more likely to grow, with "first movers" gaining important market advantages once the cargo UAV field is further advanced (ibid.: 42). Consequently, though there are humanitarian scenarios in which the UAV is employed more readily, it can still largely be viewed as an emergent technology. Thus, political negotiation of the UAVs discursive constitution through its attendant nascent articulations is of significant importance to understanding not only its future roles, but also what roles are seen as orthodox, and from this, the level of 'approved' politicisation that the orthodox humanitarian UAV mediates/facilitates.

Deep Democratisation, or a Furtherance of Dominant (Neoliberal) Market Practices?

With regards to how the UAV is discursively constituted, though there is nevertheless the articulation of deep democratisation from some corners of the humanitarian realm, this notion is not a singular one, nor is it unified; indeed language hostile to deep democratisation still remains a prominently embedded discourse throughout small and larger organisations. A convergence of notable economic and social articulations of neoliberalism can be seen through how the UAV broadly acts as a significant focus/mirror of the humanitarian realms' hopes of producing more 'efficient' and (cost-)'effective' forms of humanitarian action (OCHA, 2014[d]; UNICEF, 2019), and, from this, a supposedly more 'accountable' and 'democratising' relationship between humanitarian agents, (corporate) partners, and beneficiaries (Schroeder, 2018). Comparable language, partnerships and priorities can also be seen when examining how the UAV is discursively situated with regards to its testing, implementation

and normalisation/embedding across regions in the Global South (Ledgard, 2014; Wright, et al., 2018; Child, 2018), further continuing the private sector's linguistic and practical bleed into the humanitarian realm's wider discourse (Scott-Smith, 2013: 2242). The reduction of the humanitarian UAV's potential to notions such as efficiency, (cost-)effectiveness and (market) convenience may well paint a picture of market oriented utility, but it does not fully engage with how the UAV is –or could be– situated as deeply democratised/ing force outside of these hegemonic settlements. Herein lies a significant discursive issue for notions of deep democratisation: while some may assume the developmental trajectory of the humanitarian UAV –and technology more broadly– as an apolitical movement towards solving political problems (Sandvik, et al., 2017: 325-326), it is crucial to recognise that the framing of the UAV's dominant attendant articulations delineate not only what is possible, but also crucially what prospective contestations are (already) foreclosed. As highlighted in the previous chapter, ideas surrounding a more 'critical' approach to UAV use within humanitarian scenarios may attempt to discursively structure a more 'ethical' character of the UAV (though, as noted, some of these perspectives are not without their issues), yet the fundamentally contested nature of the 'ethical' also allows for a repurposing of its discursive contents by those with the means to do so. Furthermore, even with a foundational availability of the UAV and its attendant hard/software, technology in and of itself is not a solution. Though the costs associated with UAV technology have reduced significantly in recent years, local users and operations may lack the availability of extensive resources to set up and manage infrastructure systems that are, in the context of UAV operations, critical, from both a legislative and practical standpoint. To address this, regions with a lowered availability of technology or resources may be (at least partially) reliant on external organisations or institutions to directly invest in the wider growth, awareness, and broader practical understandings of the technology –in this case UAVs– to supplement and/or accelerate progress for both humanitarian and local organisations in developing countries (WeRobotics, 2017, UNICEF, 2017, Belgium.be, 2017, and BI Intelligence, 2016). What is at stake with a foreclosure of political agency and contestation can be partially realised through the terms of engagement that are co-opted by dominant institutions which then lose the "radical or critical edge that they might once have had" (Eade, viii: 2010), with additional discursive nodal points having a more insidious chain of equivalence (Laclau and Mouffe, 1985) that gain "purchase and power through their vague and euphemistic qualities [and] normative resonance" that may contradict or betray more previous critical applications (Cornwall, 2: 2010).

For example, the notion proffered by the United Nations Trade and Development Board (UN, 2014) of science and technology-focused "inclusive innovation and development" may at its

surface appear to be epistemologically congruent with the politics of technology suggested by Feenberg's deepened form of democratisation, as it is evocative of broader practices and "policies [that] can help achieve more equitable, sustainable" and participatory transformations of humanitarian action (ibid.: 1). Beneath the surface, however, this understanding of 'inclusive innovation' is disclosed more as the creation of "market opportunities" and pursuing of further 'efficiencies' in developing countries for the private sector, and the consequent financial profitability of this hitherto untapped market (ibid.: 6-7). With specific regard to the UAV, the aforementioned example serves as a platform for demonstrating the articulatory flexibility of 'technological democratisation', insomuch that more critical humanitarian bodies have too entered into a "business ontology in which it is *simply obvious*" (Fisher, 2009: 17) that the 'democratisation' of the humanitarian UAV should be a process that engages with, and is mediated through, existing market values. WeRobotics, one of the principal creators of and stakeholders in the Humanitarian UAV Code of Conduct, sees the democratisation of the UAV as an opportunity for individuals throughout the Global South to introduce the UAV as a tool with a "permanent place in many types of businesses" (WeRobotics, 2017[c]); here the humanitarian UAV is not just to be utilised for aid and response, but as an attendant method of (capital) development within market gaps. In this, WeRobotics 'Drones as a Service' programme brings the competitive incubation logic of Silicon Valley to the Global South in order to "efficiently and methodically build up local robotics capacity in developing countries" (WeRobotics, 2017[d]). A "neoliberal subjectivity" (Leitner: 2007: 1-4), encapsulates this normalisation of the logic through which individuals equate "individual freedom with self-interested choices". The democratising 'Drones as a Service' programme thus seeks to emancipate individuals through empowering the 'self-interested choice' that benefits "both their well-being and that of society" without any state support (ibid.). Yet "emancipatory politics", as Fisher states (2009: 17), "must always destroy the appearance of a 'natural order', must reveal what is presented as necessary and inevitable to be a mere contingency". Whilst it is seen as worthwhile to place the technology and funding in the hands of the Global South –albeit from the impetus and financial grants of Western organisations– there is still nevertheless a tension presented through *how much* of this order's appearance/manifestation (hegemonic relations and compliance towards the global marketplace) is destroyed. The conditions that led to these developments are still present, yet, with a further roll-back of the state, individuals are now tasked to work specifically within these (now 'democratised') confines. There is a common discursive emphasis placed on how humanitarian (UAV) technology 'levels downwards', promoting "self-administration, personalisation and portability" from dedicated communities, yet, in doing so, supports the social reproduction of normative governance and structural precarity as it "folds into the fabric of society, adapting and adjusting itself to the inequalities

encountered" (Duffield, 2019: 22); paradoxically, situated within these arrangements, the technology itself is pronounced as "the remedy against the threat it poses" (Zizek, 2009: 21). Here, these articulations suggest the notion that the introduction of the UAV to humanitarian action in this positioning both facilitates and compels the further consolidation of dominant political and economic relations –seen as unproblematic– instead of influencing their contestation. Accordingly, the articulation of this "new planetary vulgate" –as Bourdieu and Wacquant (2001) regard neoliberal signifiers and articulations– obscures potential meanings and implications underlying these notions; signifiers which, by their ubiquity, are transformed into an apolitical and "universal common sense" that obliterate values behind "complex and contested realities" except to those in positions of power who utilise them, from which they are then "tacitly constituted into the model and measure of all things" (ibid.: 3).

Just as the discursive subversion of the humanitarian UAV's 'deep democratising' potential can be seen through the antithetical justifications of the marketplace, so too can this subversion be seen through the hegemonic market alignment of knowledge diffusion. As Archibugi and Pietrobelli observe (2003), the continuously growing reach of technology theoretically offers excellent opportunities for knowledge dissemination and increased political agency across citizenries, yet this conception does not fundamentally mean that willing nations, institutions and citizens will be a part of this and broader processes, or indeed find benefit from them; on the contrary, even in its burgeoning form, those that have managed to harness the initiative and embed themselves within the dominant discourse of the humanitarian UAV's development are the institutions, corporations and states "that already are at the core of scientific and technological advance[s]" (ibid.). Throughout phases of development and testing the UAV's role within humanitarian action it has been common for these larger bodies to redeploy themselves and establish a base of operations, or offer their technology or funding to smaller, local organisations and humanitarian groups, in order for to "test and perfect" the process(es) and equipment "in field conditions and in countries where regulations are more favourable compared to the 'home market'" (USAID, 2017: 15). In 2017, the Malawi government, in partnership with UNICEF, launched their 'drone corridor': an environment regarded as a focal point in Africa to test potential humanitarian UAV applications; a controlled platform for private sector organisations and other partners to explore the developmental use of their humanitarian UAV 'services' (UNICEF, 2017). Though UNICEF sees the Malawi drone corridor as simply a "drone-testing site for humanitarian and development initiatives" (UNICEF, 2019) –and wishes to expand globally, as their proposed "network of drone testing corridors" suggests (ibid.)– there is nevertheless a noticeable air of the 'Californian Ideology' (Barbrook and Cameron, 1996) surrounding the incubation and testing process offered by UNICEF. Within the drone corridor programme UNICEF draws

successful applicants from its own 'Innovation Fund' –which provides innovators with Silicon-Valley-style seed funding, corporate networking opportunities, and a "network of mentors" to "help grow their company and ultimately profit" (UNICEF, 2018[b])– in order to test and refine their UAV 'solutions' in order to bring them to market. As Currion (2015) observes, the logic of the debate is framed as a corporate, technocratic, market-driven approach, rather than one that is grounded in the principles of a deeper form of democratisation. The key questions being asked are "'do drones work?'" and 'in what ways can we make them work whilst embedding them within the parameters of the market?' (ibid.), rather than questioning the extent to which their current orthodox testing and use modulates/sustains existing imbalances throughout the humanitarian sector.

Through the transferring of technological development and risk to obliging peripheral groups, institutions and states, those beholden to these configurations can increasingly be seen as developmental bodies of influential and wealthy nations, organisations and corporations, insomuch that they exist both as continuous hubs of temporary testing, and as *possible* recipients of –normalised– technological dividends, unwillingly reliant on, and operating around, the contours of the global marketplace. Indeed, as has been observed, there is an onus placed on host states to prove that they are best suited to be incubators for these processes. In order to draw in advanced technologies, "attract further investment, impact communities directly" and exhibit an (inter)national reputation as "innovators", peripheral states are required to "demonstrate the value" of facilitating UAV development within their borders, whether that be through lax/welcoming regulatory arrangements, lessened risk potential, or otherwise more accessible conditions and corporate incentives than other competing nations across the Global South (Sarus, 2018: 31). As there is no deterministic force that compels this technology, emergence of the UAV may well lead to facilitating practices of deep democratisation within the humanitarian realm; nevertheless, this notion is one that can be seen as antagonistic to many organisations within and adjacent to the humanitarian sector looking to stake a claim in the underdeveloped, yet expanding, market. Within this, with an augmenting shift in how the Global South is perceived –from receiving "missionaries of empire to missionaries of [technological] development" (Manji and O'Coill, 2018)– private and humanitarian organisations can be understood as bodies inculcating increasingly obfuscated relationships between traditional and non-traditional humanitarian actors. Examples of this blurred delineation between non-profit and for-profit (humanitarian) realms can be seen through a number of initiatives embedded within Africa, such as Tanzania's 'Lake Victoria Challenge' –a "gathering of global investors, thought leaders and experts at the forefront of drone technologies" (LakeVictoriaChallenge.org, 2019) testing a number of applications for UAV technology, and competing against one another in projects

such as the transportation of goods and 'emergency packages' to communities that are cut off from the country's mainland– an event co-organised by the World Bank, and supported by the World Food Programme, UK Department for International Development and UNICEF, alongside participants from predominantly Western organisations (Wakefield, 2019). As the Tanzanian government state, their Lake Victoria 'drone corridor' operates as a competitive "laboratory for [the] real world testing" of how global UAV business models may be integrated within commercial and humanitarian supply chains across East Africa, and, in doing so, create new markets and services to address sustainable development goals (LakeVictoriaChallenge.org, 2019; 2019[b]). Through this can be recognised one of the most treasured features of neoliberalism: that competition acts as a "discovery procedure" of that which can be put towards "definite objectives" within the market, and thus crystalises in 'non-ideological terms' a capital marker of what –or who– is valuable (Hayek, 2002: 14). As Radice observes, the notion of international competition is one that has been moved to the front-and-centre of ideological values through neoliberal structuring by nation states and globalised organisations (2005: 96). The UAV, with its allocated signifiers of 'efficiency', '(cost-)effectiveness' and so on, is thus constituted by both the humanitarian and private sectors as an ideal commodity (and conduit) to realise this impetus.

Tanzania is not alone in this market-led turn to humanitarian technology, as it follows leads from Rwanda's regulatory framework in seeking to implant the UAV within arrangements that are flexible and economically scalable (World Economic Forum, 2018: 11-12). Several humanitarian UAV projects are embedded within Rwanda, however, the largest and most notable programme is that of Zipline, a Californian organisation that designs and builds proprietary UAVS technology, and since 2016 has used its UAV systems to deliver medical products across the region (Zipline, 2019). In addition to receiving payment from the country it is operating in (Asiedu, 2019), Zipline's primary source of financing comes from a notable range of Silicon Valley venture capital investments, such as *Microsoft* co-founder, Paul Allen, *Yahoo* founder, Jerry Yang (della Cava, 2016), Sequoia, A16Z, GV and Katalyst Ventures (Zipline, 2019), alongside several other multi-billion dollar private equity firms (Shieber, 2019). Keller Rinaudo, Zipline's founder, notes correctly that "technology is not benefitting the vast majority of people" around the world, wishing to develop and utilise UAV technology in ways that can help 'everyone on the planet' (Shieber, 2019). In particular, Zipline operate within locations where their use of UAV technology is able to 'leapfrog' infrastructure gaps or inadequacies that limit cargo delivery (Glauser, 2018). Yet, within the broader technological reimagining of humanitarian development and aid delivery are consistent understandings of how humanitarian UAV action should progress within an outlook that reflects notions of deep democratisation and 'benefits the vast majority of people' through a furthering of political and

social agency; one of the most notable measures being to ensure that the technology can be manufactured or maintained in the country of deployment utilising local skills, knowledge and supplies (Fraser, 2017; WeRobotics, 2019[c]) in order to embed the capacity for self-sustainable technological approaches to aid delivery, disaster response/preparation (and so on) within nations. Zipline (and its attendant 'do-good' financiers) steps outside of a deep democratisation understanding and supplements the notion of 'benefitting the vast majority of people' with a distinct Silicon Valley candour, betraying their market-led ambitions: "we do have a proprietary system", acknowledges Zipline's global operation manager, "but then so [does] Apple" (Wakefield, 2019), referencing the company notorious for its 'ownership of the consumer' due to manoeuvres that –similarly– funnels and holds them within a proprietary and closed-platform ecosystem (Montgomerie and Roscoe, 2013). The approach here is that which Zizek observes as the oxymoronic conscience of the "liberal communists" (Zizek, 2008: 15-24): the neoliberal-capitalist humanitarian (actor, financier, corporation). The Janus-faced positions of those –in this instance, for example, Bill Gates, Katalyst Ventures, Zipline, Swoop Aero– who profess a 'postmodernised version of the invisible hand of the market', democratising technology and social responsibility through its incorporation within the market, instead of this paradigm being seen as antagonistic. Indeed, the UNICEF Executive Director situates this notion as a neutral formation for alleviating humanitarian crises, stating, "we can unlock the potential of the private sector for the greater good of the world's children" (UNICEF, 2018[c]). It is an understanding whereby there is no particular exploited group, only "concrete problems to be solved" (Zizek, 2008: 18): distribution of medical supplies, access to other forms of healthcare as mediated through the UAV, monitoring, and so on. Herein, within this framework, attempts to maximise a notion of 'social good' can be seen as working in tandem with "maximising the reach and frequency of market transaction" insomuch that all human(itarian) action is prey to be brought into the domain of the market (Harvey, 2005: 3). The signifier of 'democratisation' (of technology) is flooded by an understanding of 'freedom' reconstituted as free enterprise, moreover, a "fullness of freedom for those whose income, leisure and security need no enhancing" (Polanyi, 2001: 265); a framework for humanitarian applications of technology that is led, not by (critical) humanitarian actors promoting deep democratisation, but predominantly by a corporate-technocratic, neoliberal discourse.

Accordingly, one such attempt to principally inform this discourse can be seen through the corporate UAV lobbying body, AUVSI, its 'XPOTENTIAL' conference, and 'XCELLENCE Humanitarian Awards', in which endeavours towards discursive authority over emergent technological arenas are recommenced (in tandem with their previously analysed 'code of conduct') and the fortification of dominant and commercial interests is underscored. Indeed, 2019 saw a sharing of their 'XCELLENCE Humanitarian Awards' prize between Western

governing institutions and commercial bodies – three United Sates' government agencies and two Silicon Valley venture-capital organisations, Zipline and Swoop Aero (AUVSI, 2019). As the marketing material for AUVSI's XPOTENTIAL conference states: it is "the largest, most significant event for the unmanned systems industry", in which global bodies "will learn how to leverage unmanned systems to […] expand business capabilities, capitalize on efficiencies" and be part of the voice that helps drive policy and regulations (AUVSI XPOTENTIAL, 2019). Consequently and crucially, though unwritten, it signifies itself as one of the largest articulatory bodies of normative considerations regarding how humanitarian UAV technology is constituted, and thus understood as profitable in its application. The credibility of the humanitarian UAV within such an understanding is thus here entwined with its ability to operate within and negotiate evolving market practice, yet these articulations do not consider a major realignment of priorities that would recognise or legitimise the opening of spaces that allow more power and agency to be placed into the hands of insecure global populations as there is little incentive to do so. The UAV may be undergoing a process of democratisation insomuch that its embedding within the Global South is underway, but, as Benkler adduces to (2006: 379-380), the recognition of a deeply democratised technology relies largely on the "result of social practices and political actions that successfully resist efforts" to, firstly, "minimize its impact on the incumbents" within the sector, and, secondly, regulate its emergence as an 'apolitical' continuation of hegemonic market logics. However, as has been shown through instances in which the past promise of radical, democratising and emancipatory technologies deescalated, traditionally, much of the formal unification of this space has fundamentally been through manoeuvres that "increase the degree to which private, commercial parties can gain and assert exclusivity" in domains of market-oriented knowledge and capital production (ibid.: 384). As it stands within this context, the humanitarian UAV is positioned as not just a tool to simply assist in delivering medical supplies or engage in search and rescue operations (for example), it is jointly articulated as a starting point –grounded both historically and in current practice– to help consolidate the principles of an efficient, cost-effective market economy. The humanitarian UAV is situated within these developments as not so much 'inheriting neoliberal regulatory landscapes', but more as a facilitator of "emergent neoliberal, market-oriented restructuring projects" (Brenner and Theodore, 2002: 351). Approval –in the form of funding, network/knowledge opportunities and legitimacy from global political-economic institutions– for the application of this technology within the global market is thus "given on the basis of demonstrably shared neoliberal values" (Hyndman, 2009: 872) that promote its ideological remit, and in doing so, regulates and defines the democratisation of technology as that which is encapsulated by normative economic and political arrangements.

Alongside this, the discursive movement towards a democratisation of technology as informed by the market is consequently also informed in part by disparities in humanitarian funding, whereby there is a steadily widening gap between that which is requested and that which is granted (OCHA, 2018). In addition to this imbalance throughout the general humanitarian sphere, funding of 'humanitarian innovation' from members of the Organisation for Economic Co-operation and Development and Development Assistance Committee had, in 2015, been provisionally assessed as constituting 0.27% of their required humanitarian response funding (Gray and Hoffman, 2015). Increasing costs and needs, together with diminishing sources of funding contribute towards conditions in which future humanitarian action is necessitated as 'faster and less costly' (The New Humanitarian, 2019), with the methods of the humanitarian agent needing to be more 'efficient and productive' (FSD, 2016[d]) – again, the ubiquitous competitive signifiers of neoliberalism's contemporary market-based discourse (Birch and Siemiatycki, 2015). This diagnosis of a necessary introduction of autonomous robotics technology such as the UAV (FSD, 2017[b]: 3) has additionally been recognised and capitalised upon by manufacturers attempting to incorporate and normalise the consumer/commercial UAV within humanitarian space and increase the market share of their products (Murison, 2018). DJI state that their UAV models help humanitarian workers "make smarter decisions […] more cheaply and with more efficiency than using conventional methods" (DJI, 2019), and, together with infrequently donating UAVs to humanitarian operations in developing markets (McFarland, 2015), offer reduced prices for non-profit organisations using their UAVs in ways that constitute humanitarian 'best practice', alongside other operations that demonstrate their product being used "for a good cause" (DJI, 2019[b]). Indeed, this mirrors UNOCHA's support of a broadening of the humanitarian innovation sector in order to encourage "new actors and greater competition", in which market forces are harnessed by humanitarian organisations "when there is a viable commercial use for a product" (OCHA, 2014[d]: 21). The calls for increased market-led competition and efficiencies reflect a broader collective anxiety of the humanitarian realm's adoption and rearticulation of neoliberal logics insomuch that they are related back to the UAV as a medium that can moderate funds whilst "having a greater impact from the same amount of spent resources" (Burns, 2019: 10). Nevertheless, with the insistence of neoliberal rationales these targets can often –and quickly– transition from indicative measurements of performance into ends in themselves (Fisher, 200: 43-44). Illustrative of the tension between humanitarian action and neoliberal models of governance –or, as Kamat reconciles the conflict "between private interest and public good": a "reworking of democracy in ways that coalesce with global capital interests" (2004: 156)– the discourse surrounding this facet of the humanitarian UAV's testing and 'rollout' is situated alongside previous collections of "do-good design" that not only "performs the grassroots ideological work of neoliberalism" (Johnson, 2011: 448)

through its promoted language and practice, but reinforces this understanding as immutable. Within this arrangement, increased political agency relates more to market access than it does to emancipatory potential, as the capacity of a technology aligned with notions of deep democratisation is lost by the wayside to the depoliticising co-option and rearticulation of humanitarian action and necessity.

