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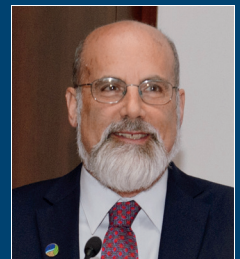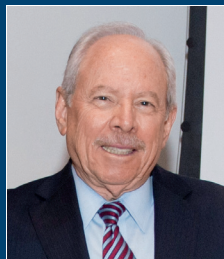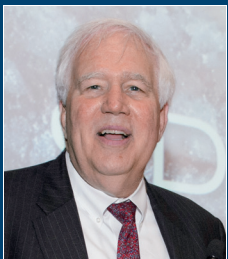CHERISHING KNOWLEDGE · FOUNDED · 1780 · SHAPING THE FUTURE

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Technology in a Time of War: Humanitarian Aid at an Inflection Point

Reflections on the American Academy's work on New Dilemmas in Ethics, Technology, and War and Its Engagement with International Organizations

By Francesca Giovannini with Kathryn Moffat

In an age of rapid technological development, social unrest, and rising geopolitical tensions, the Academy's initiative on *New Dilemmas in Ethics, Technology, and War* has attracted attention from policy-makers, scholars, and humanitarian aid practitioners.

The goal of the project is simple yet timely: to explore the ethical and moral issues that develop from the creation and use of new military technology (such as drones, robots, and cyber weapons) in contemporary and future warfare. As wars become progressively high-tech, states *should* be more capable of fighting accurate wars that spare the lives of soldiers and civilians. But with what consequences? Some of the contributors to the Academy's project on New Dilemmas in Ethics, Technology, and War contend that futuristic high-tech wars might not necessarily be less brutal and devastating than conventionally fought conflicts. Quite the opposite: because of the illusion of precision-technology and zero-casualty wars, states may be more likely to embark on aggressive combat operations, which could result in higher numbers of casualties. The use of precision weapons and other technologies that reduce immediate casualties may also contribute to a tendency to overlook the resulting indirect effects, which may carry more severe consequences over time.

The work of the project has interested several international organizations, including the United Nations Department of Peacekeeping Operations (UNDPKO), NATO, and the High Commissioner for Refugees (UNHCR). Beginning in the fall of 2015, representatives from these organizations have participated in a series of meetings, organized by the Academy, about some of the key issues these institutions face as they respond to crises created by technological developments in warfare. These meetings included:

- A workshop at West Point in November 2015 that brought together experts from international organizations based in New York and around the world to participate in roundtable discussions about draft essays for two issues of *Dædalus* on "Ethics, Technology & War" and "The Changing Rules of War."
- Two briefings in Geneva, in May 2016 and July 2017, at which project contributors met with leaders and practitioners at UNHCR, as well as with representatives from other Geneva-based organizations, such as the International Committee of the Red Cross, the World Health Organization, the Centre for Humanitarian Dialogue, and Médecins Sans Frontières.
- A convening in Brussels in November 2016 with representatives from the European Commission's European Group on Ethics in Science and New Technologies Office, the International Crisis Group, and NATO.
- Two roundtables in February 2017 and April 2017 on "Populations, Perceptions, Power, and Peace Operations" with UNDPKO and the UN Department of Political Affairs.

The Fourth Industrial Revolution and Its Impact on Humanitarian Interventions

Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, argues in his most recent book that humanity is now facing its fourth industrial revolution.[1] Whereas previous industrial revolutions liberated humankind from animal power, made mass production possible, and brought digital capabilities to billions of people, the unfolding fourth industrial revolution brings both great opportunities and grave dangers.

New technologies – such as cyber, drones, artificial intelligence, and biotechnology – that are fusing the physical, digital, and biological worlds and impacting all disciplines, economies, and industries, characterize this new age. Even more so, according to Schwab, this revolution challenges the conventional idea of what it means to be human and calls into question concepts such as war and peace, ethics and rationality, and human rights.

Technology, in particular, raises significant dilemmas when used in warfare. On the one hand, the increasing use of unmanned aerial vehicles and the development of artificial intelligence technologies that could be applied to autonomous offensive weapons – frequently referred to as Killer Robots – spur concerns that new warfare will be fought based on algorithms and without any human ethical judgment or moral considerations. On the other hand, technology

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offers humanitarian agencies unprecedented access to crisis-affected communities and could potentially facilitate the timely and efficient delivery of aid to isolated, war-torn areas. These new technologies are already affecting the operations of many international organizations. UN peacekeeping forces, for example, have begun using drones for intelligence gathering in such places as Mali, the Central African Republic, and the Democratic Republic of the Congo. And recently, the office of the UN High Commissioner for Human Rights announced a landmark five-year partnership with Microsoft Corporation, which will lead to the development of advanced technology designed to predict, analyze, and respond better to critical human rights crises around the globe.

Three central questions have emerged from the work of the New Dilemmas in Ethics, Technology, and War project and from conversations with international organizations and other audiences over the past two years. These questions are central to how the debate about technology, and its threats and opportunities, will affect the ways these organizations respond to conflict and humanitarian crises throughout the world in the coming years.

Airpower and Autonomous Weapons-Driven Wars: What Happens to the Civilian-Military Interface?