What demands consideration is twofold: firstly, that justifications for the testing and implementation of this technology are intimately bound up in the same or attendant signifiers that normalises and sustains a neoliberal rationale; and secondly, the processes by which smaller humanitarian organisations and local populations are able to embed these technologies within developing/insecure regions –if at all– are further beholden to the obligations imposed by dominant institutions and market practices. From this, populations and more critical humanitarian bodies risk being left with a notion of democratisation (of technology) that is hegemonically bound, not to possible 'deeper' negotiations of the term and its resultant exercising, but to articulatory practices that consolidate and strengthen existing economic and political configurations of depoliticisation; not only are the logics related to a deep democratisation of the UAV largely mystified and made obscure for the disempowered, but so too are the underlying conditions of its neoliberal democratisation due to its 'value-neutral' logic negating how this form of 'democratisation' can/should be meaningfully contested. As seen, gaining power over the control and use of the humanitarian UAV is not necessarily, in and of itself, a democratisation of said technology, especially if this control "comes at the price of disempowering or excluding other broader groups of users with basic rights, opportunities, or interests at stake" (Doppelt, 2006: 94).

The UAV as a Technologisation of 'Democratisation'

Corporate and Commodified Interests

Much like the broader contours of 'neogeography' –intimately linked to some applications of the humanitarian UAV through attendant non-traditional mapping procedures (Turner, 2006)– and Haklay's critique of its claims of democratisation (Haklay, 2013), we can see, with regards to the democratisation of humanitarian UAV technology, analogous issues concerning governance, marginalisation, agency and empowerment. Just as Doppelt notes hesitation with the idea that democratisation of technology works in tandem with a 'demystification' of it (Doppelt, 2006: 88), Haklay argues further (ibid.: 66-67) that the 'opening up' of technology may simply lead to its further co-option by "a larger section of the affluent, educated, and powerful part of society". As previously adduced to, the neoliberal rationales governing the dominant discursive embedding of the humanitarian UAV demonstrate that the signifier of 'democratisation' should be used with caution, as, much like

the previously discussed negotiation of the 'ethical', the problematic notion arises: *who/what does this understanding of 'democratisation' benefit*? The exclusionary practices constituting this form of technological democratisation establishes the boundaries of what is (im)possible, and in doing so conceals any bias with how the technology is utilised beneath a perceived value-neutral "guise of efficiency and rationality" (Doppelt, 2006: 88). Yet at the same time – although an understanding of the humanitarian UAV's neoliberal rationale is of importance to outlining the discursive contours of its justification and embedding– it is too simplistic to relate this formative process of normalisation without also noting how this discursive movement both broadly reflects and intimately forms –in a coconstitutive relationship– distinct social understandings; that is, in taking the notion of the humanitarian UAV's on-going neoliberalisation further, how this framing additionally informs socio-political conceptions of (humanitarian) technological democratisation, from fetishisation of the humanitarian UAV, to the problematic impulse of 'data hubris' as induced by the aforementioned instrumentation of 'efficiency and rationality'.

Throughout the previously noted arrangements, the humanitarian UAV –alongside other methods of "dealing with basic human needs of vulnerable people"– is now hegemonically "understood within a logic of 'market-based' relations" (Singh and Cowden, 2015: 380). As Scott-Smith notes (2016: 2235), the humanitarian reliance on a discourse of economic affairs is not one that is neutral –though it is often articulated as such– and through its (re)articulation, changes the nature of the sector. The UAV *qua* a humanitarian object represents a deepened form of neoliberalism insomuch that it facilitates further market-mediated change of humanitarian structures and thus the accompanied personal subjectivities (Singh and Cowden, 2015: 380) of both humanitarian agents and 'beneficiaries'; aid is not seen as a gift, but as a commodity (Scott-Smith, 2016: 2235). The 'cargo' UAV, understood in market-based logics, is assigned indicators of worth in which value is prioritised through the vocabulary of 'effectiveness', 'cost-efficiency' (Dirks, 2017: 28; Haidari, et al., 2016) and the 'market-driven demand' (World Economic Forum, 2018: 19) for humanitarian deliveries. Though corporate, capital-oriented humanitarian endeavours – such as Zipline– may adopt some of the discursive signifiers that support a negotiation of a deepened form of democratisation, conceptual problematisations arise from the entrepreneurial logics that underpin these articulations. The Zipline UAV(S), as a proprietary technology, exemplifies the commodification of humanitarian technology, situating any notions of technological democratisation within a closed-system understanding that privileges market-based participation as empowering, *thereby locating its discursive antagonisms in further schemas of deep democratisation*. By articulating their UAV(S) as a necessary yet exclusionary component of humanitarian cargo delivery, Zipline signify their technology as a

truly commodified object; a product *and* service that is both shielded in its growing market and fetishised as a –potential– totemic power through financial, innovational and protectionist positions of control (Harvey, 2003: 20-21; Zipline, 2019[b]). These positions of control are ones that are at odds with a deep democratisation of technology as they foreclose branching political and social possibilities that can arise as an exteriority of strictly privatised capital interests. Within Zipline's arrangement, the UAV can be seen as somewhat 'democratised' to employees –described as 'local operators'– and deployment regions, but its further deep democratising potential is contradicted by the very same rationale that gave it to them in the first place – the necessity of reliance. In 2017, Zipline delivered approximately "20% of the national blood supply of Rwanda, outside of Kigali", with all of the recipient hospitals "only receiving blood in this way", and has since expanded to cover more varied medical deliveries across other East African nations (Rinaudo, 2017). Although the UAV is not intrinsically a solution in itself, a future removal/relocation of Zipline's UAV(S) may constitute a localised crisis insomuch that the lack of crucial knowledge dissemination regarding the practical and technological minutia of their UAV(S) –a deepened form of technological understanding, and thus a deepened democratisation– has not been fulfilled. At the same time, private, capital-oriented organisations are reluctant to do such a thing, as any potential for market dominance and ubiquity within the sphere is intimately entwined with *not fully* disseminating this crucial knowledge. The neoliberal manoeuvre of transforming 'use value' into 'exchange value' for the market (Reynolds and Szerszynski, 2012: 15) underpins this impasse, as the founder and CEO of Zipline states: "philanthropy has nothing to do with it […] they [(African youths)] are looking for new skillsets, new competitive advantages […] We [typically] think these problems are the domain of NGOs or governments, not private companies – that's what we have to change" (Rinaudo, 2017). Through these articulations can be seen one of the main dangers of an externally introduced –privatised– 'leapfrogging' technology: that local bodies and organisations, instead of embedding the technology on their own terms, cultivating and relying on their own knowledge and expertise, are subjects of a cannibalised form of humanitarian action; a commodified entity with commodified practical applications, and the creation of productive members of society within a neoliberal landscape. Consequently, the Zipline UAV may well be seen as facilitating the humanitarian UAV's commodification *par excellence* (so far) in that it not only assists in designating the distribution of life-saving supplies as a capital-based "service", but, due to Zipline's presence and operations being predicated upon the region's reliance on their proprietary UAV(S) technology (Zipline, 2019), it attempts to consolidate this overtly market-centred approach and position through the articulatory capacity of 'technological democratisation' (though now diluted) and humanitarian aid and development.

Similarly for disaster planning, preparation, and response scenarios, the UAV has been transformed via the movements of the market into not just a non-destructive entity, but a distinct counter and remedy to destruction and disaster. Global communication, insurance, technology, aerospace and defence corporations –in overemphasising the necessity of their commodities– are, under a guise of social good, competing for a further share of the accessible capital that is available within the humanitarian disaster/development marketplace (American Red Cross & Measure, 2015). In respect to the aerospace and defence organisations all-too-familiar with the negative discursive connotations of the UAV, it constitutes an attempt to give back to the market with one hand the credibility (and thus commodification) of the UAV which was previously taken away by the other. Within this particular arrangement, it can thus be argued that any form of a 'deep democratisation' –if it arrives– should be viewed as incidental as, looking back at the related 'democratisation' of neogeographical technologies, "the primary intention of the providers of the tools is not to empower communities or to include marginalised groups, as they do not re-present a major source of revenue" (Haklay, 2013: 67). Operations such as the Silicon Valley 'Drones for Good' project consults all the right people in respect to this understanding of the marketplace: the "Bay Area drone makers […] global health organisations [and] experts of social innovation" (IDEO.org, 2019), but not the individuals that would have to endure or labour as assets within the marketised manifestation of such arrangements. On the other side of the same coin, one can see more 'critical' organisations utilising UAVs and attempting to place relevant knowledge into the hands of local populations, such as WeRobotics, supporting several 'Drones as a Service' incubation programmes in order to 'build up local markets in developing countries' (WeRobotics, 2019[d]). Yet these too seemingly fall into the neoliberal trap of 'resilience-thinking', in which disaster is realised as a new modality of existence; an "ontology of life" compelling –and at the same time constraining– communities to "reinvent themselves anew" within a market that is predicated on their precarity and vulnerability (Duffield, 2013: 55-57). An impetus towards freedom from danger and disaster forces a radical rethink of global affairs (ibid.), yet what is demonstrated is a nexus of operations that are located squarely within dominant market arrangements, with the complementary addition of *seeming* antagonistic towards them. Indeed, as noted in the previous chapter, the 'ethical' notions surrounding the humanitarian UAV are dislocated, and serve as a severe discursive antagonism between corporatised interests and more critical humanitarian-technological bodies, nevertheless, the understanding and utilisation of market-informed 'best practice' –a synonymous signifier of neoliberal governance (Leitner, 2007: 1)– from both discursive factions reigns supreme.

Whilst being careful to not fall into the trap of technological determinism it is important to consider that the mediators can become the message (Harvey, 2003), having a guiding power over understandings of social and political agency. Much like the humanitarian UAV has been seen as a conduit of technological democratisation in both its manifestation and associated (democratising) uses, the neoliberal turn towards UAV technology is not just creating a commodification of attendant goods and services, but is itself transforming the humanitarian UAV into a commodity that underpins market-based innovations. A continuous critique and contestation of this ideological *idée fixe* is thus vital in renegotiating –or at least opening up the possibility of such negotiations– the limitations and "possibilities of conscious political choices" (Harvey, 2003: 29), yet the referent framework that situates this discourse – a prioritising of economic value, corporate-technocratic and neoliberal market policy, and so on, over deep democratisation– annuls this contestation. As a dominant articulatory power it is antithetical towards these vital components of renegotiation, in which conscious social and political agency within the public sphere is not quilted with a deep democratisation of technology, but is instead lost to the interests and designations of the (technological) marketplace.

The 'Data Revolution'

One discursive arrangement that combines a number of pertinent issues surrounding the neoliberalisation of the humanitarian, through its focus on technology, privatisation, market-based signifiers, and the overstating of the (commodified) object, can be revealed through interrogation of the so-called humanitarian data revolution, mediated, in part, by technologies such as the UAV. As the United Nations' Data Revolution Group argues (2014), the 'data revolution', brought to the humanitarian realm by a number of nascent technologies, helps constitute "a world in which data are bigger, faster and more detailed than ever before". As the UAV is able to map both small and large regions and populations with increasing fidelity (FSD, 2017[b]) it has been designated as a promising tool in the collection of data and integration within "cutting-edge disaster relief mapping software […] providing actionable intelligence for disaster responders" (American Red Cross & Measure, 2015: 34). Additionally, a similar capacity has also been noted in developmental contexts, as the UAV – adjacent to primary functions of medical cargo delivery, for example– is viewed as a capable facilitator in the production and cataloguing of attendant data (World Economic Forum, 2018: 9-10; Dirks, 2017). The 'data revolution' stemming from technologies such as the UAV constitutes a request for improvements in not just how data is produced, but also used – for instance: the filling of data gaps in order to prevent biases, an increase in 'data literacy' through large and small-scale analytics, and the 'liberation of data' in order to promote more transparent, accountable and democratising forms of humanitarian action (UN Data

Revolution Group, 2019); a belief that these technological developments will not only facilitate an increase of useful signals from the expanded noise, but that this information can be applied in the assembly of "new targets and indicators" (ibid.) for the sector. Operating throughout a broader nexus of these developments, the use of UAV technology in humanitarian zones of disaster, development and assistance has been articulated as a "part of the on-going humanitarian challenge of securing, making sense of and maintaining big data" –as well as 'small data'–, in addition to "developing processes for leveraging credible and actionable information in a reasonable amount of time" (Sandvik and Lohne, 2014: 158). Overall, the promise of the technology is that data within the humanitarian realm will be gathered more accurately, communicated more efficiently and utilised in the creation of –and application within– empowering, democratising agendas (Read, 2016: 1320-1322).

The trend towards approaches dedicated to the revelatory powers of data has been articulated as a positive movement in humanitarian methods: a progressive force that utilises technologically facilitated data to support and mobilise –for instance– search and rescue operations and other acts of humanitarian relief (Meier, 2015[d]), or, as Robert Kirkpatrick, the Director of UN Global Pulse outlines it, "a transformation that allows you to see something that used to be invisible" (UN Global Pulse, 2017: 8). These notions are also ones that are commonly expressed through, and underpin, corporate rationalities surrounding the UAV in humanitarian action. Here the humanitarian UAV is promoted as that which can help collect, standardise and keep data consistent (senseFly, 2017) and facilitate the 'transformation of drone data into new digital assets' (DJI, 2019[c]). Nevertheless, when considering the assembly of data via the UAV it is well worth noting that, just as the UAV should not be seen as a deterministic or intrinsic force that constitutes a deeper form of democratisation, the data it facilitates –big and small– should be seen as elements of social production, and consequently, in their understanding and application, "reflect the contexts and processes of their creation" (Mulder, et al., 2016). After the 2015 Nepal earthquake, a number of UAV operations were set up in order to assist with damage assessments and verification of satellite data (Inoue, et al., 2016), and produce high-resolution imagery through both 2D and 3D renders. Since many individuals did not have access to computers, the production of 2D imagery facilitated –as the team responsible for its production stated– the 'unlocking and liberation' of this digital data through printing the aerial maps on large banners and displaying them throughout local regions in order for local communities to view and help create a physical dataset (Meier, 2015[d]). Though this presented form of data that had been conveyed as 'unlocked and liberated' (read: democratised) for local communities, it highlights an impasse and some of the limitations of data in humanitarian knowledge production: even if constructed with the best of intentions, the map itself –alongside specified data points on the

map– establishes an exclusion of individuals who "do not find mapping to be culturally relevant for conveying and visually representing their knowledges" (Burns, 2014: 59). Communities, and individuals within them, may have distinct types of information that cannot be reasonably articulated through the demarcation of an aerial image. That is to say, in broader terms, those with the power to decide *how* data will be collected, interpreted and applied set up the necessary conditions for both inclusive and exclusionary terms of engagement. Though the story of WeRobotics' UAV data efforts demonstrates an interesting form of technological democratisation, in which established forms of engagement (community mapping) are merged with new technology (the UAV), it should not be viewed as a democratising panacea. Even at a local level UAV data cannot not by itself fully encompass and extrapolate relevant knowledges, though it can help to better some procedures of resilience. Equally, in instances, this resilience is itself an insufficient bolstering of technological democratisation, as the advance of external, specialised knowledge formations and "the increasingly threatening externalities of modern technology" (Feenberg, 2017: 37), such as its neoliberal (articulatory) assembly and imposition, contest potentialities for further, deeper embedding. Other, more frequently used –and substantial– forms of digital data collection and analysis often necessitate substantial technological knowledge alongside considerable hardware infrastructure (WeRobotics, 2018[e]), and thus induces a compounding of problematised issues regarding –exclusionary– participation within such formations of data collection and understanding.

With regards to the extensive resources articulated as important for broader procedures, corporate, non-traditional organisations orbiting the humanitarian sphere are both financially and "culturally impelled by the data imperative and powerfully equipped with the tools to enact it" (Fourcade and Healy, 2017: 13), and –as previously noted throughout the chapter– further regard themselves as having a stake in the prospects of capital production stemming from the humanitarian UAV. As Burns recognises (2019), however, these new frontiers of 'philanthro-capitalism' that rearticulate the corporate and neoliberal focused notions of efficiency and "bottom-lines" within the context of humanitarian action aim to depoliticise and naturalise their own emergence within the sector to accrue private capital. From these articulations can be noticed Duffield's observation, that humanitarian innovation, such as the data-driven form of innovation mediated through the UAV, "reflects progressive neoliberalism's recoil from the negative" (2019: 24) insomuch that the movement towards greater and greater collections of data is presented as a positive in a not only rational sense –in both the necessity of cultivating such 'assets', and the 'rationality' of the data itself– but also in that it graces the humanitarian realm with an expectancy about once problematic signifiers such as 'efficiency' and 'effectiveness'. Yet, articulated by corporate interests, these

concepts suddenly consolidate a variety of market development principles that do not necessitate a humanitarian consideration for deeper, underlying concerns behind such notions. Through this can be seen contemporary echoes of the humanitarian reforms of the mid-2000's (now further technocratic, further neoliberal), in which it was assumed that a re-framing of humanitarian action as something that was more "efficient would also make it more legitimate" (Vinck, 2013: 136). What is articulated as expediting this legitimacy –and also legitimising itself as an ethical and democratising commodity, away from the spectres of its discursive past– is this specific form of technological innovation: the UAV and its attendant facilitation of such data. While data may not (yet) be "the new oil", the recognition of data as a valuable commodity within the contemporary global market (Marr, 2018) again brings to the fore a number of problematic issues surrounding the humanitarian realm and the UAV's democratising influence, such as the technological rolling back of the state, the further justification and introduction of private organisations (and related rationales), and, from this, the opening of a door that entrenches within humanitarian operations the possibilities of 'platform, surveillance and disaster capitalism' (Currion, 2016).

Humanitarian data collected by organisations motivated by funding and capital accumulation not only serves collectively as value within the market, but through attempts to fulfil such a notion also elicits and reinforces a prioritisation of market logics. One of the most striking illustrations produced by Zipline is their top-down rendering of Tanzanian medical facilities accessible within their UAV's flight radius (Rinaudo, 2017: 10m13s). Nevertheless, from this is invoked an awareness of corporate actors associating beneficiaries, locations, flight and delivery paths (and so on) with the now commodified artefacts constituted through hardware, software, and produced data; a reduction of the liminal space between the human(itarian) and artefact in which those in need are articulated as such, but conceptualised digitally as a share of the market for 'efficient' aid delivery. Accordingly, the collection of knowledge from the UAV allows privatised interests to reconfigure data from its use value to exchange value, chiefly by conceptualising 'big' and intimate data alike as a commodity itself, with various formations of value and capital exchange within the market, but also by utilising data in order to 'efficiently and rationally' measure meta-elements of value and worth, such as the cost-effectiveness of humanitarian UAV operations (USAID, 2017: 11). With regards to this latter point, the UN General Assembly have too considered the idea that as the private sector revolves around the continuous evaluation of 'gains, cost and efficiency', it may be of broader assistance in supporting such epistemic frameworks further within the humanitarian system (UNGA, 2015: 3); a call to link the gap between private capabilities and public sector organisations (UN Global Pulse, 2017[b]: 10). This incorporation and reliance on private partnerships within the humanitarian realm is seen by some as the present and future "new

orthodoxy" of humanitarian action, merging "humanitarian values with private-sector efficiency and responsiveness to market conditions" (Sandvik, et al., 2017: 329). However, these considerations signify a problematic scenario: as the UAV, alongside the data it collects, is co-constitutive of the humanitarian scenarios it helps to decipher, instead of merely recording and presenting data, its use also constructs and delineates the parameters of the picture at which the humanitarian actor can gaze at and interpret the environment (Read, 2016: 1320). The data collected and applied, together with the data *not* collected (or considered of 'value' within the market), is thus co-constitutive of the epistemological vista and the aperture through which parts of this panorama are rendered (in)visible. Data that is collected, interpreted, evaluated (and so on) by private bodies but used within humanitarian operations establishes a tension within the realm as there is no obligation for such interests to be benevolent, principled (in the traditional humanitarian sense), or even socially conscious in how data is gathered, accessed, interpreted and used; as such, a creeping encroachment of private corporate interests on humanitarian data profoundly redefines the sector, its epistemological values and its activities.

The notions of data collection and analysis are not intrinsically insidious process, but the opportunity for its expressed potential is entwined with an assumption that the collection and use of data is done so in a deeply democratised way, that is to say, data contextualised within arrangements that enable local populaces "to be proactive in their own governance" (Chandler, 2015: 839) yet not be solely focused on the contingencies and demands of the market. The fundamental humanitarian principle of 'do no harm' is here of significance, as the collection, storage and use of data by private bodies within humanitarian action which overlook these considerations establishes a number of strains with regard to how the rights of individuals, groups and populations are protected (Hosein and Nyst, 2013). Furthermore, the power to dispute the ubiquitous nature of privatised data interests is itself threatened – that is, within a broader context, not just "the negative potency of being able to say no, to remain unknown, uncounted and forgotten" (Duffield, 2019) by the instruments of governance, but also through a shrinking of contestable space(s) whereby –in this instance– the growing technological collection, conceptualisation and use of humanitarian data is extricated from interests predominantly concerned with market-share and capital production. In post-industrial states, the discursive shields of 'efficiency', 'liberation' and 'democratisation' allow neoliberal actors to optimise the extraction of value from the human ore in the form of data (Claudel and Shafer, 2019); the concern here is that the same political rationality allows for beneficiaries of humanitarian aid and development to be marketised and governed in similar ways through UAV technology, under the pretence of 'rational' but largely inaccessible knowledge formations.

Despite claims that actors such as logical-positivists, scientists and technocratic policymakers are "above the political fray" (Mandel and Tetlock, 2016), the production of aforementioned signifiers stemming from data are (as previously adduced) not value-neutral, though obfuscation of data collection and interpretation processes, alongside the concerted efforts to depoliticise this process, may lend such an appearance. As Gitelman succinctly remarks (2013), the concept of "'raw data' is an oxymoron", and consequently a reliance on predisposed, exclusionary or institutionalised accounts of human life and suffering –cloaked as efficient, rational and value-neutral forms of knowledge– can overlook or further strengthen biases against those most marginalised and in need of assistance. Attendant to this is a synonymity between the mind-set of the 'data-fixated' and that of neoliberal ideology in that data are socially produced and constructed, yet are often presented as depoliticised and value-neutral – a rational and efficient way of understanding and reacting to socio-political developments. Through this can be seen the notion of the (UAV) data revolution as a form of neoliberal rationality, part of a broader trend towards the consolidation of human subjectivity, in the form of data, into a "quantified self" (Han, 2017: 60); aid and development as predicated and qualified through the logics and language of the data-driven market. Understood through this lens, data mediated through the use of the UAV facilitates reductive conceptions of, and participatory roles in, the process of politics, intensely binding the possibilities for politicisation and "reducing governance to an on-going and technical process of adaptation" – in sum for the social recipients of such processes, a requisite 'acceptance of the world as it is' (Chandler, 2015: 835) and acceptance of their role within this technologically mediated environment. Consequently, in relation to notions of democratisation, this encroachment has the potential to turn the focus of humanitarian work away from the human connection and place emphasis on further commodification of both the object (UAV) and attendant data. Through its articulatory power, the logics of the 'data revolution' help transition humanitarian affairs towards this neoliberalised focus, and paradoxically –for something signified as revolutionary– help to depoliticise elements of contestation that could be renegotiated, weakening ideas of 'fuller' forms of democratisation.

A Technologisation of Humanitarian Practice – What is at Stake?

With an application of Scott-Smith's analysis of commodity fetishism within the humanitarian relief industry (2013), we can further relate the "three processes of concealment, transformation and mystification", which are used to frame humanitarian objects' commodification. With regards to the UAV: firstly, an obscuring of the UAV's initial militarised past – the humanitarian UAV now articulated as distinct instead of vestigial, value-neutral in both its operations and knowledge production, and as ethical and democratising in nature to its beneficiaries; secondly through the UAV's aforementioned neoliberal signifiers, and, in

particular from its proponents, a market-based fixation with notions of worth, (cost-)effectiveness and efficiency; and thirdly, the re-conceptualisation of the UAV within this articulated market as "an intrinsic solution to suffering" in addition to further humanitarian concerns (ibid.: 920). In this sense, the discursive commodification of the humanitarian UAV has progressed further, being transformed into a fetishised commodity that, through totemic focus on the UAV, conceals underlying social relations, processes and contingencies. As outlined by Harvey (2003: 1), the fetishism of technology can be understood as the endowing of objects with –and resultant praise of– independent, (often) mysterious powers that they do not intrinsically have, for example, as previously discussed: "the ability to solve social problems, to keep the economy vibrant, or to provide us with a superior life" (ibid.). Put simply, it is the belief that there is a "technological fix to every problem", and within this, that the UAV can act as a remedy to humanitarian problems encountered across societies (ibid.); a transformation of the UAV, from an amalgamation of plastic and metal components (the housing body, motor, batteries, sensors, and so on), into an intrinsically Promethean technology that will improve the infrastructure of nations, provide rational and neutral data, "drive economic development" and, from this, demonstrate affirmative examples of technological 'leapfrogging' (Juma, et al., 2015). A statement made by Ban Ki-moon, following the creation of a $10m prize fund for African technology start-ups, claiming that "the next century belongs to Africa", highlights the deterministic and reductivist logic of this fetishisation: a consideration that technology has been bestowed with "an almost miraculous potential to solve problems that many governments […] have failed properly to address" (Pilling, 2018), and that its mystical qualities facilitate the combat of manifest challenges so much so that it can not only transform countries, but the fortunes of an entire continent. The problems to be solved are not perceived as ones embedded throughout internal relations, but are instead imagined as continuously blossoming due to a lack of the right technology to combat them. Articulated as such, the humanitarian UAV is discursively seen as on a path to bridge the gaps between existing and absent infrastructure, energise and develop economies, foster competition, and provide the 'efficient' and 'rational' data that neoliberal formations require (amongst other demands). Yet in understanding UAV technology as such, these discursive moments commodify the humanitarian and devalue deeper relations of political and social agency that underpin these notions, interactions that help sustain, reproduce or –importantly from a deep democratisation perspective– challenge dominant social orders; in this instance, notions of deep democratisation are supplanted and isolated by the former conceptions, in which manifestations of disaster, aid and (market) development are centred around fetishised neoliberal (re)actions.

The indicative mapping of the UAV's discursive terrain of democratisation demonstrates a number of crucial considerations, chiefly, how the neoliberal commodification of the humanitarian UAV, its attendant functions, and its resultant fetishisation serves to highlight the problematic logics of object-focused humanitarianism. As "objects underpin the humanitarian system just as commodities underpin the capitalist system" (Scott-Smith, 2013: 920) there is, with the humanitarian UAV, a discursive coalescence of the two: the flooding of meaning stemming from dominant articulations gives the empty signifier of 'democratisation' form and substance, which aids in the commodification of the object and its remits. As the UAV is itself commodified by dominant articulations it facilitates the commodified discursive control of attendant practices, one of which –as highlighted– is a logic through which "both humanitarians and beneficiaries are constituted as consumers of digital humanitarian products and services (read: commodities)" (Burns, 2019: 9), serving the market whilst justifying as rational this shaping of humanitarian subjectivities into continued technologised processes of adjustment. It is the neoliberal economisation of the social (humanitarian) field, the extension of market logics onto the humanitarian realm that, paradoxically, simultaneously attempt to resolve and undercut the more humanised elements of aid, development and relief, making dominant economic thought applicable and governable within a non, strictly speaking, economic domain (Foucault, 2008: 242-245).

Following Feenberg's notions surrounding fuller, 'deeper' forms of the democratisation of technology, it can be seen that neoliberal practices operate antagonistically toward these concerns: a prioritisation of technocratic logics over substantive agency, and a governing rationale that is proclaimed as depoliticised and value-neutral in an entirely politicised environment. Through the discursive construction of these familiar, yet, "new differences" (Laclau and Mouffe, 1985: 114) –the promotion of privatised, market-based notions of value, efficiency and cost-effectiveness– there is no requirement for the fledgling incorporation of the UAV within humanitarian space to be able to contest such arrangements. Indeed, it is articulated as a continuation of such arrangements, with politically significant (predominantly Western) corporations and organisations attempting to reconstitute and retain their power with the help of innovative technology, and, through the co-constitutive 'technical rationality' of the market and the UAV, the further exclusion of opportunities for deeper political and social renegotiation. It is the process by which these rationales attempt to 'fix' meaning and establish a closure of technology. A literal and conceptual 'black box', from which –much like neoliberalism itself– the contested realities and social negotiations that surround its formation and naturalisation can elapse and be forgotten (Haklay, 2013: 58). Consequently, it matters little that the UAV is supposedly undergoing a process of democratisation through articulations that prioritise capital production, market-based value and commodification

towards populaces of precarity and marginalisation, because one of the underlying matters surrounding the necessitation of a deeper form of democratisation rests on arrangements of substantive politicised empowerment, namely, the political and social empowerment such populaces lack in the first place and are foreclosed by these dominant political-socio-economic relations. Minor formations of 'deep democratisation' within this nexus are indeed possible, but function incidentally as broader formations are restrained, owing to the incontestability of dominant market-based rationalities positioned as depoliticised logics that are, consequently, beyond critique. Accordingly, the neoliberal discourse surrounding the humanitarian UAV's democratisation is dually an attempt to 'fix' and make diffuse the meaning that it is itself imparting; the naturalisation of a governing determination imposed on a non-deterministic object and its functions.

As such, humanitarianism, carried out in this instance alongside the notion of 'democratisation of technology' through the UAV, "emerges as an activity that is [largely] object-centred, not human-centred" (Scott-Smith, 2013: 926); furthermore, this notion of humanitarian action is not just object-centred, but centres a rationality of neoliberal commodification. From this, the resultant fetishisation of the humanitarian UAV is one that prioritises the mythical qualities of the object to operate within and make more efficient –via numerous measures– the sector at large. What this demonstrates is that the UAV is seen as an object of technological rationality and utility that can help prolong and make more palatable such forms of normative economic and political procedure. Within this understanding, the UAV is not utilised in order to help change the rules of the game, but rather solidify the internal rationalities of the game itself. Notions of deep democratisation are here absent in how the UAV is predominantly embedded or articulated as conceivable/likely to be principally embedded within humanitarian scenarios – indeed, as previously noted, the indicative discourse surrounding these dominant impetuses is acutely antagonistic towards conceptions of deep democratisation, as this would acknowledge a necessity to renegotiate the graver underlying (political-socio-economic) causes that remain unaddressed and insist upon the sector such attention towards innovative technological rationales in the first place. What we are left with is not a space whereby a democratisation of technology is explicitly forbidden, but a more insidious space in which understandings of technological democratisation are rearticulated and insulated as that which is conducive to normative market practices. The 'technological' becomes imbued with the discursive understandings of the rational, depoliticised/ing, commodified logics of the neoliberal market, whilst 'democratisation' becomes the podium to configure and insulate such signifiers. Thus instead of a *democratisation of technology*, what emerges with regard to the humanitarian UAV is a *technologisation of (our understanding of) democracy/democratisation*: a market-based

reliance on the object and technologically mediated understandings in the capacity of their commodification and fetishisation, and an understating of human agency that is captive to these depoliticising arrangements; a peripheral, tenuous conception of democratisation refracted through the prism of neoliberal market logics and an underlying technocratic politic. A democratisation of technology as facilitated in this instance by the humanitarian UAV's use is at best an impulsive and premature fragment of its current, yet contestable, discourse; at worst it signifies a consolidation of humanitarian, corporate and neoliberal politics mediated through innovative technologies and the foreclosure of meaningful political engagement with its present and future processes.

Chapter Conclusion

What is at stake across the broader discourse, through a further embedding of neoliberal politics, can somewhat be seen diluted through the humanitarian (innovation) sector: an over-prioritisation of the object and an under-prioritisation of the conditions that assist politicisation and agency, underpinned by an ideological formation in which the interests and supposed, permeating, value-neutrality of the neoliberal rationale attempt to foreclose the discursive possibility of politicisation in relation to itself and the humanitarian UAV. A closure of meaningful political engagement is consequently of utmost concern when considering the potential implications of neoliberalised spaces of humanitarian action consolidated around fetishised objects and practices of commodification. Furthermore, the exclusionary nature of practices (both privatised and non-privatised) that are beholden to market interests not only negates ideas surrounding deeper forms of democratisation, but also additionally pushes recipients not involved with the processes of humanitarian action into positions of dependency, impacting technological capacity within locales alongside further bearings on future sustainability (Kopinak, 2013). In addition to this, the continuing reliance on a neoliberal discourse that prioritises 'value', '(cost-)effectiveness' and 'efficiency' in creating dominant value judgements of the UAV, humanitarian technology, and the humanitarian sphere as a collective, generates tensions through both the humanitarian sector at large and the bodies subjected to practices that arise from said conceptions. In this arrangement, meaning from the aforementioned signifiers (and thus the exercising of meaning) is extracted not from humanitarian principles or ideas of deep democratisation –indeed, neoliberal discourse reconfigures 'democratisation' in its favour– but the relationship of said signifiers to market practice and attendant values, capital accumulation and, ultimately, the monopolisation of that which was before un-monopolisable. An optimistic reading may discern that dominant articulations configuring the humanitarian UAV within a neoliberal framework do not permanently foreclose the possibility of a deepening of democratisation between the objects and bodies already interpellated through neoliberalism as

'democratised'; it simply produces new ground for renewed contestation to take place, as "true emancipation requires a *real* 'other'" that subjects must attempt to negate (Laclau, 1996: 3). The discursive environment is never truly 'fixed', and the capacity of technology, alongside the subjectivities they help mediate, is contingent on different social attentions and values, such as those highlighted in this and the previous chapter; it is these contingent perspectives that influence the technological future (Feenberg, 2017: 70).

Nevertheless this outlook may also be argued as one of merely hope. Smaller, untransformed spaces in which hegemonic, technologised understandings of democratisation are contested do not serve as arenas that are "normalised and incorporated into the standard procedures of technical design", instead they are hostilely viewed in the reverse, with politicised "agency appearing as an anomaly and an interference" (Feenberg, 1999: 147) in corporatised or broader market-oriented practices. It is here also that the ethical contestations that were examined in the previous chapter come back into focus: 'ethical' articulations that move entirely against the grain of hegemonic power and their rationalities are not seen as a welcome critique to be incorporated, but as an antagonistic force contesting their authority and power. It is perhaps for this reason that more critical articulations of the UAV (in both an 'ethical' and 'democratising'/'revolutionary' sense) are themselves partially enveloped by market-mediated practices and neoliberalised rationalities as it attempts to contest them; it may be that the conditions which underwrite these process are so engrained and viewed as normative, neutral practice that one cannot meaningfully negate them without also having to engage with and accept them in some way (if even for the briefest time). The generalised implications of such understandings make up a vital facet of humanitarianism's new formation of biopolitics, in which collectivised action, agency and politicisation is dismissed and denied, and de-territorialised, hegemonic forms of technologically mediated (humanitarian-corporate-biopolitical) governance are assumed across new formations of control (Deleuze, 1992). It is these resultant considerations and implications that will be tackled in the following chapter, whilst drawing on previously noted theoretical conceptions that surround the discursive components of the humanitarian UAV.

Biopolitics

Following on from the notions and themes built across the previous chapters, this chapter engages with the implications set out by the humanitarian UAV being articulated as an increasingly legitimised neoliberal technology/technique, and the biopolitical considerations at stake in such an arrangement. The chapter firstly sets out an understanding of the applicability of biopolitics to humanitarianism before moving to amalgamate the discursive logics of the corporate and humanitarian together. From this, the notion of biopolitics is added to this discursive formation to help elaborate upon these new formations of governance, control and regulation that dually arise from the corporatised, humanitarian rationalities that flood the UAV. Through this, the chapter moves to articulate a signifier that helps to encapsulate and elaborate on such processes: the 'corporo-political'. Via the 'humanitarian' UAV it is established that the 'corporo-political' predominantly engages in humanitarian practice through neoliberal/corporatised rationalities with a biopolitical lens, with all components helping to co-constitutively reproduce and sustain their processes and logics. This conception allows for a clearer understanding of the discursive nexus that helps constitute the 'humanitarian' UAV, and signals the changes that a neoliberal/corporatised technologisation of the humanitarian sphere can bring with it. This element within the chapter also speaks to the reach of neoliberal rationalities insomuch that it not only highlights the imminence of such logics on a broader scale across humanitarian space, but also demonstrates how more 'critical' articulations are additionally caught up in the processes that help to maintain such rationalities and practices. With this understanding of the corporo-political, the chapter focuses upon its implications for humanitarian space and how, through such rationalities, it is modulated and transformed into 'flattened' humanitarian-neoliberal/corporate-biopolitical arenas of control and regulation, underpinned by market concerns and the entrenching of dominant power formations. The chapter closes with a final analysis of a broadened understanding of UAV monitoring (the most established technique associated with the UAV that also is widely-articulated as one of its greatest advantages), how this –almost all-encompassing– practice impacts humanitarian space through the lens of the corporo-political, and what its implications are.

Applying Biopolitics to Humanitarianism

Biopolitics is a somewhat established notion in regard to the logics of humanitarianism and its associated practices, being applied to understandings of, for example, the asylum seeker and their 'biolegitimacy' (Fassin, 2005), the exercising of (bio)power over the stateless (Zeveleva, 2016), to more heavily theorised perspectives that engage with the "securing of the biohuman" (Reid, 2011) and beyond. Nevertheless, the contemporary use of biopolitics

within the social sciences to conceptualise certain understandings of the humanitarian and humanitarian practice is not without its critics. Scott-Smith (2015) notes that biopolitics as a concept within the examination of humanitarian operations and power relations is often used insufficiently or without enough care placed into delineating *how* the attendant notions surrounding biopolitics helps to elucidate the interactions and ingredients that constitute certain forms of power (ibid.). He highlights that, generally, humanitarian literature concerned with biopolitics underlines the concept's elasticity, yet at the same time, its frequency to provide a fluid interpretation of power relations, in many instances, demonstrates its main potential failure in application: that when applied too broadly, or without enough care in demonstrating how biopower is situated within areas of focus –that is to say, when the applicability of biopolitics is taken for granted– it can often have the effect of simultaneously contributing to the discussion both too much of a scope of inquiry and too little in the way of specifics.

In critiquing the wanton use of biopolitics to conceptualise humanitarian action, Scott-Smith sets out a case that revolves around the (mis)application of biopolitical understandings to humanitarian practices that are, ostensibly, overtly paternalistic in nature (ibid.). For Scott-Smith, the discord between biopolitics, humanitarianism and paternalism centres on the tensions that arise when attempting to combine the internalised 'freedoms' attendant to biopolitical control and the absolute removal of beneficiary autonomy that accompanies a number of somewhat traditional humanitarian practices. However, in applying biopolitics to humanitarian (UAV) action, the dominant articulations that have been examined prior note how humanitarian UAV use, alongside its noted societal and political benefits, is not specifically articulated as paternalistic. On the contrary, these articulations have been shown to further a discourse –at least at an overt, surface level– of, for example, supposed technological democratisation; dispersed agencies situated locally with embedded and internalised norms (of both the UAV and associated market economy), that are immediately reactive to nearby humanitarian/developmental concerns. Though the terms of some instances of humanitarian UAV use, taken to their logical conclusion, gesture towards what could be described as weak paternalistic effects, the tensions noted in Scott-Smith's analysis are of reduced concern here. As will be shown throughout, the direct relationship between paternalism and more traditional methods of humanitarian aid response/delivery does not neatly line up with that of the humanitarian UAV, which is lesser-so paternalistic in effect, and more subtly characterised by a number of particularly different concerns – those of biopower, and forms of corporate and neoliberal governance. These characterisations can (and will) be established through the supposed 'freedoms' that the humanitarian UAV's many supporters and interest groups give as rationales for its use, whilst at the same time articulating its

qualities as ones embedded within understandings of newer forms of biopolitical and neoliberal governance. Furthermore, the notion of biopolitics provides a useful framework to develop in order to analyse how and why such humanitarian developments are taking place, alongside the generation of power/knowledge through such discourses. It is this area of indeterminacy that the analytical perspectives provided by biopolitics help to clarify: by examining the ways in which power is constituted and reinforced *through* certain current interactions (articulations), one can conceptualise a clearer, more detailed picture than if we were to simply view power as something that solely lies *behind* them (Scott-Smith, 2015: 15); it is thus (bio)politics in action –alongside moulding these notions into a contemporary perspective– that provides clarity, not simply the application of a generalised, overarching label.

While Foucauldian notions of biopolitics often centre on traditional ideas of the sovereign, liberal state as the principal location of (bio)power, humanitarian matters can often see biopower conceptualised as that which is redistributed throughout agencies with assumed (sovereign) positions of power. As Führer and Eichner observe (2015), in, for example, the collection of population data and furthering of public health procedures, the idea of biopower quilting humanitarian practices is by no means a surprising one, as the identification, cataloguing and analysing of populations and regions (alongside the local populations' own roles within these processes) locates and illustrates certain formations of qualified life. The Foucauldian understanding of population regulation is both exercised through and appears as such distinct qualifications of life – as the rationale and apparatus which "endeavours to administer, optimise, and multiply [life], subjecting it to these precise controls and comprehensive regulations" (Foucault, 1978: 137). Within a humanitarian sense, as collective instances of life are established in ways that similarly do not appear 'naturally', but are instead fashioned through the various processes of humanitarian action (regulation, monitoring, and so on), the mark and logic of biopolitical power of the contemporary state – that is, for whatever diverse motivations, the securing of life– can be seen embossed upon such diffused agencies insomuch that they can, with legitimacy, qualify, manage and thus 'administer' life to an insecure body politic (Führer and Eichner, 2015); the humanitarian UAV falls squarely within such a categorisation for a number of (more specific) reasons that will be discussed throughout this chapter. Locating this notion of biopolitics within 'the humanitarian' can consequently be viewed through contemporary modulations such as the humanitarian UAV, in which control is "superimposed" onto the notion of discipline; no longer is the disciplining of populations achieved within a solely confined, strictly delineated space, but is instead modulated broadly as 'control' across the social body, achieved through an awareness of more open arenas of activity and subjectivity (Lazzarato, 2006: 178). Whereas

discipline “transforms bodies”, the technologies associated with the biopolitical seeks to constitute the overall process that are specific to life, growth, regulation and order; it is concerned with “the management of life” through new *dispositifs*, but it is also that which establishes the formulation and reproduction of (new) discursive articulations and normative understandings of how these *dispositifs* should, and do, impact upon life, and constitute power (ibid.: 178-179). It is these arenas of (humanitarian) UAV action that this chapter turns to in order to discuss and analyse the biopolitical formations and interactions within. With regards to its applicability, aside from its *meaning*, biopolitics, consequently, is situated here, as Scott-Smith suggests (2015: 15), as an “approach: a way of understanding how things act on each other in a particular kind of way, and an opportunity to study those interactions in depth”. It is here taken as an approach that rejects reductive applications of biopolitics as a singular label, applied at surface-level, instead treating the aforementioned biopolitical (and neoliberal) understandings as a starting point that signposts the arena(s) and interactions to be considered and examined in the production of power, attendant to the humanitarian UAV through its applied practices and signified relationships (ibid.). These interwoven ideas, situated within the reproductive cycle of power and knowledge, can herein be seen as significant logics that discursively underpin a number of dominant articulations surrounding the humanitarian UAV, and, as such, broadly constitutes a focus of discussion within this chapter.