There is little doubt that wars will be increasingly characterized by the deployment of unmanned aerial vehicles and artificial intelligence, as witnessed by recent operations in Afghanistan, Iraq, and Yemen, among others, and that this trend will continue in the future. Although the armed drones deployed currently still rely on a person to make the final decision whether to fire on a target, the autonomy of these and other weapons that have been deployed or are under development is growing quickly. Newer military drones, such as the MQ-9 Reaper, can take off, fly to designated points, and land without human intervention. Low-cost sensors and advances in artificial intelligence are making it increasingly practical to design weapons systems that would target and attack without human oversight. If the trend toward autonomy continues, the human role in decision-making will disappear. Although fully autonomous weapons do not currently exist, the capacity to develop these technologies is expected to be available within a matter of years, rather than decades. In conventional warfare, humanitarian personnel interact with the military on the ground in order to negotiate the creation of humanitarian spaces, where civilians are protected and given medical treatment and aid. In the new wars, however, operations will be conducted mostly through airpower without military personnel on the ground. This shift eliminates the interface between the humanitarian agencies and the military, who are critical in the protection of noncombatants.

The Urbanization of Warfare: Where Can Humanitarian Spaces Be Created?

One new characteristic of contemporary war is that it has become increasingly an urban phenomenon. In modern conventional conflicts before the advent of drones and other high-tech military capabilities, adversaries fought primarily in open spaces outside of cities. Urban fighting was costly, slow, and risky. Today, warring parties are increasingly fighting in densely populated neighborhoods (for example, Syria). The use of drones and technologies with remote sensing and satellites allows for faster and more accurate identification of targets in crowded urban areas, which in some cases has dramatically reduced the number of direct casualties from the fighting. This creates two challenges for international organizations: 1) urban populations can easily become trapped in war-torn cities, where humanitarian agencies may be unable to gain access quickly enough to respond to the urgent needs of the population; and 2) the enduring consequences of warfare are magnified when conflicts take place in cities. The wholesale destruction of cities such as Aleppo, Damascus, Baghdad, and other major urban centers – as well as the devastation of human capital, the educational and health infrastructure, and other essential components of urban society – will have effects extending far beyond the lifetime of the conflict. These lasting and indirect consequences are intensified further when civilians and health facilities are targeted.

What are the Privacy Implications of Humanitarian Operations?

As humanitarian crises increase around the world, the imperative for international organizations is to save as many lives as possible with limited resources and in a short time span. Information and communication technologies offer unprecedented opportunities to these agencies to collect data on forced migration patterns and the locations of refugee camps. Concurrently, however, the use of big data systems and other surveillance tools raises new ethical and political challenges. Information collected for humanitarian purposes might end up in the hands of rebel groups or be used by rivals to threaten communities and individuals. How can data be collected securely without infringing on the privacy and safety of people in need? During a briefing conducted at the UNDPKO, project participants discussed ways for humanitarian data gathering to be improved and strengthened. Some of their recommendations include: 1) the adoption of a code of conduct that would restrict the collection of personal information for humanitarian purposes only; 2) training for UN staff on how to use adequately and ethically the

data collected; and 3) establishing local coordination mechanisms with the communities in question so that they can be part of the decision-making on how their data ought to be used and shared.

Conclusion: Toward a Tripartite Dialogue among International Organizations, High-Tech Companies, and the Military Establishment

The reaction to the New Dilemmas in Ethics, Technology, and War project has made clear that the challenges raised by new technologies are best addressed through multistakeholder dialogues. International organizations play an essential role in providing humanitarian and development assistance around the world, but they are often not involved in the military and technology discussions that are taking place within states. For the UN system especially, the need to coordinate with member states can create additional challenges, both for adopting relevant new technologies and for responding effectively to other actors' use of such technologies.

The world is moving toward high-tech, fast, short, and targeted military operations that will have severe consequences for communities and people around the globe. International organizations, equipped to respond to and use new technologies to their advantage, can alleviate some of the potentially negative humanitarian impact of these operations. It is in everyone's interest to make sure that a new dialogue involving technology companies, international organizations, and militaries takes place. The scholarship that the Academy has produced through its issues of *Dædalus* on New Dilemmas in Ethics, Technology, and War provides a platform to frame and nurture much needed dialogue among these important players. ∎

ENDNOTE

1. Klaus Schwab, *The Fourth Industrial Revolution* (Geneva: World Economic Forum, 2016).

The Academy's project on *New Dilemmas in Ethics, Technology, and War* brings together an interdisciplinary group of scholars and practitioners to explore the ethical dilemmas posed by contemporary political developments and changes in military technology. The idea behind this initiative is that although technological innovations and political developments are changing the way in which modern wars are conducted, efforts to align the legal and ethical frameworks that guide and inform states' behavior before, during, and after war have not evolved accordingly. For many centuries, just war theory represented the pinnacle of human morality in warfare. As such, it has informed and influenced the formulation of international laws and treaties in the protection of noncombatants, civilians, and vulnerable categories of individuals. The most important intellectual work examining the application of just war principles to modern wars remains Michael Walzer's *Just and Unjust Wars* (1977), a classic investigation into just war doctrine applied within the context of interstate war and civil conflict during the Cold War. No volume since the end of the Cold War has successfully become the successor to Walzer's book.

New Dilemmas in Ethics, Technology, and War sets out a new research agenda on emerging military technologies and examines the political and moral issues that societies and countries will face in a new high-tech military landscape. The project is led by Scott D. Sagan (Stanford University) and supported by Humanity United, the John D. and Catherine T. MacArthur Foundation, and The Rockefeller Foundation.

More information about the New Dilemmas in Ethics, Technology, and War project is available on the Academy's website at https://www.amacad.org/newdilemmas.