Corporo-politics

Corporate-Humanitarian Amalgamation

What is offered through the articulations surrounding the humanitarian UAV, as explored across the previous chapters, is a clear highlighting of the discursive movement to further amalgamate the ‘humanitarian’ and the ‘corporate’, be it through the neoliberal language of markets, efficiency, ‘best practice’, and various perceptions of ‘ethics’, or the explicit invitations of ‘democratisation’ to/from –and manoeuvring of– corporate bodies (and attendant practices) within the humanitarian realm, facilitated by private technological ‘revolutions’ such as the UAV. The introduction of UAV technology, organisations and attendant rationales thus continues a trend in the humanitarian sector, as Zyck and Kent observe (2014: 1), in which the increasingly considered alternative of private bodies within “middle-income, ‘emerging’ and state capitalist economies” is alluringly viewed as a route to states securing new innovations, technologies and sharing capacities through a corporate-humanitarian nexus that attempts to unify commercial interests with humanitarian action, and (as/when applicable) emergency preparedness and response (ibid.). Nevertheless, though relationships between the private sector, intergovernmental organisations and the

humanitarian community are, historically, not unheard of, there is a growing perception that the *further* embedding of private organisations within the humanitarian sector is not only vital in bridging articulated gaps regarding humanitarian impact, effectiveness and efficiency (OCHA, 2019: 72) –a part of the increasing 'professionalisation'/neoliberalisation of humanitarian work to align further with "business management" approaches, language and techniques (Binder and Witte, 2007: 5-6)– but also signifies prudent opportunities for private and intergovernmental organisations to create or establish themselves in market economies across developing or disaster/emergency-prone regions (Kennard and Provost, 2016). The 2016 World Health Summit in Istanbul –a call to assess how the 'people' of the international community could respond to future crises through "collective solutions and shared responsibilities" (UN General Assembly, 2016)– signalled this view clearly when it was stated that the requirements of the humanitarian sector could no longer be met through traditional humanitarian bodies alone (UN General Assembly, 2016[b]: 45-46). The summit was comprised, in part, by requests from humanitarian actors and nations for the private sector to progressively "join their efforts in addressing the growing humanitarian challenges societies face" (CBi, 2018: 6), and in doing so solidify their role in the humanitarian realm as an "indispensible partner, that has too often been overlooked" (ibid.). Consequently the 'Connecting Business Initiative' –launched during the 2016 Istanbul summit– was set up to give the private sector a "smoother entry point" into the humanitarian system, endorsing the supposed necessity of corporate bodies in 'breaking down the barriers' of past inefficiencies (Jafar, 2017), introducing new technologies to humanitarian locales, and commencing methodological approaches/contributions of 'greater impact' (CBi, 2019).

Though articulated at the 2016 World Health Summit as a collective, the 'people' that make up the contemporary international humanitarian community have divergent rationales and drivers for engaging in such action. From the perspective of (Western) private sector bodies there may well be an overt philanthro-corporate impetus as signalled through discourses of 'corporate social responsibility' (Reith, 2009: 302-305), yet, in large, this notion can be seen as one that views ethical, humanitarian principles as "more often an afterthought than a core business" (Redfield, 2012: 159) as it 'cloaks the market in a moral discourse', allowing corporate bodies to veil their true objective: capital production (Madianou, 2019: 5). Through this can be seen a collection of rationales for private sector organisations engaging in humanitarian action that, although claim to fall within a traditional humanitarian scope, are chiefly focused upon projected corporate gains from operating within the field. As OCHA's study regarding the self-reported perspectives of private sector actors operating in humanitarian work states (2017[b]: 13-14), the main incentives for corporate support within humanitarian arenas are frequently expressed as those that are "based on a sense of moral

and ethical responsibility". Nevertheless, within this study, the respondent's 'highest valued' rationales for engagement and partnerships were exclusively aligned with concerns regarding 'return on investment'; specifically, the four (grouped) motivations for private sector respondents were summarised as, "developing commercial interests, improving business assets, reducing business risk and mitigating loss" and "building relationships and influence" (ibid.). Furthermore, 70% of respondents stated that "expected value or return on investment" was either 'important' or 'very important' in pursuing a humanitarian partnership (2017: 20). The divergent, and sometimes contradictory, rationales for private engagement within humanitarian action highlights the long-standing debate across corporate social responsibility discourse in which contrasts are apparent between those who see traditional corporate objectives, such as capital return and maximising shareholder value, as paramount, in opposition to those who contend that the interests of a broader swathe of stakeholders (for example, the host communities and 'beneficiaries' of humanitarian assistance) must also be taken into account (Carbonnier, 2001: 949-950). To these antagonisms that contest hegemonic perceptions of corporate social responsibility discourse can also be added another thematic element: private bodies that –as observed in the previous chapter– have little interest in a performative façade of corporate social responsibility regarding the upholding of traditional humanitarian values, and exclusively see humanitarian crises as a means of introducing, testing, and potentially establishing a dependency on their 'humanitarian'-commercial ventures (in this instance, UAV technologies/systems). At the far end of this spectrum exists that which is the most extreme form of such measures – predatory or 'disaster' capitalism, in which "neoliberal policy agendas" are legitimised by nations and hegemonic organisations following disaster and aid crises, discursively creating the space for private bodies to step in and advance the market interests of capital/donor flow during such windows of opportunity (Schuller and Maldonado, 2016). In many instances these practices have been established as the "disaster *after* the disaster" (Schuller, 2008), whereby wholesale transfers of power to private organisations, alongside the creation of policy that enables and endorses such measures, not only compromises and freezes the (present and future) response of local communities, but additionally places them at the whims of predatory corporate rationales, values and ensuing behaviour.

Consequently, a more thorough amalgamation of private bodies within the humanitarian sphere, with varied and sometimes contradictory and predacious rationales, indicates a shift in how contested notions encompassed by humanitarian action –namely biopolitical control and regulation– operate and are subsequently understood. Through the demonstrated expansion within the humanitarian sector of various private bodies, each holding various obligations, values, and, as signalled prior, enabling extensive 'digital divides' –often

intersecting across, and leading to an exacerbation of, existing vulnerabilities– it can be noted that privatised approaches indicating the primacy of 'beneficiary' welfare in operations is not guaranteed, especially as (digital) humanitarian technologies can implicitly still function and act upon the social body of those excluded from its practices, production and reformulation of knowledge (Willitts-King, Bryant and Holloway, 2019: 19). As also seen, nor are the processes of corporate humanitarian action set inside clearly delineated and reliably understood institutions; the relationship is, as Hardt and Negri discuss (2000: 22-25), one of power (literally) investing in life across respective social bodies, corporatising humanitarian authority and –what is at stake in this process– control over elements within "the production and reproduction of life itself", accentuating exterior concerns of how such power/control is translated, perceived and acted upon through the lens of privatised value schemas.

Corporate-Biopolitical-Humanitarian Amalgamation

Regardless of its subtlety or overtness, control and authority within the humanitarian sphere is not a contemporary phenomenon or notion; nor are understandings of representative biopolitical knowledge and power effects, that both help constitute and are constituted by control, unidentified across the humanitarian sector (see, for instance: Mavelli, 2017; Piotukh, 2015). As Michel Agier has observed, the refugee camp, for example, can be seen, through its methods of containment, delineation, management and regulation of life, as a form of humanitarian governance imposed upon extra-territorial spaces and populaces (Agier, 2011). Such arenas are correctly recognised as grounds that move beyond the simple provision of missing "components" that are necessitated by displaced and insecure populations (Bulley, 2014: 2-3), and can be further conceptualised in various ways as spaces that order and monitor liminal bodies, as a means of creating, and consequently regulating, political subjects (ibid.). These thematic appreciations of biopolitical control are not just limited to perceptions of the humanitarian camp, and continue across other welfare-based forms of humanitarian action such as palliative coordination and medicalisation of populaces. Historically, biopolitical techniques have been employed to manage and mitigate the prevalence of health threats across populations (Ortega, 2004), and have, over the centuries, become more prominently embedded throughout various state and humanitarian responses (Barrett, 2010; Ajana, 2019). If the eighteenth century saw an ushering in of a 'politics of health', insomuch that there was an articulated prescription by Western nations for forms of measurement, analysis and control concentrated around 'the state of health' of the population (Foucault, 2000: 90-105), our contemporary era is notable for such techniques drifting more and more from being within the sole jurisdiction of traditional state mechanisms to that which is increasingly conducted by non-state and private/corporate bodies – and alongside this, the (humanitarian) problematics that surface from increasing shifts in focus

towards neoliberal rationales, their contingent values and practices, and resultant effects (Nally, 2011; Otieno, 2018; Sözer, 2019). Consequently, though specific levels of corporate support are difficult to measure, there are anxieties surrounding the growth of the private sector within humanitarian operations (Stirk, 2014: 8;), not least as its encroachment 'blurs the line' between the concerns of private capital and principled or otherwise altruistic involvement (Rieth, 310-311;). In doing so it introduces a swathe of corporate logics vying for primacy, producing further discursive antagonisms in an already contested biopolitical (humanitarian) landscape. Such apprehensions are not just located at an abstract level, and carry across to more narrowed and specific cases – for instance, certain 'revolutionary' or 'innovative' technologies and procedures are in part constituted through the manifestation of such anxieties, which their use helps to crystallise as 'real', or at least increasingly 'more real'. Herein, as multinational corporations and their related logics are becoming more of an integrated and re-appropriating component within the humanitarian system (Hotho and Girschik, 2019), so too are more biopolitical concerns and powers transferred from the state to ever-developing (corporate) 'state-like' institutions (Trouillot, 2001). Many of these organisations with 'state-like' functions are not simply casting a downwards macro gaze towards the humanitarian sector, but operate at a micro level, constituting the new situational kernels of 'humanitarian' biopower. As Redfield (2012: 178-180) highlights, the advancement of certain 'therapeutic food' products, pharmaceutical bodies, and portable water filtration tools –while practically helpful, to an extent– also "suggest outlines of an afterlife for biopower" in which humanitarian action is not only enabled through corporate innovation and control within the (now established humanitarian) 'marketplace', but also implicitly emphasises "doubts about the capacity of states to provide for their populations" (ibid.).

As seen, perceptions regarding humanitarian governance are somewhat established within the sector, however, across these considerations can be seen adjacent similarities and developments between the discourse of the regulated, monitored, welfare-led, areas of governance, and a number of ideas previously articulated and examined surrounding the humanitarian use of UAVs. The examination of control within 'the camp' offers a specific focus on the humanitarian governance of precarious, liminal populations, whilst the contemporary discussion surrounding (welfare-based) 'humanitarian goods' also offers an insight into a self-presentation of an 'ethical' and economic market that is positioned as a biopolitical "response to failure on the part of states" (Redfield, 2012: 158). The UAV brings to the fore and broadens these underlying concerns surrounding (though not limited to) human(itarian) biopolitical regulation, monitoring and attendant techniques of control that are, as previously noted, becoming increasingly more aligned with, and supported by, market actors, values and rationales. Consequently, through its articulated roles in extending the

'reach' of humanitarian action, efficiency and modulations of the humanitarian environment, the UAV also serves as a new vector through which biopolitics is understood and applied to populations. The 'bare life' of the 'beneficiaries' is thus transformed through technological innovation and use to constitute entities that are politically qualified; with the inclusion of varied (possibly predatory) corporate interests and rationales, this renegotiation represents a signification of biopolitical subjectivities manifested in novel and evolving forms. While traditional notions of humanitarian governance were –in differing forms– in gestation and growth prior to the ascendancy of the UAV within humanitarian scenarios, the humanitarian use of UAVs modulates and develops such established understandings in distinct ways, owing to such (re)articulated, increasingly corporatised perspectives across the discursive landscape – by drawing upon these elements it is the intention from here to synthesise a critical understanding of such formations and how they function within (and reconstitute) 'humanitarian space'.

Synthesising the Corporo-political

Accordingly, what can be taken from these contemporary modifications of the humanitarian order (and attested to over previous chapters) is that the 'corporate' rationale is no longer just at the periphery of humanitarian action; moreover, it is not merely obligingly 'within' the sector – it is, through its given legitimacy and supposed necessity, an active and increasing contributor in the re/articulation of humanitarian logics, values and matters. In connecting this notion with the already discussed biopolitical contestations running throughout the humanitarian sphere, these articulated concerns (now joined) are thus 'shared' across the current discursive landscape: the humanitarian (and consequently biopolitical) considerations adopt the rationales of the 'corporate', whilst corporate bodies are themselves flooded with the biopolitical engagements that constitute the humanitarian sector. Herein is the co-constitution of a humanitarian sphere with a broad spectrum of corporate values, and its corollary which imbues private bodies with nebulous motives the authority to further regulate and monitor life; an amalgamation of corporate-biopolitical interests. It is vital to once again note that this is not just a theoretical perspective with regards to the humanitarian UAV: as has been demonstrated, small-to-multinational technological corporations, venture-capital start-ups, the military-industrial sector and attendant neoliberal logics are already breaching and being invited into this arena, setting discursive foundations for consistent near-future/immediate (humanitarian) operation. The humanitarian UAV within this environment, with functions that cross into the territories of mapping/monitoring, bio-medical transportation, and various data collection, thus helps corporate bodies (for the assembly of reasons noted prior) constitute and regulate a "fluid and endlessly divisible, fractal, 'multitude' rather than 'peoples'" (Diken and Bagge Laustsen, 2005: 65); a 'multitude' interpellated as

representative humanitarian objects, permitted also to be conceptualised and regulated within market logics. The emergence of 'societies of control', as Deleuze states (1992), marks an end of traditional disciplinary objectives and institutions; power and thus control is instead divergent and free-floating, de/reterritorialising traditional spaces. With reference to the UAV, precarious and insecure populations/locations become 'democratised' through the introduction and application of technological rationales by humanitarian-corporate actors each competing for a piece of the market share, constituting 'value-free' forms of freedom that are nevertheless under the (biopolitical) remit and control of neoliberal practice, neutralising avenues of recourse populations may locate to renegotiate affairs and making them complicit in its propagation. It is here where supposedly liberating yet, at the same time, subjugating forces manifest through the same regime of logic (Deleuze, 1992: 4); it is here where the 'freedom' of 'democratised' forms of "control [are] superimposed onto discipline" (Lazzarato, 2006: 178) without the obligations typically attributed to state institutions (Kapferer, 2005), as corporatised forms of 'humanitarian' power –and thus biopolitical control– signal changes in the territorialisation of power structures and ontological directions within the (humanitarian) state. The modifications that this stimulates can consequently be seen to help establish new forms of governance and control that supplant traditional mechanisms of the state, shifting towards alternate and disconnected corporate procedures of governmentality and biopolitical power/influence. For clarification, as Kapferer highlights (2005: 296), it is evident that corporations are not nation-states in the conventional sense, yet they do have 'state-like effects' and, moreover, continue to adopt and develop a "firmer state dimension" through the co-option and appropriation of "domains of public space and service, previously in [the] control of states", through which the "control and regulation of populations" is exercised.

Herein, with regards to the contemporary manoeuvres of, and invitations towards, corporate bodies within the humanitarian sphere, the varied capital-based, neoliberal rationales they articulate, and the technologies they either construct or utilise within humanitarian action (in this instance, the UAV), one can see that the discourse shifts past the state as a sole point of focus and reference –though the state is itself implicitly enmeshed in its articulation– and is re-framed through a distinct arrangement of biopolitical action. Here I wish to introduce the notion of 'corporo-politics', a form of governmentality/biopolitics that, in certain contexts/arenas, moves away from the (traditional) nation-state and its attendant institutions as the main force underpinning it, and is signified through the complementary neoliberal, corporate immersion in such functions of governmentality and biopolitics. It is thus discursively constituted through a multitude of neoliberal –corporate– notions articulating (de/re)politicised spaces and further *dispositifs* that erode and displace traditional

governmental components, whilst at the same time flooding the created lacunas, reconceptualising and governing such locales through both neoliberal (for example, heavily market-based) and biopolitical processes of control. In this instance it entails a de/re-territorialisation of the biopolitical nexus, represented through the UAV –as its partial conduit– and broader ideological humanitarian-corporate developments. In introducing this concept, the aim is not to discard biopolitical considerations, but to see them as correlative, and develop a particular contemporary articulation of its ideation, so that thematic, yet explicit, (here: neoliberal-corporate-humanitarian) conceptualisations can be better highlighted, helping to re-frame and understand what is at stake across the discourse.

Etymologically, the 'corporo-' prefix has two functions, referring to the dual emphasis placed on biopolitical conceptualisations of –and resultant techniques of control regarding– the *corporeal*, and the *corporate* flooding of meaning and action entering this biopolitical nexus. With regard to the former, the 'corporeality' of biopolitics can be seen as a cluster of power relations that are premised upon distilling and actualising the management and control of life – mechanisms of control arranged towards "man-as-species", a pluralised 'body' (and henceforth referred to as such), ordered, optimised and regulated (Foucault, 2003: 246); and secondly, the body (and representations of the body) as that which must be regulated, but also that which, in turn, helps to (re)produce and sustain economic productivity, markets, value and order. Within this secondary function, the body is reconstituted as both a 'guided' form of political subjectivity that is 'empowered' through the introduction of the corporate logics to "actively make self-interested choices", and configured in a wider net as a functional element in the advancement of "both their well-being and that of society" (Leitner, 2007: 4).

The Corporeal:

One may assume that the notion of the 'corporeal' solely rests on the materiality of the body, but in the context of this work, through the diverse biopolitical processes attendant to the humanitarian-corporate relationship, the corporeal is also implicated in how the body is considered, refigured and treated through the various rationales, technologies and mechanisms of this relationship. In this fashion it is represented through the ontological environments it resides in (the (in)corporeality of material and digital/technological representations), the modulations the body is (willingly or unwillingly) involved in, and how it is configured and signified as dividualised forms of life. Utilising technologies, humanitarian actors are able to firstly reframe and associate beneficiaries with their digital representations (broad and narrow) –illustrated, for example, through the UAV mapping of populaces and environments, distanced welfare/medical-based cargo 'drops', and the attendant knowledge assemblies constituted and modified by such practices– and secondly, from this, reconfigure them via a fixed gaze on the corporeal reservoir of (in)dividual significance, behaviour, risk

and markets (and so on). Through the UAV, the body is represented as that which can be regulated insomuch that it can be 'followed, interpreted, absorbed and rearticulated' (Hardt and Negri, 2000: 23-24); a biopolitical form that is endlessly divisible and disaggregated. This reconfiguration not only helps to codify the corporeal, it facilitates the body being brought into wider practices of a political economy, and with limited agency over the UAV's market functions –for example, as a part of the 'developmental' labour force, or as an inadvertent, exterior constituent component swept up alongside the processes and rationales of UAV– the body is composed and integrated into regimes of modulation and control.

Through the neoliberalised inclusion of UAV (systems) within the humanitarian sphere and attendant procedures of monitoring and mapping, collection and creation of knowledge, collation of bio-medical data and transport, and the subsuming and analysis of populations, the notion of the disciplinary society disappears and gives way to the control, ordering and regulation of precarious bodies; it gives way to the "samples, data, markets, or 'banks'" of the 'dividual' (Deleuze, 1992: 5); to the continual monitoring and continual training of populations within shifting frameworks (Deleuze, 1995: 175). Accordingly, the introduction of such technology gestures that the humanitarian (social) body is seen as a technical issue to be quantified and 'solved' through technical means (Burns, 2019: 1112); the corporeal is dividualised and disaggregated into data packets to be 'saved', and, through the positioning of neoliberal rationales, considered also for its potential as a value-oriented (humanitarian) formation of labour and market development. The emergence of the UAV through these scenarios not only affects the 'reach' of power, but also the modalities of how power/knowledge is constructed, incorporating "newly accessible aspects of human life" into its assemblages (Jacobsen, 2015: 108). This precarious corporeality is then, as Deleuze teased out (1992: 6-7), not located in the disciplinary traditions of enclosure, but is controlled through its debt to, and modulation via, the benevolent institution/organisation.

The Corporate:

Foucault notes that biopolitical rationality forms a central component in capitalism's (re)articulations and (re)constitution (1978: 141). As a method of control, biopolitics helps in securing social and economic "relations of domination and hegemony" across populations through the optimisation of "life in general […] without at the same time making them more difficult to govern" (ibid.). It is to this notion also that the corporo-political understanding of the humanitarian UAV speaks: the corporate-humanitarian flooding of meaning and action within biopolitical endeavours of control, hegemony and its sustenance, each acting upon and modulating one another to comprise corporate-humanitarian-biopolitical rationalities. As has been shown across previous chapters, neoliberal logics flowing through various small-to-multinational technological corporations, the military-industrial sector and venture-capital

deployments have imbued the humanitarian UAV's use with an additional rationality that allows it to not only assist in humanitarianism's biopolitical aegis, but also additionally refine such engagements within processes that reflect market priorities, efficiencies and other neoliberal signifiers. The earlier examples of 'humanitarian' UAV organisations such as Zipline represents these notions insomuch that corporatisation of the humanitarian sector and commodification/fetishisation of humanitarian technology as a locus of market control transforms the body into a corporo-political artefact, a commodified subjectivity that is 'given life' and qualified forms of value, and has these characteristics isolated and regulated to help produce normative models of life that are complimentary to market practice. To draw an etymological analogy with regards to the '*drone*'/UAV and such heavily corporatised, technocratic practices, the corporation is here what is viewed as productive, rather than individuals –who function as ancillary 'workers'– as the body is seen to operate in a 'servicing' role for the 'Queen Bee'. The extension of bodily capacities (such as enhanced range, value and other efficiencies) thus embosses upon the 'drone' certain qualities that constitute models of the 'ultimate', optimised worker as imagined by corporate/neoliberal logics of control (Ong, 2006: 6). The 'drone' becomes not only a way to extend capabilities (the term 'drone' here representing both a literal prosthetic function *qua* the UAV, and the physical body figuratively seen as a 'drone' that enables production within the market), but also a template for how corporate power can be relayed to bodies in constituting arenas of control.

More 'critical' organisations, such as WeRobotics, attempt to articulate a more holistic approach to UAV incorporation within humanitarian contexts, yet nevertheless are still accountable in sustaining broader neoliberal rationales that underpin the humanitarian ecosystem at large: a focus on measurable impact through technical efficiencies (WeRobotics, 2019[e]); market-based competition and funding endeavours (UnusualSolutions.org, 2020); incorporation of/partnerships with multinational corporate bodies –Pfizer, in WeRobotics' case– within operations and markets that, if fruitful, can be capitalised upon (Germann, et al., 2019); the articulated desire to create 'new economies through emerging technologies', and the broader push to develop the "drones as a service" market (WeRobotics, 2020). Though 'critical' towards some systemic issues within the humanitarian sphere, WeRobotics nevertheless functions as an internalised element across the co-optive neoliberal landscape in which antagonisms, owing to the hegemonic primacy of neoliberal incentives, are incorporated and domesticated, allowing its propagation along indistinct lines. WeRobotics articulates its focus as that trained on issues of injustice and hegemonic arrangements of power within the humanitarian sphere (and elements associated with this), yet, by its very nature as an organisation focused on 'technology for good', it

implicitly motions that such things can be combated through technology (here, UAVs) and technological rationalities instead of other arrangements; within this understanding, technocratic and neoliberal logics are familiarised through an outlook that largely sees the measures of the status quo as acceptable as long as they can be modified (as opposed to outright rejected or countered) to privilege the notion of 'technical solutions' to social problems. As Agamben observes (1998: 78), the (critical) humanitarian organisation here maintains a "secret solidarity with the very powers they ought to fight". As Reid-Henry additionally relays the notion: "humanitarian discourse is neither cure for, nor cause of, market and state-based forms of injustice: it is, rather, an inseparable element of both" (2014: 427). Consequently, control in this instance operates as that which is diffused across various neoliberal logics, placing 'the living' in various domains of utility and value (Foucault, 1980: 144), allowing bodies to be brought into the realm of the humanitarian corporo-political apparatus, working directly and indirectly towards wider market-oriented goals; bodies, which, at the same time, are regulated in ways that are both articulated as 'democratising/ed', yet are dividualised and controlled in their variability and attendant risks. The corporo-political thus also signifies the corporate co-option of conventional processes that 'give' and govern life, dually constituting the neoliberalised forms of institutions that 'give life', and, spreading from this, politically qualified life itself; a developing and (re)configuring of bodies that are modulated via the biopolitical-corporate criterion relevant to their processes.

Here can be seen an attempt to capture a nuance of a specific formation that has come into play at a particular moment in time. Even as biopolitics is refined (through Agamben, Deleuze, and so on), it is still impossibly broad in speaking to variegated practices and process of power and control. Though this conception does not offer an exact genealogy of biopolitics/biopower, it does not intend to; it is the tracing-out a particular moment and context that bears resemblance to configurations of (bio-)power in certain environments; though it is not exactly mirrored, corporo-politics is one example in how biopolitics emerges and manifests itself through variegation.

The subtext across these articulations that underpin the corporate-humanitarian-biopolitical nexus is, consequently, an implicit recognition concerning the impossibility of a discursive closure of 'the body' and the node of 'the human'. Notions of humanitarianism regularly fall back onto various conceptions of how 'the human' is understood within its work, whether it is through generalised invocations towards, or more specific reference of, ideas that concern the 'humanity' of man-as-species (Pictet, 1966: 459-464), the "evaluation of human beings and the meaning of their existence" in order to both produce representations of and aid such bodies (Fassin, 2007: 500-501), or even articulations that stress the importance of, in the

midst of rapid technological innovation, keeping the 'human' in humanitarian (Emery, 2016; Salman, 2017). A paradox is here highlighted in which the combination of neoliberal/corporate rationality (with a partial focus on a divisible, dynamic workforce) imbued with the attentions of the humanitarian (the biopolitical, articulations of sustenance, and so on) –dually working around and towards certain conceptualisations of 'the human'– equal the further production of anxieties of a Cartesian nature surrounding the body and how it is to be understood, either in reference to qualities of humanity, representations of the body, or involvement in humanitarian practice. The humanitarian beneficiary is not seen as a unified subject –as highlighted through its diverse forms of attributed 'lack' that once fulfilled no longer constitutes a precarious body– but is here the sum of its constituent parts that, through the introduction of external agencies and subsequent processes of biopolitical control, can be modulated in attempts to produce bodies that are both 'given life' and are, additionally, productive, valuable and rational actors within moral and political economies. The body, within this tapestry of contemporary humanitarianism's "enlightenment rationality, […] capitalism, and colonialism" (Redfield and Bornstein, 2011: 13), is endlessly divisible and subject to collective, 'rational' forms of analysis, aid, assistance and development that offer –amongst other noted concerns– various ideas concerning sustenance, yet at the same time is reduced to a kernel of on-going epistemic inquiry, implying the impossibility of its closure. Corporo-political attempts to delineate the body here exemplify the underlying tension in endeavours to establish a Cartesian notion of human(itarian) subjectivity: firstly, that these very inquires signal the enduring discursive 'openness' in the constitution of the body, and, secondly, that the humanitarian is itself reminded of its own fallibility and *non*-'value-neutral' frameworks due to the impossibility of tracing the limits to/of 'the human' when human representation, through such actions, is/becomes ever more so elastic, having been shaped through the apparatus of corporo-politics. The body, as with the 'human', as Braidotti emphasises (2016: 15), is not a neutral signifier, and instead one of hierarchy that both "indexes access to privileges and entitlements", and, lacking these, embodies its own hegemonic construction. As –previously adduced to– discursive rationales may view the humanitarian body as a technical problem to be solved through technical means, resultant processes of dividualisation (counter-intuitively) signal attempts to qualify bodies with forms of universality (Orito, 2014), yet, such perspectives ignore the concern that humans "are not 'human' in the same way or to the same extent to begin with […] both methodologically and politically" (Braidotti, 2016: 15). The lack of discursive fixidity, in combination with rationalities *searching* for discursive closures, opens up possibilities for bodies to be interpellated in various ways through corporo-political mechanisms, the implications of which play out in how humanitarian work and space –here presented through the discourse of the UAV– is further conceived and configured.

Humanitarian Space and the Corporo-Political UAV

It has been noted that the humanitarian UAV constitutes a 'transformative' step in the practice of humanitarian action, whether –to name a few, non-exhaustive examples– that is through the already discussed notions of democratisation, articulations surrounding its 'revolutionary' nature, or through the ways in which humanitarian action is modified in both its metaphorical and material understandings of humanitarian space (Luterbacher, 2018). As developed from Rony Brauman's initial use of the term *espace humanitaire*, the notion of 'humanitarian space' refers broadly to the "humanitarian operating environment" (OCHA, 2004: 10): settings in which humanitarian actors are able to both function freely in order to satisfy a range of humanitarian needs (Collinson and Elhawary, 2012) and situate themselves in "adherence to the key operating principles of neutrality and impartiality" (OCHA, 2004: 10), as figures "independent of external political agendas" (Brassard-Boudreau and Hubert, 2010). The 'independent character' of humanitarianism and humanitarian space is, as Roepstorff states (2019: 2-3), articulated as that which is unconditionally tied into ideals that delineate a separation from overt politicisation in order to provide clear distinctions between humanitarian actors and those with varying motives and rationales. Nevertheless, the term is notable for within it containing various interpretations of, for example, how the space of humanitarian action is outlined, what *bodies* are established within such locales (either in providing humanitarian assistance or as the 'beneficiary' of it), and, consequently, what actions/programmes within these spaces are given foremost primacy and accordingly legitimised (ODI, 2010). The notion of humanitarian space is thus not only far-reaching, indicating various concerns surrounding the governance of populations, but due to its variability (not only in how it is perceived, but also how the diverse actors involved in humanitarian action (re)constitute it) is, additionally, heavily contested in application (Collinson and Elhawary, 2012). As such, though conceptually aspirational, the language and principles entwined with the notion of humanitarian space are ones that, in practice, are often modified, "strategically or tacitly", by "different actors to advance or legitimise their respective interests, projects or beliefs" (Hilhorst and Jansen, 2010: 1118). Through applying and further developing the notion of the 'corporo-political', it is these tensions surrounding humanitarian space that the following section largely wishes to speak to.

The traditional notion of humanitarian space is thus one that is underpinned by a normative emphasis on the humanitarian principles of impartiality, neutrality and independence, though is continually contested by the assorted actors and logics (re)constituting such space and frequently widening the breadth of its definition to justify diverse, atypical mandates and/or values within humanitarian action (ODI, 2010). As noted, articulations that set out the

supposed necessity of non-typical mandates and values can be located across corporo-political discourse, which is both incorporated into elements of contemporary humanitarian practice –as it fosters a politicisation of bodies through its constitution of life and humanitarian action as a commodity of value within the political and moral economy– and at the same time gestured towards as an apolitical, 'rational', 'value-free' and neutral framework of action. Kleinfeld (2007) has highlighted the dangers in such practices and broader "popular humanitarian discourses" which gesture that "humanitarian space can be identified, represented and maintained separately from political space". In Kleinfeld's case work on the political and humanitarian landscape of post-tsunami Sri Lanka, however, is a distinction that humanitarian issues arose due to the principal desires of humanitarian actors to remain apolitical, despite the humanitarian locale initially being fundamentally politicised/ing and additionally flooded with increasing elements of politicisation (ibid.). In the instance of this chapter there is a slight departure from Kleinfeld's notion, though there is still an important recognition of the dangers attendant to spaces that are traditionally premised upon, and thus seen as, a *de facto* 'apolitical' or 'neutral' environment: that is, that the supposed 'value-free', 'common-sense' and 'neutral' logics of neoliberal rationales that feed into the general corporo-political/humanitarian UAV nexus are sustained and strengthened through being viewed *specifically as* non-politicised/ing elements (Hall, *et al.*, 2015). Through the combination of humanitarian space –as both a literal and metaphorical 'space' in which the 'neutral', 'independent' and apolitical, as signifiers of good practice, are given primacy– and the interweaving of the corporo-political, vulnerabilities can be recognised insomuch that the broad, generalised requirements constituting 'humanitarian space' are accommodating to infiltration by agents embodying and promoting rationalities that are ostensibly articulated as fulfilling such criterion, yet at the same time surreptitiously legitimise, enforce and neutralise its politicisation. The discourse of humanitarian space can consequently be seen as a medium that not only facilitates action such as aid, relief and development, but, through the perspective of corporopolitics, also acts as a mask to obscure wider interests and situate them within the humanitarian landscape. As previous chapters have highlighted, the 'ethical' and 'democratising' discourses surrounding the humanitarian UAV, which aim to present the varied parties articulating such notions as both worthy and integrated within the humanitarian consensus, allows corporate agents and neoliberal logics to introduce and position themselves within humanitarian space as righteous forms emptied of their political/economic interests, yet, nevertheless, still function through and (re)constitute humanitarian space with these interests (Hilhorst and Jansen, 2010: 1119).

Kleinfeld makes an additional, vital point applicable to these concerns that goes beyond the usual perceptions attendant to humanitarian space. 'Popular humanitarian narratives' on this

topic, she notes (2007: 170), do not often attend to the political struggles and the potential for (spatial and temporal) reverberations that have impacts beyond the immediate 'humanitarian space'. Discourses and relations are thus confined to the proximate locations where humanitarian action occurs, and fail to consider (or contest) how practices within –and that configure– 'humanitarian space' have the ability to deleteriously echo beyond these (albeit increasingly porous and blurring) delineations (ibid.). This humanitarian blind spot signifies a number of problematic concerns: in particular, the issues that arise from the perception that humanitarian action is an isolated spectacle, or that 'humanitarian space' can be conceptualised in a vacuum, only fosters further dependencies and puts populations at the mercy of various after-effects outside of 'the immediate'. Consequently, as Hilhorst and Jansen recognise (2010: 1121-1122), the idea of humanitarian space in practice should be seen as an *arena* in which principles of humanitarian action are both continuously socially negotiated and acquire significance and meaning through articulations, accordingly shaping the 'realities' and assembly of how humanitarian action is understood and carried out both immediately and thereafter. For better or worse, the varied agents involved in such negotiations outline not only the contingent relationship between humanitarian action and the regulation of bodies within unstable environments (or to what extent these arenas are regulated), but also how micro and macro forms of governance and politicisation are embedded and transition into normative methods of regulation (i.e. the limitations of processes of control). Duffield (2007: 237), for instance, notes how the increasing inclusion of biopolitical techniques by humanitarian organisations attempting to regulate and administer life ("make live") to insecure populations, alongside exceptionalist discourse towards "ineffective" states, constitutes a political claiming and exercising of a form of sovereignty by external, non-state organisations. Redfield similarly, in his discussion concerning 'humanitarian triage' and 'sacrifice' (2008), highlights that humanitarian organisations have not only a governing (bio-)power to 'make live', but also –operating "within a wider political and economical context" (ibid.)– implicitly have the power to 'let die' due to the reality of finite operational resources and solutions, that, alongside the humanitarian dilemma of prioritisation, concerns who/what is 'let go' as the corollary distinction to who/what is attended to. Here, political contingencies underpinning the constitution of humanitarian space are set out by humanitarian organisations with, as mentioned, increasingly 'state-like' functions and logics (Trouillot, 2001), incorporating rationales, practices and dilemmas associated with more traditional, sovereign administrators of bodily governance. Additionally, as the processes and rationalities of humanitarian action and its logics are increasingly modulated through commodified, corporatised and neoliberal prisms (Thomas and Fritz, 2006; World Food Programme, 2019), the humanitarian-biopolitical processes of governance and control are also passed to such actors.

Consequently, it is the aim of this section to elaborate upon how the 'humanitarian' UAV, and attendant organisations and systems –through practices such as the mapping and monitoring of bodies, humanitarian/medical cargo delivery, and the (general) associated cycles of data collation, analysis and application– incorporate and naturalise hybridised corporate interests and biopolitical rationalities within humanitarian space, and the implications of this corporo-political form of 'humanitarian' action.

The humanitarian UAV and its associated systems and practices, as a new form of neoliberal palliative technology, assist in both creating and moving beyond similar (shifting) contingencies underpinning the humanitarian arena. It is this conception of the renegotiated and porous humanitarian arena that highlights what is at stake within the context of this and previous chapters, as the internal consistency –and thus legitimacy– of humanitarian space and practice is contested by the discursive progression of a corporate-biopolitical-humanitarian formation. To somewhat repurpose the notion of Hall, *et al.* (2015: 14): corporo-political rationales surrounding the humanitarian UAV can be seen to function as not only an increasingly significant discursive element within the domain of humanitarian 'arenas', but, beyond the spatial and temporal arena of immediacy –owing to its neoliberal roots– "play a crucial role in legitimising" subsequent techniques that establish "power, profit and privilege"; such techniques are centred around the regulation and subsuming of the (precarious) body through corporo-political rationalities that help constitute, and spread beyond, the humanitarian arena. In order to highlight and underline this point, the private US venture capital UAV organisation, Zipline, must be brought back into the discussion. Zipline exemplifies the blurring of boundaries of corporate-humanitarian space, not only due to the examples elaborated upon prior, but also through its rapid adaption to (humanitarian) market demands, notably those brought on by the COVID-19 global pandemic. Expanding upon their blanket market control of UAV medical delivery and logistics in Rwanda, Zipline's UAV operations in Ghana transitioned –once the disruptive nature of the COVID-19 pandemic was established– from the delivery of general medical products to the aerial delivery of personal protection equipment and COVID-19 test samples (Kretchmer, 2020), with the accompanying aim to not only be incorporated into wider humanitarian supply chains in emerging markets "very quickly" (Weforum, 2020: 23m 40s), but to also demonstrate proof of concept, value and efficiencies for established, global economies and financiers (Ackerman, 2020; British High Commission, 2020). As highlighted across previous chapters, one of the significant components of the relationship that amalgamates corporate bodies, the UAV and 'humanitarian' action together is positioned around this –here embodied– notion of globalised flexibility in how the UAV is tested and embedded in vulnerable locations with specific needs or weak infrastructure (locations that consequently may be dependent on such terms) and,

from this, the capital-oriented transition into additional markets of testing and/or requirement. Statements from the founder of Zipline emphasise that this push for legitimacy through less-regulated (humanitarian) space is a reflection of such wider, market-driven interests insomuch that its demonstrated operations rapidly facilitates "the adoption of this kind of technology in the US" (Toor, 2016) and, indeed, globally.

With regard to this latter point, concerns around techno-parasitism and power/knowledge asymmetries once again move into focus: once certain formations of knowledge are extracted from humanitarian environments (and the bodies within), the precarious arenas and bodies that helped constitute such organisations' knowledge (and thus power) may no longer be viewed as 'valuable' (Madianou, 2019). Matternet, for instance, since utilising UNICEF's Malawian 'humanitarian drone corridor' for extensive testing of its proprietary UAV technology (in relation to HIV-related medical transportation (UNICEF, 2016)) has subsequently redeployed within the larger US market, partnering with UPS, and, applying their knowledge and technology to assist with COVID-19 response programmes for US citizens (UPS Pressroom, 2020), have completed, as of April 2020, 3,700 *paid* drone deliveries across North Carolina, with a further, larger role given to them for the aerial delivery of medication to the US's "biggest retirement communities" (Black, 2020). Here, these private organisations serve as an example to highlight an additional factor to consider within the corporo-political breaching of humanitarian space: it cannot be assumed *a priori* that corporate involvement in humanitarian action is concerned about the constitution of humanitarian space to a similar extent or, indeed, values it in the same way as traditional humanitarian organisations do. Humanitarian space may, for private organisations, simply be the negotiable arena in which a form of 'investment humanitarianism' is leveraged as a means to test and establish markets, relationships and future opportunities (Jackson and Nelson, 2004: 197). This ever more prominent justification problematises humanitarian space as *humanitarian* space, as such power relations –that which may be categorised as exploitative– are not aligned with traditional humanitarian values, yet cannot be negated in the systems and logics of neoliberal capitalism that they perpetuate, as any exclusion of exploitation forecloses "a vital component" necessary for it to function (Vähämäki and Virtanen, 2006: 216). As such, private organisations, unlike humanitarian organisations, largely do not situate humanitarian standards (such as typical ethical principles and responsible 'exit strategies') as a *de facto* prerequisite for operation, nor *can* they necessarily regard them in a similar standing to capital production due to the extent that 'value' and capital is given overriding primacy across the functions of private enterprise (Kapferer, 2005: 287). Consequently, as the mechanisms of corporo-political humanitarianism develop, the practices that regulate and govern the body shift from a formalised, traditional humanitarian

order centred on the hierarchy of principles, to informal, open-ended and pluralised networks of exploitation and production (and the logics contained therein).

This primacy of capital can be seen within both Zipline and Matternet, who rely on arenas that require and can sustain high-frequency and/or high-volume operations (here, deliveries) in order to test and establish markets that create a worthwhile return on investment (WeRobotics, 2020[b]). However, by removing themselves from –or moving between– smaller, localised humanitarian 'test' arenas, and by using bodies as a means to an end (instead of viewing them as an end, in and of themselves), many of the initial humanitarian issues faced by populaces are compounded or temporally displaced (Meier, 2020). This disjuncture between populaces/arenas and practices, and the compounding/displacement of humanitarian issues, may also be led, in part, by the wider humanitarian sector itself borrowing the language of the Silicon Valley 'disruptor', promoting a vision of accelerated innovation in humanitarian arenas. "Innovation process are dynamic" and "failure is inherent" to humanitarian innovation, argues Obrecht (2016: 7), consequently, humanitarian organisations have argued a need to operate in a "less risk averse" manner, and for those within the sector to "embrace 'failing fast'" (ibid.). Yet the notion of 'failing fast' is, firstly, one that implicitly eschews the potential for deeper forms of technological democratisation and engagement with vulnerable bodies, instead seeing them as a dividualised mass within an arena of testing and compliance; and, secondly, the approach of 'less risk averse' operations that are sanctioned to, if necessary, 'fail fast' –the discursive insinuation being that the 'failure-innovation' relationship is chiefly concerned with a generation of evidence and production of knowledge along a creeping baseline– is one that is located within a site of privilege that disassociates the 'humanitarian' psyche, evacuating from it what is *truly* at stake in this form of reckless failure: the composition of a humanitarian arena that instructs a continuous, dispersed mining of value from already vulnerable populations whose vulnerability is not necessarily addressed (or potentially worsened). The growing indistinguishability between the discursive logics that make up the humanitarian sphere and those of the corporation de-privilege the body as singularly a site of emergency to be rectified and remedied, and rearticulate humanitarian space as a mass of "subjects to be regulated", dually modulated through biopolitical control and logics of capital (re)production (Newman, 2009: 109). The affective composition of humanitarian space through the corporo-political breaching of it is consequently placed in turmoil as "capital's tireless march", and its resultant attempts to dismantle traditional social organisations and rationales, help to reduce considerations of the humanitarian arena to that of corporate viability based around the extraction of knowledge, subsequent formations of power, and "quantitative and commensurable economic terms" (Hardt and Negri, 2000: 326); here the corporo-political

operates through and demands control over bodies at not just the biopolitical level of 'man-as-species', but also at the economically constitutive level of 'man-as-market'. The neoliberal logics of impact, assessment, efficiency and value that support the emergence of the corporate-humanitarian UAV not only establish the corporeal as a commodified subject(ivity), but, through its discursively sympathetic position towards hegemonic power relations, establishes further 'digital divides' and power asymmetries within humanitarian space (Madianou, 2019), additionally forcing vulnerable populations to pick up the pieces left by those 'less risk averse' and transient operations. The rising of the dually technocratic and corporatised humanitarian tide may well 'keep many afloat', nevertheless, "every tide rises until it falls" (Pringle, 2015) – here the possibility for it to fall is heightened as the 'transcendent' articulation of humanitarian principles and philanthropic values is displaced by the flexible and capricious relations of capital (Hardt and Negri, 2000: 326). The problematics associated with the potential for such (non-typical 'humanitarian') organisations –that claim ownership over proprietary 'humanitarian technology' and protected knowledge– to collapse or depart from humanitarian arenas, owing to the vicissitudes of the global market and/or differing values over the prioritisation of and obligations towards humanitarian principles, are here rendered clear: though we can *currently* see the corporate-technocratic 'humanitarian tide' keeping some populations 'afloat', the conceivable legacy it leaves –through the prospect of sudden aid and development vacuums– may merely be the high water mark from where the tide receded, and the intervening wait for the waves to roll back in.

UAV Monitoring: Its Links With, and Implications for, Humanitarian Space

With specific regard to the monitoring and mapping of humanitarian populations as enabled by the UAV and its systems, a number of concerns arise from the corporo-political rationales that help (re)constitute humanitarian space. The notions discussed so far in this chapter have an implicit biopolitical directive within them –through the securing of life, and the monitoring and mapping of bodies/populations– yet the processes and implications of this can be analysed further. As has been emphasised, the incorporation and naturalisation of 'the corporate' and its logics within the humanitarian arena is in part due to a discursive opening and flattening of the humanitarian arena, alongside concurrent neoliberal articulations that emphasise their (assumed) legitimacy, necessity and (capital/power-based) desires to regulate and secure the precarious biopolitical subject. These equalised arenas of control not only facilitate the incorporation of the corporo-political within humanitarian space as a rationale, but also enable and assimilate its processes. Different rationales change the "intensity and scope" of such processes of monitoring and regulations, alongside the attendant concerns surrounding data collection, management and privacy (Ceyhan, 2012: 38-39); and, consequently, the monitoring and mapping of humanitarian subjectivities

through corporo-political rationalities constitutes further examples of the de/re-territorialising biopolitical rationalities of 'humanitarian' UAV systems, those creating and utilising them, and the generation of knowledge/power facilitated through them. Accordingly, the methods of –and repercussions from– corporo-political influence, aimed at the level of the regulation of the body and humanitarian populations, may be further understood through such practices.

Increasingly across the humanitarian sphere are calls for humanitarian arenas to be constituted as biopolitical sites that can operate in an anticipatory capacity. Stemming from both moral claims and neoliberal logics (de Wit, 2019), it is no longer seen as beneficial –or even sustainable– for humanitarian crises to be dealt with reactively, and, accordingly, action must be situated within frameworks that are progressively more proactive and preventative in nature (OCHA, 2019[b]: 81). Increasingly, these measures and agendas are informed by the rationalities that constitute the discourse of the so-called 'digital revolution'; indeed, the UN's chief data scientist, Miguel Luengo Oroz, has stated that by 2030 "technology should allow us to know everything from everyone to ensure no one is left behind" (Oroz, 2017). Presently, humanitarian actors, through data-informed mapping, 'risk modelling' and 'crisis forecasting tools', are articulated as having the ability to set in motion efficient interventions based upon shifting, underlying contingencies in humanitarian arenas (ibid.). Anticipatory projections of the spread of cholera outbreaks, for example, can be forecasted with a supposed 92% accuracy level across Yemen, allowing for a proactive dampening in possible vectors of transmission, and the future detection of early outbreaks of disease (Department for International Development, 2018); the development of models and predictions of natural disasters and hazards –sometimes proceeded by other crises or located within compound disasters– such as floods (Coughlan de Perez, *et al.*: 2016), drought and famine (Funk and Shukla, 2020) and landslides (SHEAR, 2019) allow for humanitarian actors to foster and enact preventative measures to both heighten the resilience of populations and secure life; and early warning systems contribute towards the tracking and prediction of political violence across *continents*, setting out the potential for "armed conflict involving states and rebel groups, armed conflict between non-state actors, and violence against civilians" (Uppsala University Department of Peace and Conflict Research, 2020). Noticeably, there is again an additional corporate layer to a number of humanitarianism's anticipatory processes, as, for instance, humanitarian organisations have partnered with financial institutions in order to develop 'crisis risk financing mechanisms' that release funds when it is predicted that a drought will create a "particular intensity of humanitarian need" (OCHA, 2019[b]: 81); technology organisations, such as IBM, have integrated 'machine learning' systems that aim to forecast the mixed migration of bodies across humanitarian arenas (Nair, 2019); and Microsoft's 'Project Premonition' monitors vulnerable locations through "robotics and

genomics" to detect and reduce the potential for disease epidemics before they can take hold (Microsoft, 2015). Such processes revolve heavily around the monitoring and regulation of bodies, the gathering of data, and predictive, dividualised analyses of the humanitarian arena and populations within. Herein, humanitarian action again shares further similarities with biopolitical rationalities (aside from the evident interests surrounding the control and regulation of the corporeal) insomuch that "contemporary biopower looks to be always evolving as it runs behind the dream of the anticipation of future events and projects" (Ceyhan, 2012: 45).

Following from this, the (humanitarian) UAV can also be seen to contribute towards these biopolitical logics in various contexts, signalling attempts to secure the body and produce immanent and preventative forms of stability across humanitarian landscapes. Monitoring procedures, one of the most commonly noted uses of UAV technology within the humanitarian arena (Soesilo and Sandvik, 2017), allow for the situational observation of, and interactions within, environments that may be remote or hard-to-reach/visualise, and, broadly, facilitate engaging with and analysing actualised and potential vulnerabilities (of bodies and the humanitarian arena more generally) (ibid.). More specifically, UAV systems enable the provision of early-warning assessments and preparation through being employed to map humanitarian arenas and conduct population censuses; in some instances link specific individuals with exact locations/buildings; and surveil bodies (as a mass) with respect to their movements, identification, needs, risk management and forms of displacement that may also occur in crises (Soesilo, *et al.*, 2016). These procedures constitute a part of the wider logic previously noted from Oroz (2017) that ground and legitimise the advancing, technological humanitarian monitoring and regulation of bodies; however, the ever-encroaching private, corporate rationales in humanitarian action (and 'humanitarian' uses of UAV technology) establishes a number of problematic concerns. For instance, 'DroneDeploy', the leading cloud software platform for commercial drones, and the largest host of drone (mapping and monitoring) data in the world, provides a platform for humanitarian organisations (amongst others) to visualise and store mapping/monitoring data (DroneDeploy, 2020). The rationalities of bodies such as DroneDeploy, which attempt to streamline and make efficient such processes, highlights a broader issue within the digital humanitarian practice of collecting, collating, analysing and acting upon information. The notion of the 'digital divide' again comes to the fore as digital data, and opportunities of active involvement in the production of data, are frequently isolated from those that it concerns; indeed, the "application of technologies often amplifies existing inequalities of power and influence, and newer technologies can be inherently excluding" (McGee, *et al.*, 2018: 22). Consequently, the 'inclusiveness' of digital humanitarian practice, the understanding of what

information is constructed through it, and how this information is employed, are conditional on the benevolence of those that have the means to produce it and their willingness to make it accessible. Yet, accessibility is itself only a partial and superficial solution, as access to – and understanding of– information is not the same as having the power to create (and thus also eliminate/disregard certain factors within the data), apply or modulate it. Through these processes, understandings of how humanitarian space is conceptualised and regulated are additionally de-personalised and abstracted. Bodies are modulated as constituent parts of an emergent market; the 'revolutionary' resources that make up the regulation of such arenas are not only located in the typical halls of power, but are granular and further withdrawn from those it concerns; and the neoliberal logics of impact, assessment, efficiency and value that underwrite the emergence of the corporate-humanitarian UAV are discursively antagonistic to notions of humanitarian reform regarding established 'digital divides' and power asymmetries within humanitarian space (Madianou, 2019). Here new forms of power are located and extended through digital technologies, the "assemblage of autonomous tasks", and their related interests which are articulated as 'friendly' (Ceyhan, 2012: 44-45) and beneficial through the constructed corporo-political discourses of the 'ethical' and 'democratising/ed' UAV.

To return to the affective, globally destabilising nature of the COVID-19 pandemic, we can further see how the UAV's use across national settings demonstrates its increasing biopolitical infiltration of the market for both preventative and real-time crises. We can also see, not only how corporate UAV bodies exploit crises to establish themselves within markets, but also how their use in enforcing control mechanisms demonstrates an opening-up of wider potential biopolitical problematics with the establishing and naturalising of such UAV practice (and additional corporate logics) within humanitarian space. 'Draganfly', an "industry-leading" Canadian technology company that designs and manufactures UAVs (Draganfly, Inc., 2020), has, since early 2020, moved into the 'COVID-19 market' in an attempt to design and manufacture a "pandemic drone" system that "spot signs of illness, such as coughing and elevated temperatures", accumulating "real-time statistical data about the possible spread of the disease", and feeding this population data into modelling software designed by external 'deep learning AI' organisation, Vital Intelligence, Inc. (Captain, 2020). Not content with the Australian market, and buoyed by a (now forefront) global appreciation of the far-reaching nature of pandemics, Draganfly have articulated their intentions for their proprietary software and hardware to "be used as a part of a global early warning system", brought into the humanitarian market through the flexibility of UAVs, but further installed in stationary camera networks as a more traditional, fixed method of surveillance, so that, in the words of the technology's principal designer, "population health can now become just one of

those additional pieces of data that people are looking at" (Sachan, 2020). In the case of humanitarian space, Draganfly have noted that their UAV technology can be applied to screen larger, crowded populations such as refugee camps (Beeby, 2020), which are at heightened risk from communicable illness and disease (International Rescue Committee, 2020; Kelly, 2020).

Several issues are of concern here: firstly is the associated unease in how such invasive practices affect the *dignity* and liberty of humanitarian 'beneficiaries'. Such technology (and use of said technology) constitutes a depersonalised "silent surveillance" of bodies through software, that Norris, et al. note as "algorithmic surveillance" (1998), operating not just across the level of the social body as traditional CCTV may, but also as a means to digitally dividualise and regulate the corporeal through certain identifiable biological characteristics. Moreover, such technologies can frequently be couched in descriptive jargon –"a variety of sensors to collect data" (Captain, 2020); "specialized sensor and computer vision systems"; "state-of-the-art technology to analyze data in a way that has been peer reviewed and clinically researched to save lives" (Draganfly, Inc., 2020[b])– through which, whether for intellectual property reasons or because of more nefarious motives, understandings about the production of knowledge are largely inaccessible, revealing very little about how such processes affect and modulate those within its gaze. Furthermore, the inherent biases within technological design and the practices of monitoring and analysis (Grother, et al., 2019), alongside the potential for complications to arise from poor design and/or methodological rigour (Glaser, 2020), opens up the space for already vulnerable bodies to be –wrongly– constituted as a threat or danger to wider public health (Molnar and Gill, 2018). It is these seemingly mundane –insomuch that monitoring procedures are articulated as collecting "*just* one of those additional pieces of data" (Sachan, 2020)– 'common sense' applications of design, embedded in insecure populations, which have increasingly significant and far-reaching political consequences (Introna and Wood, 2004). There are also questions surrounding the *transparency* and *neutrality* of such technologies – i.e. how private organisations, disentangled from the traditional concerns associated with humanitarianism and its practices, initially analyse and use the collected data, how this data is stored and potentially re-used, and to what ends private bodies may seek to additionally commodify and exploit this data. A broad range of societies and individuals have experienced first-hand the progressively disreputable use of seemingly innocuous –'mundane'– data collected by private bodies (Elmer, 2004; Granville, 2018), and whilst different elements may be at stake between these examples and (humanitarian) UAV systems, the underlying premise remains the same: increasingly sophisticated monitoring techniques by both private and public bodies affect and degrade the democratic (and humanitarian) values of privacy, dignity, liberty and

agency in novel and adaptive ways. Technology is neither deterministically 'good' nor 'bad', yet, nor –as examined– is it neutral, though, as Paul Virilio observed (1999: 89), "when you invent the ship, you also invent the shipwreck; when you invent the plane you also invent the plane crash […] technology carries its own negativity" which is formed in the same instance of its inception and consequent application; equally, the incorporation of the UAV within humanitarian space encompasses its own 'photo negative' and the potential for its own negation. One of Draganfly's larger tests of its 'pandemic drone', in partnership with the police department in US state of Connecticut, may have been curtailed following concerns by the ACLU that "self-interested, privacy-invading companies" are exploiting COVID-19 "as a chance to market their products and create future business opportunities" (ACLUCT, 2020) – opportunities such as those within humanitarian space, (e.g. the refugee camp)– yet for those within the emergent sector looking to capitalise on crises, the discursively articulated elements of necessity that they –supposedly– offer may still facilitate such logics and practices becoming normalised. Indeed, the Kenyan Red Cross has already employed UAVs with speakers and thermal imaging cameras in order to regulate the behaviour of bodies under their humanitarian watch, and isolate those with an "abnormally high body temperature" (Kenya Red Cross, 2020; 2020[b]), thus moving the discursive space of humanitarian practice closer to a normalisation of such techniques through varied actors. Different rationales and contexts change the "intensity and scope" of monitoring and regulation (Ceyhan, 2012: 38-39), the methods by which it is conducted, and the attendant concerns surrounding data collection and privacy. Consequently, the corporo-political modulates how monitoring and the regulation of bodies through UAV systems is set out and how it can be understood, alongside its processes of normalisation. As observed, biopower is no longer an exclusive part of the repertoire of the state, with its logics and practices increasingly situated within private organisations vying to supplant elements of the state's (bio)power. In this instance, the privatised, commodified/ing form of the (humanitarian) UAV signals an "emergence of a new way of managing individuals, their life and living: an electronic and digitized (bio)power which is more open-ended, flexible and embedded" (ibid.); a method of biopower articulated as that which is able to fill and succeed the biopolitical gaps unattended or left by the state, de-territorialised and incorporated across vulnerable forms of life.

China, in the midst of and at the epicentre of the COVID-19 pandemic, has additionally utilised UAV systems and private enterprise in attempts to regulate and monitor its population. Supported by the Chinese technology sector, UAVs have been employed to help with "epidemic prevention and quarantine inspection" (Zhen, 2020) through similar biopolitical methods seen within traditional humanitarian arenas. In Shengzhen, 'Quick Response' (QR)

codes hang from the underside of UAVs at vehicle checkpoints for Chinese citizens to scan with a compulsory mobile phone software (provided by globally leading technology companies, Tencent and Alibaba (Mozur, Zhong and Krolik, 2020)) in order to demonstrate their health status when moving between points, report health information and location data, and facilitate the tracking of users that either are infected or have come into contact with infected bodies (Tesquet, 2020); the UAV is here used as a tool to regulate and monitor population movement both across and in-and-out of spatial arenas (Meier, 2020). Within the software, individual bodies are represented through a unique QR code, and assigned a 'traffic light' signifier: a 'green' QR code means they are free to move through checkpoints and continue day-to-day activities; 'yellow' means movement for that individual has been restricted and must quarantine for several days; and 'red' has similar implications for movement as 'yellow' does, but means that individuals must quarantine for a fortnight or longer (Mozur, Zhong and Krolik, 2020; The Economist, 2020). Additionally feeding into this nexus that helps represent bodies as a biopolitical avatar which demonstrates their health status, UAVs –much like the logics underpinning Draganfly's humanitarian project– are also utilised to scan bodily temperature in public spaces and through the windows of residential homes (McNabb, 2020) in order to monitor, regulate and secure life. One of the private organisations that manufacture and have deployed their UAVs to conduct such operations, 'MicroMultiCopter Aero Technology' (Guttman, 2020), have, similarly to their Western counterparts in the UAV market, noted how such crises are "an excellent catalyst for [their] company's development that will fast-track [their] growth" (Liu, 2020). Yet, while the legitimacy given to these practices and organisations may be helpful in normatively embedding them within broader crises and humanitarian scenarios, the practices evoke and solidify Deleuze and Guattari's notion of the biopolitical "control mechanism", that helps give "the position of any element within an open environment at any given instant" (Deleuze, 1992: 7). The body is interpellated through a dispersed apparatus of techniques and technologies of control that permit or forbid certain activities, yet what counts in the regulation and control of bodies is not the 'checkpoint', 'barrier' or 'locked door', *per se*, but these disassociated, arbitrary elements that "tracks each person's position –licit or illicit– and effects a universal modulation" (ibid.) – i.e. the granting of access through a checkpoint, the raising of a barrier, or the unlocking of a door.

What is curious about China's control and regulation of its population in COVID-19 scenarios –facilitated through corporate involvement– is in how it mirrors a number of 'best practice' logics within humanitarian arenas. China's use of 'QR UAVs' that regulate the movement of bodies within and across delineated boundaries is comprised of the same rationales that the World Food Programme utilise within the world's largest refugee camp, Cox's Bazar,

whereby movement in and out of the compound and access to provisions across it are monitored and regulated through the efficient and depersonalised QR code (Mehelin, 2020; World Food Programme, 2020); thermal imagery UAVs, as already noted, constitutes an emergent use of the technology within humanitarian environments, being employed in public-private partnerships to track the 'illegal' movement of migrants (roborder.eu, 2020), monitor refugee camps and their surrounding areas (Dearden, 2016), and as a component in the identification of vulnerable bodies that may be carriers (and thus spreaders) of disease (Kenya Red Cross, 2020); and it also highlights corporate involvement and its (attempted) naturalisation –of both the UAV and private bodies, more generally– in matters of the humanitarian-biopolitical (Jingli, 2020). Indeed, the 'Head of Aerospace and Drones', and the 'China Project Lead for Drones' at the World Economic Forum have noted how China's response to the COVID-19 pandemic could not only "serve as a model for other countries" in how to respond to similar scenarios, but additionally, long-term, can provide "lessons" in how broader public and private health-related sectors can utilise UAV technology to manage and mitigate future biopolitical crises (Yang and Reuter, 2020). What is more, Chinese NGOs and attendant rationales are expected to increase their role and influence in global humanitarian action over the coming years and decades due to their 'Belt and Road' initiative (Clarke, 2018: 20). There are few fields of endeavour in humanitarianism that proudly draw from, echo and/or influence the practices and rationalities of authoritarian states, yet here the rationalities that have been said to increase authoritarian modes of biopolitical power and control (Kharpal, 2020) are signalled as constituting a form of humanitarian 'best practice' in the public-private monitoring and regulating of populations. Such humanitarian techniques of control are constituted from, as Deleuze highlighted, "older methods, borrowed from the former societies of sovereignty", that have returned to the fore, "but with the necessary modifications" (1992: 7) needed to integrate and establish dispersed control mechanisms across populations. Within this can be seen a precise illustration of the problematic relationship between the UAV and humanitarian in this emergent context, as such uses of UAV systems straddle and legitimise classic biopolitical interventions and new, horizontal forms of regulation, which are influenced by competing logics (including that of the corporation) that draw upon, echo and further induce contemporary methods of control.

Chapter Conclusion

Here the UAV's use in monitoring and regulating populations highlights practices partly informed by wider contemporary (market) transformations surrounding biopolitical governance. What is striking also about the UAV's use within such formations is its applicability and transferability to other 'traditional' sites of humanitarian need. As Patrick Meier, a proponent for 'digital humanitarianism' and one of the founders of the 'humanitarian

UAV code of conduct', observes in his discussion on UAVs within COVID-19 responses, 'connectivity' serves as a discursive element within this specific context (Meier, 2020), but it is also applicable in helping to recognise the humanitarian UAV's processes within the broader discourse. Meier considers 'connectivity', however, as a somewhat superficial element revolving around UAVs being used to 'connect' and communicate with "disaster-affected communities", yet the notion of connectivity is one that can, conceptually, be taken further to map the discursive landscape of the humanitarian UAV, insomuch that it represents connectivity between the practices within humanitarian arenas and broader public health or crisis/disaster responses (both, in parallel, influencing and being influenced by each other); connectivity between (private) organisations, public and humanitarian bodies, and their attendant, increasingly shared logics; connectivity between (humanitarian-)corporate interests and the market; and, most significantly, the more nebulous and sinister configurations of (bio)power and control that arise from these discursive 'connections' that, in turn, connect to and regulate the corporeal.

The corporate 'rewards' for their involvement in, and influence of, humanitarian space, as such, are not located across the impartial, independent or transcendental articulations typically associated with humanitarian institutions, but are instead found in the 'smooth space' of global markets that provide opportune and accessible bodies that can be affected and commodified through nascent technology and legitimised through empty signifiers and hegemonic (economic) rationales. Macro events such as the COVID-19 pandemic bring with them stark examples in how (UAV) markets and capital are refigured around them and reinforced on different axes (Meier, 2020; Protolabs, 2020), and protracted crises –such as those seen within humanitarian arenas that supposedly necessitate private access– can consequently allow for exceptions (of before illegitimate practices and agents) to become the norm (Agamben, 2005). In this instance, forms of control associated with biopolitics are not just integrated within traditional 'humanitarian' practice and logics, but –informed by wider market practices– are additionally de/re-territorialised and found, changed in scope and focus, in the corporate breaching and inoculation of humanitarian space. As the corporo-political modulates and (superficially) satisfies the indistinct contingencies of humanitarian space (i.e., 'ethical' considerations, and the proposals of 'technological democratisation'), the logics of the relationship become 'self-evident', 'value-free' and politically neutralised, allowing for its reproduction and exclusion of antagonisms. Within the corporo-political framework of humanitarian space, mapping, monitoring and regulation acts as less of a 'lightning strike' of sovereignty, and more of a neo-sovereign 'Gorgon stare' insomuch that its de-territorialised, regulatory, transformative and drawn-out nature –both spatially and temporally– affect populations at a continuously embedded ('smoothed') level. It is through

this 'smoothing' and regulation of humanitarian space that the corporopolitical –and its attentions towards capital, power and control– displaces the state in fulfilling and normalising a biopolitical role: "the mechanisms of modern sovereignty […] are progressively replaced by an *axiomatic*:" namely, horizontal "variables and coefficients" that signal capital's imminence, destabilising prior definitions, relationships and boundaries, trending towards arenas that are flexible and have the ability to be both continuously modulated and equalised (Hardt and Negri, 2000: 326-327). What is concealed by the allegedly benevolent gestures of corporopolitical humanitarian UAV assemblages is consequently the true Faustian nature of biopolitics: the qualified claim of securing bodies and excising suffering and precarity, conditional upon the control of these bodies and life itself for its own ends. In helping to fashion dividualised bodies as humanitarian nodes of "permanent crisis" (Newman, 2009: 107) to be 'understood' and acted upon through corporo-political rationales and modulations, the biological (or, here, 'corporeal'), humanitarian and corporate are assimilated into one another through the folding of resilient neoliberal/corporate interests and logics into mutated, equalised arenas of humanitarian action and regulation. As highlighted through this chapter's examples, UAVs employed to attend to various bodily mapping, regulatory and monitoring concerns both reflect and inflect the logics of the corporate-humanitarian relationship; and humanitarian, medical cargo delivery carried out private organisations combines not only the evident transportation of supplies alongside the collection and analysis of population data, but also (as with 'COVID-19 UAVs') implicates populations in its reproduction, though not in a way that speaks to an 'ethical' renegotiation of established power, or through a process that constitutes a 'deep democratisation' of the technology, its systems and the data/knowledge it produces, or, necessarily, its market dividends.

The corporeal here is viewed within the humanitarian arena as a hybrid, modulated subjectivity permeated by control mechanisms: it is at the same time a precarious humanitarian subject(ivity) and beneficiary, a commodity, a worker, a perpetual apprentice of the corporo-political 'freed' from the enclosures of discipline. Outside of rigid formations the body lacks fixed disciplinary identities, yet here, across the 'smooth spaces' of capital flow and control, the body is nevertheless still constituted by their political logics, albeit in a more discrete and open-ended fashion (Hardt and Negri, 2000: 331-332). Corporopolitical control thus infiltrates and functions within these arenas of (normalised) exception and anomie as an arbitrary force, avoiding "institutional legitimation", though, nevertheless, re-articulating on its own terms what it had obscured (i.e. its de-privileging and reframing of humanitarian principles/values), and operating pliably without determined and distinguishable limitations (Vähämäki and Virtanen, 2006: 218). Accordingly, through the lens of corporopolitics and the UAV can be seen an arrangement in which forms of humanitarianism are reconfigured

around the co-constitutive processes of neoliberalism and biopolitics –being de/re-politicised in the process– whilst drawing influence from wider capital-oriented market practices, modulating humanitarian space increasingly towards de/re-territorialised, corporatised, networks that establish and reproduce ‘smoothed’ arenas of control (Hardt and Negri, 2000; Deleuze, 1992).

Conclusion

Introduction

This research project aimed to examine and analyse the implications of the articulated relationship between humanitarianism and the UAV, and how, through their discursive relations, they are constituted by, and equally help to constitute, a reimagining and redefining of humanitarianism and its associated, though increasingly shifting, rationalities. Furthermore, this project also sought to examine and analyse the implications that these associated logics, rationalities and practices enable regarding this understanding of humanitarianism and the spaces in which its processes take place. To briefly refer back to the reasoning behind this project, the established literature on the UAV over the last two decades has largely focused on the weaponised variants utilised for (generally) Western counter-terror operations. However, though emergent research on the humanitarian uses of UAV technology has demonstrated a departure from the foci typically associated with the UAV (or 'drone'), there is still somewhat of a preoccupation surrounding the humanitarian UAV's militarised connections and composition. This research project did not seek to invalidate or contradict these perspectives, as they serve an significant and complementary purpose within the growing body of work on the humanitarian UAV, though, they do, nevertheless, place a different emphasis upon their boundaries of inquiry to this thesis. As such, this thesis wishes to enhance the burgeoning, critical, discursive understandings of this technology in relation to humanitarianism, in addition to relaying a specific understanding of the neoliberal and biopolitical formations that are co-constitutive elements within the discourse.

Within other avenues of research that focuses upon the humanitarian UAV can also be seen a general concern with its associated logistics, field-testing, and the regulatory considerations that encompass and demonstrate technical viability, efficiency, value (and so on). Again, while these are elements that help to outline the normative discursive field that the humanitarian UAV operates in, is constituted by, and, moreover, helps to constitute, they do not necessarily engage with the myriad of discursive strands and factors that underpin, centre and give primacy to such notions; these elements, which are articulated as crucial considerations of the UAV's functional repertoire, operate within this discursive space with a presupposed acceptance of both their merits and implicative conditions. Within such work, the normative assumptions that underpin the viability of the humanitarian UAV are somewhat taken for granted as non-contested components needed for the humanitarian system to 'progress', yet through the approach of this project, which inspects the under-examined contingencies and instability of such concepts and practices (and their resultant effects), can be seen a broader range of variegated, conditional and non-typical considerations which are

cloaked, embedded and normalised both through the humanitarian system's changing rationalities and the humanitarian UAV's predominant signifiers. These considerations move through the discursive field as normative determinants under a cover of (supposed) familiarity, neutrality and positive connotation, helping to give an appearance of discursive solidity/fixidity, yet, once exposed as 'essentially contested concepts' with a natural fluidity in meaning, can be seen to help facilitate the (re)construction of a discursive space which is progressively more contingent, malleable and accessible to a wider range of actors and rationalities.

In exploring the existing body of literature across this area of research one can see how the humanitarian UAV is frequently articulated as a 'revolutionary' and efficient technology that supposedly has a broad range of encouraging repercussions for the humanitarian system at large. At the same time the wider discussion has largely paid inadequate attention to notions of power, control and governance, and, attendant to these concerns, the incorporation and naturalisation of a wider range of (private, corporate) humanitarian interests that stand separately from the Janus-faced manufacturers of both military and commercial UAV technology systems. Though, as mentioned, some of the literature has touched upon more critical considerations related to these notions, a wider framework that sets out and engages with such themes is largely under-developed. In establishing the justifications for a wider frame of focus, this research project sought to move beyond strictly militarised appreciations and analyses concerning the humanitarian UAV, as well as deviating away from conducting more prescriptive and experiential forms of inquiry regarding the humanitarian UAV (e.g. operational testing and hands-on reporting), and determine a scope for research that was more open-ended in practice, allowing for a broader understanding and analyses of the wider elements and factors that feed into, and are (re-)produced by, the discursive constitution of this technology. Through analyses that re-contextualise contemporary notions surrounding the humanitarian UAV, this thesis has demonstrated how varying actors and rationalities within the humanitarian system, in combination with the UAV's technologising reach, influence the shaping of a form of humanitarianism that increasingly draws from neoliberal and biopolitical rationalities, and reconfigures their accompanying techniques in distinct ways.

Summary of Findings

This research project has, through a distinct approach, expanded and elaborated upon a number of often-overlooked thematic elements attendant to the humanitarian use of UAVs. In doing so, this thesis has engaged with a range of prevalent, though, under-discussed/examined components across the humanitarian UAV's discourse and wider body of literature, which, at first glance, may seem separate, though nevertheless thematically

overlap with one another to create new formations that, in combination, can be positioned as an arrangement of discursive understanding that is greater than the sum of its parts. Through an understanding of discourse that de-privileges bodies of knowledge and data –allowing for a wider and more inclusive representation of meaning as constructed through the articulations of actors with a stake in the humanitarian UAV's processes– different nodal points of expression, across which the humanitarian UAV's significant discursive strands are situated and can be greater understood, are incorporated into the remit of the research project to be examined and, furthermore, understood as crucial elements within the broader discourse and subsequent analysis of the humanitarian UAV's discursive constitution.

As noted at the beginning of this thesis, this research project sought to answer the following question:

> *What are the implications of the articulated relationship between the UAV and humanitarianism for our understanding of shifting techniques and logics of neoliberalism and biopolitics?*

The research and analysis found that the discursive articulations, relations and contingencies that feed into the humanitarian UAV reimagine and redefine humanitarian action and humanitarian space in various ways; and, in relation to this, that 'the humanitarian' (and its logics and rationalities), the UAV, humanitarian populations, and so on, are increasingly constituted through –and themselves help reconstitute and reproduce– distinct formations of neoliberalism and biopolitics. Firstly, the humanitarian UAV is increasingly constituted (or at least attempts are made to constitute it) as an 'ethical' technology, suited for use within humanitarian scenarios. Following an examination of the independent –though globally sourced– 'humanitarian UAV code of conduct', alongside the articulations of the world's largest UAV lobbying organisation, AUVSI, and their shorter ethics code of conduct 'checklist', it can be seen that while, in a general sense, there is a more unified discursive movement towards a legitimisation of the UAV within humanitarian practice, the rationalities and motivations that feed into this are varied and contested across the discourse, and feed into wider logics that humanitarianism . As the –largely crowd-sourced– humanitarian UAV code of conduct attempts to renegotiate a number of entrenched (and what they view as problematic) elements within the humanitarian sphere, AUVSI offer brief and somewhat superficial articulations that, by virtue of their established authority and power, attempt to legitimise not only the UAV within humanitarian space, but additionally the interests of its corporate/commercial member base. This contestation across the discursive landscape of the humanitarian UAV highlights, on the one hand, an attempted renegotiation of humanitarian practice, yet, on the other hand, emphasises how corporate and market-based

interests endeavour to infiltrate humanitarian space and partially fix (in their favour) the rationalities that underpin how the humanitarian UAV can be conceptualised as an 'ethical', and consequently legitimised, humanitarian technique. As such, the UAV within humanitarian action can be understood as an increasingly 'legitimised' technology, though the rationalities that underpin its 'ethical' constitution are contested, and understandings of what the 'ethical' and 'best practice' signify can be seen as being progressively influenced by the contingent interests of hegemonic power relations that predominantly flood, influence and attempt to 'fix' the discourse for their own benefit. A similar theme is highlighted in the next chapter, which focuses on the humanitarian UAV –supposedly– signifying a 'democratisation of technology'. Attempts are made to constitute the technology as that which enables and signifies specific though widened 'revolutionary' processes across the humanitarian field, yet this signifier within the discourse is contested and overshadowed by the neoliberal and corporatised rationalities/articulations that alter conceptions of the humanitarian, the humanitarian beneficiary and humanitarian environments. This co-opted and re-articulated signifier consequently situates the UAV within practices of extraction and logics of commodification (of the technology, of humanitarian bodies, of humanitarian settings), and positions humanitarian practice within a neoliberalised ecosystem that gives primacy to and accelerates surrounding considerations regarding market-based concerns. Furthermore, this research finds that more critical voices are additionally influenced by and contained within the humanitarian, political and economic systems' dominant arrangements. As such, though they frequently attempt to dispute dominant practices and logics, the processes through which contestation is frequently articulated are themselves elements that have been co-opted by, and/or help to sustain and further embed, the prevailing rationalities found within such systems (e.g. typical neoliberal signifiers such as efficiency, control and individual freedom, and a focus on market-based logics). In combination, the wider nexus of articulations function in foreclosing the possibility of 'deeper' forms of (technological) democratisation via the UAV insomuch that they embed, normalise and reproduce understandings within the discourse that position the neoliberal/corporate as value-neutral, rational and necessary; a technologising of the logics of humanitarian practice that sees 'deep democratisation' not as a primary objective, but as that which (alongside the humanitarian UAV) is modulated and recontextualised in order to reflect neoliberal-corporate rationalities. Through these discursive articulations, humanitarian practice is additionally redefined through its biopolitical concerns. The previous notions that help to constitute the humanitarian UAV reframe the attentions within humanitarian space, as the humanitarian and corporeal are interpellated through this changing –discursive– landscape. Here the humanitarian UAV (and its attendant systems) can be understood as a biopolitical tool/technique of the corporate-humanitarian bodies that redefine the negotiable arena of

humanitarian space. Corporatised forms of 'humanitarian' action, consequently, seek to regulate, order and optimise life through the de/re-territorialised 'open spaces' that enable their practices and assist in satisfying their market-based interests, constituting humanitarian arenas as a space of increasing neoliberal-corporate influence and control. The implications of these discursive manoeuvres are ones that redefine 'humanitarian' practice in various neoliberal, corporatised, and technologised ways, entrenching and sustaining somewhat more established formations of hegemonic power –albeit in traditionally unfamiliar environments, via an emergent technology– consequently affecting (and modulating understandings of) the fundamental logics and principles that underpin humanitarianism, as forms of humanitarianism are themselves reconfigured around the co-constitutive processes of neoliberalism and biopolitics. Furthermore, through these examples, the rationalities of neoliberalism and biopower demonstrate a mutually beneficial and mutually constitutive relationship through their ability to breach, co-opt, transform, regulate and normalise their influence in steadily more distinct and niche environments such as the humanitarian system and, within this, humanitarian space. Whilst this is a somewhat condensed version of the project's discoveries, the following summary assists in emphasising and elaborating upon these aforementioned findings.

Summary

The ethical considerations that more critical humanitarian actors attempt to fix onto the UAV (such as the humanitarian UAV code of conduct) highlight how such notions are themselves contested by the discursive 'emptiness' of 'the ethical' as a floating signifier, alongside the malleability of, and fluctuations in, how 'the ethical' is realised in practice. Instead of attempting to fashion an amalgamative form of the 'ethical' and propose it as an ideal arrangement or function of the UAV's *ethos* –as if there is, or could be, some essentialist ethical benchmark that once realised is permanently fixed, non-contestable or uneclipsable– this project saw it necessary to utilise prevailing notions that feed into the humanitarian UAV's ethical constitution as an initial building block to firstly outline the contingent nature of the composite character of the humanitarian UAV; secondly, as a notion that helps to elaborate upon and incorporate into the discussion the varying range of actors vying for discursive primacy within the humanitarian UAV's expanding, broader domain; and thirdly, as an elaboration of a concept that assists in the further setting out and demonstration of what is at stake across the discursive field. Regarding the aforementioned discursive 'emptiness' of the 'ethical', the manoeuvres of both more 'typical' and non-traditional actors attempting to breach and flood the humanitarian system with their technologies and distinct considerations of the ethical, demonstrate how such conceptions that, *prima facie*, seem stable, and

perhaps may have some form of essential understanding, are, in fact, contingent upon the values, interests and reach of those that articulate and put into practice such proposals.

Indeed, what is at stake here –precisely through the articulations that surround this 'essentially contested concept' which attempt to capture a form of fixidity– is the thematic opening of a discursive space through which its flexibility is in fact signalled, alongside the attempted legitimisation, through such articulations, of a wide-ranging field of interests. Within this chapter can be seen a crucial point: the constitution of the humanitarian UAV, through attempts by a range of 'humanitarian' actors to partly construct its non-essentialist nature as that which can be articulated as an ethical technology/practice, brings into focus the malleability of an element within the humanitarian UAV's discourse that continually questions both the varied emphases of the UAV's applications, and the contours of, and rationalities underpinning, its 'humanitarian' reach. In endeavouring to constitute the humanitarian UAV as some form of ethical technology and technique –whether that is in relation to more critical understandings of humanitarian action, or through a 'softer' and less in-depth approach that feeds into corporate and private logics– the actors involved in such a process can be seen to –for both more 'typical' humanitarian and market-based rationales– open up and justify this discursive space so that the UAV and attendant agents can be more easily naturalised within the humanitarian landscape, albeit as contingent elements that invoke varied, and often antagonistic, discursive understandings of 'good practice' and 'ethics'.

Following on from this, a parallel and overlapping branch of the discourse is identified: that of the humanitarian UAV not only supposedly enabling an 'ethical' form of humanitarian action through a rehabilitated, virtuous, technique/technology, but also as that which encapsulates and helps to facilitate a 'democratisation of technology' – a prevalent notion across the discursive field which, similarly to the humanitarian UAV's 'ethical' constitution, encompasses the prevailing logics of a diverse range of actors that attempt to mould this notion within the delineative boundaries of humanitarian practice and their wider interests. Also comparable to the discursive articulations that make up the varied considerations within the humanitarian UAV's 'ethical' constitution, the notion of a 'democratisation of technology' highlights not only the humanitarian UAV's supposedly 'revolutionary' nature as articulated across the predominant discourse, but also functions as a further indicator in how the signifiers that make up the discourse of the humanitarian UAV can be co-opted, transformed and re-embedded along varying and –in the case of the values and principles that feed into traditional conceptions of humanitarianism– conflicting/contradictory lines. Whereas understandings of the 'ethical' and 'good practice' are largely articulated in order to redefine and legitimise the UAV, so as to place it within a discursive boundary that represents more

acceptable and legitimate techniques of humanitarian action (albeit with varying levels of reference given to the primacy of humanitarian principles and values), the notion of a 'democratisation of technology' can be considered, in addition to this, as that which signifies a wider nexus of functional and conceptual transitions within the humanitarian system. The humanitarian UAV highlights within the humanitarian system a number of changes that promote and are reinforced by an increasing technologisation of humanitarian practice and surrounding logics. The notions underpinning a conceptual framework of technological democratisation were understood within this work in relation to a 'deepened' access to, and embedding of, technology within populations, which helps in enabling the politicisation and agency of those that before may have simply been seen as humanitarian beneficiaries, as considerations of these factors assist to centre the beneficiary, the precarious, and so on, as –in alignment with fundamental humanitarian principles and values– as the referent object of humanitarianism. As noted, the wider humanitarian discourse views the UAV as a revolutionary technology, facilitating a process of technological democratisation, yet this discursive space is also flooded with overlapping articulations from corporate and private bodies, seeking to position their progressively legitimised technologies/techniques within such humanitarian spaces. Yet engagement with and influence from such actors does not end there; what can be seen as more implicit in the ethical constitution of the humanitarian UAV (the concerted effort of corporate/private bodies breaching the humanitarian system for their own gains) is here rendered explicit in the articulations surrounding the 'democratisation of technology'.

In this thesis highlighting an articulated widening of the humanitarian system's technological demands and practices, it was also able to elaborate upon and analyse the conceptual and practical transitions that occur through such discursive moments – in this instance the modulation of humanitarian rationales, which are altered through an increasing technologisation of its logics (here relayed through the UAV's discourse) and the encroachment, incorporation and naturalisation of corporate values and rationalities, cloaked under the signifier of 'technological democratisation'. Here the concept is examined within the context of humanitarianism and found not to be singularly applicable to the practices and logics of the 'humanitarian' in a typical sense, but is contested and further modulated by corporate/neoliberal bodies within humanitarian practice, which subsequently co-opt and rearticulate its meaning. This signifier consequently channels an affective focus that helps to position the UAV within such discursive arrangements: the humanitarian UAV, as a 'democratised'/'democratising' technology, is seen by dominant bodies as that which can contribute towards the generation of ever more 'value-neutral' and 'rational' arrangements of knowledge through its technical processes (as if these notions were non-problematic), as, for

example, highlighted through the notion of the so-called 'data revolution'; as a commodity/technique that is itself fetishised; as a technique within a wider, market-mediated environment, which commodifies humanitarian processes and its 'beneficiaries'; and as that which helps to accelerate and crystallise the 'necessity' of market driven notions of 'value' and 'efficiency' within humanitarianism's rationalities. Furthermore, this thesis has shown how more 'critical' bodies are additionally caught in this dominant arrangement and affected in their operations and logics through the implicit conditions set out by the political reach of neoliberalism. Across such corporatised logics, UAV technology, as has been highlighted, is frequently utilised by private bodies in insecure/precarious (what one may call 'humanitarian') environments to principally test their technology, embed themselves within growing markets with lenient/anaemic regulations, establish dependencies from nations that are less economically developed or have weak infrastructure, demonstrate value/worth to Western investors, and utilise populations as a cheap and compliant –though 'virtuous'– reservoir of value in the form of labour and data extraction. Consequently, through such modulations of 'humanitarian' practice, this research found that many of the proposed processes/logics that feed into 'deepened' forms of –humanitarian– technological democratisation are blunted and nullified, and the avenues down which contestations of systemic imbalances and inequality may be found (or at least discursively negotiated) are obscured and negated by their incorporation into larger schemas underwritten by neoliberal logics and attendant practice.

The articulations surrounding both the 'ethical' character of the humanitarian UAV and the 'democratisation of technology' supplant and transform the supposed 'revolutionary' processes constituting the humanitarian UAV into techniques that assist in the incorporation, embedding, naturalising and reproduction of logics within humanitarian space that aid in the furtherance of *the* global regulation and rationality of neoliberalism. Understood this way, the hegemonic logics that feed into this conception of a 'democratisation of technology' do not necessarily intend to empower humanitarian beneficiaries, the precarious, or the wider environments in which they operate and attempt to reconfigure, except as an incidental by-product of, or in combination with, that which is complementary to their overarching aims. The 'democratisation of technology' –and the increasing extent to which such a notion is articulated and embedded within the humanitarian system– is here perceived as that which is largely informed and mediated by market interests and demands, and the dominant rationalities that give primacy to and help stabilise such concerns. Like the ethical considerations that flood the discourse from not only humanitarian agencies, but also from corporate and private bodies alike, the UAV, partially signified through the concept of a 'democratisation of technology', can be seen as malleable technology/technique, increasingly

positioned as that which is able to capture, emphasise and further embed neoliberal logics and corporatised practice within the realm of humanitarianism.

As such, one of the key points that this research project wishes to emphasise is how the UAV, separate from its militarised counterpart, is able to be articulated –rebranded– as an 'ethical' technology and as a distinct conduit for technological democratisation within the humanitarian system, yet, unmistakably, helps in embedding and reproducing the logics and values of neoliberal practice, enabling the furtherance and increased reach of its hegemonic –though somewhat tailored– processes. Through this project's consideration of a specific humanitarian (or 'revolutionary') technology, the importance of the object across the discourse can be seen as overstated in significance as its associated articulations present a set of assurances and a form of potential that can never truly be fulfilled, as the varied actors that seek to fix its meaning are directly influenced by, or drawn back into, broader considerations and processes which seek to dominate and expressly negate the potential for its contestation. Consequently, the humanitarian UAV represents not a technology with an essential ethical character (i.e., a total encapsulation of traditional/typical humanitarian values, the furtherance of political agency for humanitarian beneficiaries, and so on), but a technology that draws an understanding of ethics from the dominant bodies that constitute it as such, concurrently redrawing the boundaries of what is permissible and can thus be articulated –with a newfound legitimacy– as 'best practice' across the discursive landscape. From this, the humanitarian UAV –increasingly articulated as 'ethical', and, consequently, a mode of action that implicitly promotes humanitarian 'best practice'– as an object with, in some instances, a panacea-like importance granted to it across the discourse, can be perceived as not so much a technique/technology that grants a humanitarian 'democratisation of technology', nor necessarily as a fixed constant within more generalised, 'progressive' procedures of the same name, but as a signifier that highlights the imminence of technologised, corporate logics and values through which the contemporary articulation of practices –such as notions of 'technological democratisation'– are conceptualised as legitimate and necessary (in this instance, also: 'revolutionary'), yet, nevertheless, are co-opted, repackaged and put into practice through established, dominant, neoliberal outlines of commodification, marketisation and (human) regulation. This project establishes how, in order to ensure alignment, this signifier –in the context of the humanitarian UAV– is employed to help flatten and redefine the humanitarian (technology, environment, beneficiary, data) as a growing network of commodities that dually serve marketised logics and neutralise attendant concerns. Understandings of the 'technological' are flooded with articulations that characterise it as 'value-neutral', 'rational', 'efficient' and legitimate, which help to move the humanitarian/the UAV into more marketised modalities, which at the same

time depoliticise the contemporary techniques of (humanitarian) governance it enables, with the process of technological 'democratisation' –adopted and modulated through its discursive emptiness by neoliberal capitalist rationalities– becoming the crucial signifier through which these methods are configured, entrenched and protected from deeper modes of contestation.

Finally, as a notion that is led by and builds upon the previous understandings set out by the thesis' engagement with the humanitarian UAV's discursive constitution, the project moves to further analyse the surrounding consequences of this newly legitimised, neoliberal/corporatised formation of humanitarian-technological practice through its biopolitical implications. Biopolitics has previously been discussed in the context of the humanitarian, and has been justified as a method of inquiry that facilitates a greater understanding of the regulation/control of such populations, yet biopolitical considerations that stem from the specific aforementioned articulations surrounding the humanitarian UAV constitute somewhat of a blind spot within the academic literature. The biopolitical is consequently applied in a novel and complementary conceptual approach that allows the discursive interactions of the prior chapters to be examined and understood in more depth as the institutions and considerations that underpin the biopolitical are here located through non-traditional formations of power and influence. Such an understanding follows from the previously discussed increase in non-state and non-typical humanitarian actors that seek to regulate, administer, order and optimise life through the de/re-territorialised 'open spaces' that enable corporate-humanitarian governance and interpellate the humanitarian beneficiary with various forms of subjectivity. In addition to this, notions of control are somewhat established with regard to discussions of the humanitarian and biopower, yet through the assorted manoeuvres and rationalisations within this specific discourse, this thesis highlights an indicative shift in how the discourse of contemporary humanitarian action, in the context of the humanitarian UAV, transitions easily into nebulous arrangements of regulation, modulating traditional understandings of humanitarianism through articulations that hybridise the corporate and humanitarian, which, together, enables the production of distinct forms of biopower and control that are separate from –and in some cases supplant– the biopolitical authority of the nation state. The humanitarian UAV –steadily legitimised through the empty signifiers of the discourse as an 'ethical' and 'democratising' technology– is able to implement a number of the humanitarian system's biopolitical concerns, yet is also implicated in the rearticulation of privatised/corporate rationalities, stemming from the distinctly neoliberal logics which flood the discourse and its signifiers with meanings which become entrenched and naturalised; as such, the processes of control and regulation that the humanitarian UAV enables, are, accordingly, quilted in the amalgamated biopolitical interests of a corporate-humanitarian nexus. This chapter, consequently, synthesises this

understanding through the conceptual banner of 'corporo-politics' in order to signify the *corporate* logics and rationalities that increasingly seek, extract, and are given discursive importance within humanitarian practice, which –owing to the biopolitical remit engrained into humanitarianism, and thus the UAV– additionally establishes representations of the *corporeal* (the humanitarian 'beneficiary'/population) as the object of emphasis with regard to its regulation, control and optimisation in a dually political-moral economy that attempts to (re)produce order and value across attendant environments.

From this, the thesis moves to address the implications of the corporo-political (humanitarian) UAV as it operates within humanitarian space, which is understood within the project as a negotiable and contested arena. As the actors and practices within –alongside the considerable, yet varied, implications across– humanitarian environments are contingent upon the logics and values that underpin them, the articulated elements that contribute towards the notion of the corporo-political, consequently, facilitate a discursive masking and obscuring of wider interests that attempt to incorporate and make normative, within humanitarian space, rationalities that –subtly– highlight ambitions cast towards a furtherance of power, profit and privilege. As this chapter emphasises, a number of the logics and processes that the humanitarian UAV undertakes –in a corporo-political sense– contribute towards a series of increasingly normative engagements that are antagonistic towards certain (both traditional and more critical) humanitarian principles. Additionally through the technologising of humanitarian space, anticipatory action is articulated as a moral/ethical and practical necessity, though, such practices, this research finds, are also frequently promoted and enacted in a non-insignificant way by corporate bodies, and indeterminately revolve around the dividualised analyses of populations, the monitoring and regulation of bodies, and the extraction of data and other forms of value from those found within humanitarian spaces, whilst also establishing and reinforcing new, technologised forms of biopolitical control and management that can extend beyond the reach and grasp of the state. Here, the contemporary humanitarian model, in tandem with the neoliberal ideals that quilt the discourse, focuses upon processes of continuous technological elaboration that attempt to predict avenues of stability and pre-emptively correct forms of economic and political disorder. Yet, while such a notion may seem, *prima facie*, to be a straightforward, non-problematic, beneficial or 'value-neutral' proposition, this research has put forward a perspective that examines how this discursive environment leads to a further abstracting of humanitarian space, ultimately moving towards forms of 'humanitarian' engagement and understanding which neutralise the idealised conceptions of an 'ethical' technology and 'deepened' forms of agency and technological democratisation for precarious bodies; it is a humanitarianism which is de-personalised and dividualised, established and reproduced

through market concerns, underwritten by the logics of –for example– 'impact', 'efficiency' and 'rational' assessment, and, through the de-territorialised biopolitical logics of control and regulation, propagates a normalisation of neoliberal-capitalist commodification, modulation and exploitation within humanitarian spaces.

Within humanitarian arenas (and more generalised arenas of emergency and exception in which the 'humanitarian'/assistive UAV is utilised), this research has located a form of humanitarian-corporate-(bio)politics that problematises typical considerations of the rationalities that configure humanitarian action. Within this space, this research finds that the infiltration and co-constitution of the humanitarian UAV's biopolitical interests by market forces and associated (neoliberal-capitalist) operatives affects the fundamental logics and principles of humanitarianism, insomuch that by being articulated across the discourse as an ethical, democratised/ing, value-neutral form of engagement –and by the emphasised importance granted to such signifiers– the UAV facilitates, *in potentia* and actuality, a discursively constructed, legitimised, circumvention of responsibility regarding the deeper concerns that surround humanitarianism's fundamental values and principles such as the impartiality and independence of humanitarian action, the humanity and dignity that is presented as a non-negotiable element regarding precarious bodies, and the immediate and anticipatory proposition to 'do no harm' with regards to the privacy, safety, liberty and agency of humanitarian beneficiaries. Across the elements that help to discursively establish and construct the humanitarian UAV, the overriding articulations that feed into its constitution consequently highlight both a specific entrenching and augmentation of hegemonic powers, which are remoulded as legitimate (even necessary) through the empty signifiers attendant to the discourse of the UAV within humanitarian environments, alongside a generalised understanding that highlights an extension of the reach of neoliberal-capitalist rationalities as they breach, co-opt and neutralise an increasing range of diverse spaces.

Applications and Implications of this Research, and Reflections

Research Applications

This research project locates the UAV within a divergent conceptual environment; that is to say, it is a research setting that is distinct and separated from the militarised rationalities that are more commonly associated with the 'drone'. This research subsequently engages with the overarching discursive articulations that constitute the humanitarian UAV, and the implications of this for humanitarian practice and humanitarian space. There is a growing, though somewhat under-developed body of work within this specific field of inquiry, as the humanitarian use of UAVs is commonly understood in relation to its militarised counterpart, in the context of validating and forming emergent avenues of research, or as that which

contributes towards the production of 'grey literature' through organisations and individuals within the humanitarian, commercial and consumer spheres. The function of this work, consequently, was to develop a more in-depth, critical understanding of what is at stake as the humanitarian UAV's discourse is flooded and contested by a range of actors who emphasise various rationalities and thus motivations. More specifically, across the literature there is also a noticeable lack of engagement with how the humanitarian UAV is considered in relation to corporate/private influence, for instance, how this form of power interacts with the supposedly neutral, impartial and independent logics of humanitarianism, and, in turn, how the humanitarian system reacts to not only these new actors and the rationalities/logics they give primacy to, but the wider social, political and economic transitions that their presence signifies. In addition to these considerations, this project sees humanitarianism as that which participates in a range of biopolitical practices, yet through the introduction of the UAV, its attendant agents, and their attendant logics which help mould the humanitarian UAV's discourse, the conception and application of biopower is modulated in distinct ways. Yet across the literature there is again little development of how the humanitarian UAV and its discursive rationalities modify practices of (humanitarian) governance, establish discreet and adaptive formations of power and, consequently, techniques of regulation and control. As this project is involved in the examination of such concerns its findings are thus of direct use to those researching the humanitarian UAV and various other 'humanitarian' technologies, in addition to other avenues of research that analytically interact with or specifically focus upon formations and techniques of bio-/power in relation to technology, politics, regulation and governance.

The articulations that surround and feed into the humanitarian UAV, and indeed more generalised perceptions regarding the increased technologisation of modern society, suggest that we are, if not in the midst of, then in the burgeoning stages of a 'fourth industrial revolution' – the swift advancement and diversification of forms of technological innovation that increasingly pervade and quilt everyday components within contemporary society. Considerations surrounding robotics, artificial intelligence, mass data collection/analysis and automation are some of the attendant factors that feed into this broader milieu, yet they additionally overlap and relate across the discursive landscape to the individual, specific technologies/techniques that help constitute, and are constituted by, such changes. Conceptually, the (humanitarian) UAV, for instance, helps to constitute the discursive boundaries and possibilities of these notions through the same discursive environment by which it is itself constituted in relation to these broader articulations; that is to say, this relationship is co-constitutive, and specific elements within this arrangement (e.g. the humanitarian UAV) should be understood as contingent, inter-related, constituent parts in

this wider process of technologisation. Consequently, how certain technologies are understood, introduced and embedded across varying contexts, alongside being conceptualised in relation to broader (technological) movements, will invariably bring with it consequences that are unexpected or beyond immediate concern. Nevertheless, the implications of such discursive articulations –even if we were not undergoing a so-called fourth industrial revolution– are ones that are well worth unpicking and examining. This project has sought to highlight a specific moment in the political and social tapestry of significant, widespread technologisation, and, consequently, delivers a novel interpretation of how a distinct element within this environment is discursively constituted and understood, alongside its implications. Moreover, this project highlights a number of significant factors that, whilst are here understood in the context of the humanitarian UAV, pertain, owing to the wider –'revolutionary'– process it is situated within, to the distinct, though overlapping, associations located throughout the larger course of technologisation we find ourselves in. As such, this research may also be of express interest to, and applied and re-contextualised by, those working within subjects of a 'critical' nature, such as critical, political, social and discourse theorists, alongside –more specifically– the fields of critical humanitarian studies, sociology, philosophy of technology, critical security studies, and attendant disciplines that are inclined to share similar critical tendencies.

Contributions to the Literature and Wider Knowledge

As previously noted, the focus of this research shifts away from the typical points of emphasis that discursively constitute certain understandings of the UAV (i.e., its militarised forms) to that which is an under-researched element within the field: the 'humanitarian' UAV. As this is a developing area of inquiry there are, consequently, some gaps that this research is deliberately located within, allowing the investigation of more specific and original considerations that assist in contributing towards this topic's growing body of literature.

Across the thesis, the research conceptualises a wider range of discursive (data) points as that which helps to constitute the contemporary humanitarian system, the 'humanitarian' UAV, and the implicative understandings of humanitarian space. Prior discussions of the humanitarian UAV have largely under-emphasised the wider nexus of articulations and roles that feed into its dominant logics and practices, yet within this project, the de-privileging and equalising of certain types of knowledge/data –through the perception that distinct articulations each carry with them specific implications which both contest and conform to certain meanings– allows for a greater understanding of how the discourse is influenced, challenged and (re)produced in discrete ways that may be unrecognisable or unpredictable with a more narrowed analytical focus. As such, the focus and range of this research introduces to the literature body an original understanding of the humanitarian UAV's

discourse, which, through its non-prescriptive, non-essentialist and widened foundational approach, contributes –and further encourages research into– a specific understanding of the humanitarian UAV's (humanitarian-neoliberal-biopolitical) constitution that is of appreciable value to the field, and through which new opportunities for original analysis and elaboration can be found.

Though there has been some examination of the humanitarian UAV's assigned character, the research and broader articulations that feed into the 'ethics' of the humanitarian UAV more frequently offer a prescriptive model of *how* practitioners should consider the technology. This research sets out and relates back to the wider humanitarian discourse a number of the predominant articulations that attempt to constitute and legitimise the humanitarian UAV as 'ethical' through distinct rationalities. This project has highlighted how the 'humanitarian UAV code of conduct', established humanitarian organisations and hegemonic, corporate bodies (which are additionally involved with and increasingly operate across the two previous nodes within the discourse) attempt to 'fix' the discursive signifier of the 'ethical' and 'good practice' for various motivations, yet, nevertheless, merge and overlap across a number of their logics and rationales. As such, this research contributes to the wider literature an examination of the forms that the discursive ethical constitution of the humanitarian UAV takes, and how such elements across the discursive field not only relate to one another (in both complementary and antagonistic ways), but, in a more generalisable sense, how such articulations signify the UAV as that which distinct bodies mutually attempt to frame as a 'legitimate' technology/technique within humanitarian practice. This analysis consequently re-contextualises how we might understand the humanitarian UAV's assigned 'ethical' character, as, by its nature as an empty signifier, it is flooded, contested and sees various discursive overlaps from a number of bodies with varied motivations, yet, owing to the divergent framings of other research projects, are considerations which have largely gone unrecognised or been under-examined across the literature.

From this project setting out a number of the articulations that go into framing the UAV as a legitimised, 'ethical' technology/technique, the research also engages with an elaboration on this theme. As the UAV is increasingly articulated in the context of being a legitimate technology within the humanitarian system, the contours of the discourse additionally shift to focus upon its embedding and naturalisation within humanitarian practice. Previous research has focused upon the militarised rationalities that underpin a number of the considerations surrounding the humanitarian UAV, and while this topic of analysis is worthwhile when one considers the militarised origins and associations that commonly circle the UAV, such a focus is somewhat narrow and does not necessarily allow for a more detailed examination of the discursive articulations and rationalities that feed into and outline the contours of this

process, such as the discourse's significant neoliberal-capitalist rationalities. The research highlights the notion of technological democratisation (or a 'democratisation of technology') in the context of the humanitarian UAV, what it means for the humanitarian UAV to be articulated as a 'democratised/ing' technology in an increasingly neoliberal/corporatised landscape, the hegemonic articulations which underpin such notions, and how they are incorporated, embedded and established within humanitarian practice. Furthermore, this research also elaborates upon how the humanitarian, the UAV and humanitarian subjectivities, as elements within a discourse that is progressively reshaped by neoliberal-capitalist rationalities, are additionally understood as participants in and subjects of a nexus of commodification and fetishisation, stemming from a neoliberalisation of the discourse's empty signifiers, and leading to an overstating of the object and a prevailing focus on what can be extracted from humanitarian space (data, capital, market share, testing, investment, and so on), whilst also understating the importance of those it affects and the implications of such attentions.

Accordingly, this thesis also offers a reinterpretation of the notion 'democratisation of technology' as a key signifier within the discourse. Prevailing articulations across the discursive landscape imply and signal a movement towards 'deeper' forms of technological democratisation, yet what is found are a series of more nebulous, corporatised and marketised arrangements and logics that modulate such an understanding so that it, in practice, is transformed into a signifier that emphasises the immediacy of neoliberal-capitalist rationalities that increasingly (re)configure the humanitarian system and, through normalisation, stifle their own contestation. The notions underpinning this conception, this thesis argues, are better understood when phrased as a 'technologisation of (how we understand) democratisation', as the notions attendant to 'deepened' forms of technological democratisation (politicisation, contestation of hegemonic rationalities, agency) are closed off, flooded and supplanted by the technological rationalities of neoliberal practice. Such an arrangement *technologises* understandings of democratisation and, consequently, the humanitarian environment, giving discursive primacy to the technology and attendant (neoliberal) logics, instead of 'deep democratisation' being the process through which technology is embedded as an ancillary element within a larger renegotiation of humanitarianism. With regard to the wider literature, this perspective establishes a reformulation of a crucial signifier within the discourse of the humanitarian UAV, through which critical perspectives on neoliberal-capitalist articulations of technology/technologisation can more thoroughly be established and elaborated upon. Thus it not only supplies a novel understanding of how an element within the humanitarian UAV's discourse is configured, but

also reframes this signifier in a way that opens up and makes more accessible to others the basis for further critique and contestation.

This thesis also contributes to the wider body of knowledge a conception of biopolitics that recontextualises –through the previously established neoliberal, corporatised nexus– the humanitarian, the humanitarian UAV, and humanitarian space. More specifically, it analyses how this form of technologisation across humanitarian space serves to legitimise and foster a biopolitical environment of governance, regulation and control that moves away from the nation state as the central force underpinning it, instead deriving from –as well as helping to sustain, reproduce and normalise– the rationalities and might of this aforementioned neoliberal/corporate nexus. The biopolitical effects of the humanitarian UAV are under-emphasised across the literature base, and this examination assists in outlining a novel set of considerations and implications that stem from a technology that is legitimised, embedded and naturalised in the ways that this research has highlighted. In elaborating upon this notion, the thesis introduces the concept of 'corporo-politics' to help refine this understanding of how a form of biopolitical rationality emerges, manifests itself and modulates attendant humanitarian environments and bodies through its distinct logics. In doing so, this concept highlights and encapsulates the previously noted techniques that, via the humanitarian UAV, underpin the legitimisation and spread of neoliberal/corporate rationalities, attentions and practices within humanitarian space. Such a process is understood as distinct from the typical 'lightning strikes' of sovereignty that are usually associated with the drone, and recontextualises the 'humanitarian' UAV's processes as that which are de-territorialised and regulatory, affecting humanitarian populations –both spatially and temporally– in a way that is embedded and adaptable within humanitarian environments and is attuned to market-mediated interests, reconstituting humanitarian space as that which is increasingly permeated by corporopolitical control mechanisms. Instead of negating life, the new, acceptable articulation of the drone helps to order, regulate and sustain it, though mediated through the interests and rationalities of the corporopolitical. Consequently, this thesis also has theoretical implications for the wider body of knowledge insomuch that it brings to the fore and problematises a number of the logics and practices that help to constitute the humanitarian UAV, alongside the subsequent effects for humanitarian space, the humanitarian beneficiary, and the typical principles and values attendant to humanitarian action.

Reflections on the Research, and Recommendations for Future Research

This research sought to examine and outline an understanding of the discursive constitution of the humanitarian UAV through the articulated practices, logics and rationalities that feed into its broader configuration, whilst also engaging with and analysing the implications that

such contingencies have on humanitarian action and humanitarian space (and the populations contained within).

Over the past two decades, the meanings of the drone have been so heavily associated with problematic military uses that the opening up of this discourse, through the further spread and legitimisation of consumer and commercial uses of UAVs, poses a variety of emergent questions about what the UAV means in its new, distinct contexts. In engaging with the humanitarian settings that the UAV increasingly finds itself drawn into, there is an array of contingent articulations that are non-fixed, contested and strive for primacy in order to constitute the UAV and humanitarian practice in certain ways; the importance attributed to distinct articulations that feed into the wider discourse is, in a sense, lessened, as all elements within the discourse contingently interact with one another, reinforcing, contesting and filling the discursive landscape. 'Data' here is conceptualised as different nodal points of expression in which the discourse is understood, situating these types of data within the broader discourse. Consequently, as no form of the discourse (i.e., data) needs to be privileged, since all articulations represent different nodes and interactions within the discourse, the justifications that underpin the methodological framing of this research can be clearly seen and understood, and is why this research project focused on the wider discourse of the humanitarian UAV, instead of smaller, more select and privileged forms of data. Though across this thesis there are some individual (fieldwork) accounts from UAV experts, humanitarian practitioners and professionals that may, in another project (and with a greater assemblage of this form of data), have configured the research in a different way, the understanding of discourse, as pioneered by Laclau and Mouffe, allowed this project to incorporate a wider set of data, thus allowing for a more exhaustive, inclusive and complete discursive picture to be drawn. Consequently, this research project *is* data driven, but is driven by the wider data surrounding the discourse, allowing for a more comprehensive understanding of the meaning that goes into the humanitarian UAV, and the wider implications of this meaning in practice.

This thesis did attempt to gather a larger set of data from semi-structured interviews in order to help establish the initial contours of this project, though, as the methodological section outlines, there were issues with access and respondents. However, this was not a large concern for this thesis: the wider range of data points that this project engaged with helped to outline a discursive landscape that would have otherwise been inaccessible. Indeed, the concerns and questions that this research engages with necessitates a broader methodology that does not narrowly privilege one form of data, but which benefits from drawing more widely upon the discourse of the humanitarian UAV as it is articulated across various and diffuse nodal points; in sum, one cannot be exhaustive in examining and analysing the wider

discourse whilst favouring a formation of elements within it that are produced in only a specific way. The privileging of certain data points, consequently, would have led to a project that was narrower in scope, and, although would have contributed some form of understanding to the literature body, would not have been *this* thesis or this contribution of knowledge.

Within the emergent literature on the humanitarian UAV is, however, the space for a privileging of different forms of data, though within certain contexts. For example, it is approaching half a decade since the FSD published their survey on perceptions and applications of the humanitarian UAV, and almost eight years since the UN OCHA published their overview of potential UAV uses within humanitarian scenarios. Utilising a narrowed focus, it may well be worthwhile for research bodies to reengage with these previous lines of inquiry in order to more clearly outline the perceptions of humanitarian practitioners in how their opinions and logics concerning the humanitarian UAV have developed, especially –as this research highlights– as there has been a wider incorporation and embedding of a variety of actors and organisations into humanitarian environments via the UAV in the meantime. Through the framing of this research project, new perspectives on the neoliberal-capitalist and corporate influence on the humanitarian UAV, and the humanitarian system more generally, can be highlighted as a platform for additional research in these areas. As technology becomes further embedded in humanitarian practice, it will be important to conceptualise how, in specific moments, attendant techniques (of humanitarianism, biopolitics, governmentality, and so on) align or are distinct from one another. As it is highly improbable (one may be tempted to say impossible) that the technologisation of the humanitarian sphere is finalised with the UAV, it remains increasingly possible that imminent and future developments also fall into the orbit of the corporo-political. This raises the question of how emergent technologies (both within and external to a humanitarian context), which are articulated across the wider discourse in a 'revolutionary' manner (including the UAV), may *actually* be embedded and employed for emancipatory purposes, or if this notion of a 'fourth industrial revolution' is set to fizzle out as its technologies, techniques and signifiers are co-opted and rearticulated across discourses that are flooded by dominant formations of power, capital and regulation. More specifically, future research may seek to engage critically with considerations of how immediate and future conceptions of the UAV (and wider technological developments), which corporate-humanitarian interests seek to appropriate, can be –if not reclaimed– contested as that which is solidified as a further extension of institutional control and power.

It comes as little surprise to find that so much weight and emphasis is placed on characterising the technological as a 'revolutionary', emancipatory light at the end of a

tunnel. Societies are steadily transitioning towards becoming heavily technologised environments in order to 'solve', make efficient, regulate –and so forth– a multitude of concerns that have previously been obscured, neglected or compounded through inadequate (or a lack of) action. Yet technology is not a panacea, nor in some cases is it even sufficient, especially if the conditions that necessitate such techniques and endeavours are brought along with them, albeit in modified forms. As has been stated and restated throughout this thesis: technology is neither good nor bad, nor is it neutral, and various technological formations may well be conceptualised –rightly or wrongly– as a light at the end of the tunnel regarding a range of political, social, humanitarian and environmental concerns; irrespective of the specifics involved in doing so, it remains our job as critical researchers to scout ahead, ensuring that the indeterminate yet enticing light is not simply an oncoming train.

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