THE SIXTEENTH WALDEMAR A. SOLF AND MARC L. WARREN CHAIR LECTURE IN NATIONAL SECURITY LAW: LAW OF ARMED CONFLICT IN THE DARK

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Introduction

I would like to talk with you about what I will call the "Law of Armed Conflict (LOAC) in the Dark," and let me tell you a story to set the stage for the topic. Let us go back almost twenty-five years exactly. It is late April 1998; I am a third-year law student, and I am sneaking off for a few days to go to Florida with my mom and my grandmother because I was getting married a few weeks later, and a little sunshine seemed like a great idea before the wedding.

We arrive at LaGuardia Airport, and it is a mess – just complete chaos. Everything is delayed, people are milling around everywhere, and it turns out that the computer network system that made everything happen for all the flights is down. They cannot ticket any flights or get any other similar systems to work. After quite a bit of time waiting around at our gate, the pilot comes out and announces that they are really working on getting us going; in particular, that he and the co-pilot are doing all the calculations by hand for lift, weight, and fuel. The pilot was ecstatic – he said, "We don't normally get to do this. This is what we trained for – you know, we are getting out our abacus and calculating things." I thought to myself, this is the pilot I want – he wants to do calculations and figure all this out – we are in good hands. Eventually, he finishes his calculations, and we get to

board the plane. They still cannot do seat assignments, so the flight attendants are writing out seat assignments on napkins (we had paper boarding passes in 1998, no e-tickets or smart phones). We get on the plane, and we take off – our pilot did his calculations well.

Why am I telling you this story? Because you can take that same idea and think about it in a situation of armed conflict, where maybe the systems do not go down because they break, but because somebody turns them off or interferes with them. That is the premise of "LOAC in the Dark." What happens to the law when all the capabilities that we take for granted – the technology that is so deeply incorporated into our daily lives and our military operations that we do not even give it a second thought – is not there, because the capabilities have been turned off, jammed, spoofed, or taken down? What happens when all this technology that enables our instantaneous communication, our global positioning, our precision targeting, our intelligence, surveillance, and reconnaissance systems, goes kaput? The law of armed conflict will still be there, of course. The law is not going to be turned off, but we have to think about what something like this happening means. We spend an enormous amount of time, appropriately so, thinking about how the law works in in the context of emerging technologies, so I think we also need to flip that entirely on its head. What happens when we do not have any of these technologies?

Dependency on Technology

Obviously, from an operational and tactical standpoint, there are a lot of challenges with this scenario. The law may be the least of those challenges. But we do not want to forget about what losing all of our technological capability means in thinking about the law, particularly about the law in the long term. What is going to happen? Is it going to put pressures on the law? Is it going to change how we think about it? If we think about how we ordinarily teach and talk about LOAC, we probably do not even notice that we are constantly referring to technological capabilities. We talk about pattern of life assessments. We do not make those by sending people out to walk around and count how many civilians are here and there, and what time they go places. We do pattern of life assessments with drones or other satellite-based capabilities. We talk about collateral damage estimation methodology – that also is not a person

sitting there calculating; it is an algorithm or technological tool. We talk about precision-guided munitions. Clearly, those rely on technology. We talk about cold shift, drones, satellite, Intelligence Surveillance Reconnaissance (ISR), all different things. We walk around with smartphones. Our entire lives are dependent on technology.

The other piece of this issue is that when we talk about an absence of these hi-tech capabilities – a low-tech environment – we tend to talk about it in the context of non-state groups or less equipped forces deliberately blurring the lines or even discarding LOAC rules in order to gain some kind of advantage, either on the battlefield itself or in the information space. That is our lexicon as we think about LOAC and technology and capabilities. But that is not the whole story, because what we are likely to see is a scenario in which we do not have a lot of those capabilities, perhaps because they are deliberately denied to us in a near peer conflict. Obviously, we already have situations where our systems do not work the way they are supposed to. But if we think about the denial or disruption of technological capabilities as an across-the-board, systemic scenario, that becomes a different ballgame altogether.

I want to talk about this idea of LOAC in the dark in a couple of ways. First, we can start to think about what this means for implementation in the moment, and then I want to spend some time talking about the law itself. What does this mean for the law, for how we teach the law, for how we understand the law, for how we apply the law, and for how the law might or might not evolve? You all were questioning whether the law needs to change fundamentally. I will rephrase that as, might the law change, not because we choose to, but because of the pressures put on it? We see that all the time. There is no doubt that twenty years of counterinsurgency (COIN) and counterterrorism (CT) operations has put pressure on the law and has certainly changed how external audiences perceive, understand, or advocate for the law.

Anytime we think about implementation, we need to start by thinking about training. How do we train for this kind of scenario? I understand, for example, that the Navy has training to navigate without high-powered Global Positioning System (GPS) capabilities. I think you need a sextant, the North Star, and you probably need a pretty good sense of direction. We may need to start re-learning some of those instincts that we have lost by having GPS. The Army, similarly, has artillery training where you have to

figure out the relevant calculations without technology involved. But we need to think about what that means in a much more robust manner. What kind of training is really needed if we are going to train the way we fight? We need to be thinking about ensuring that exercises in simulations and other training incorporates a partial or total shut down of technological capability, so it is not a surprise. And I am just talking about it from the legal perspective. How do we take precautions when we do not have all the tools we normally use to take precautions? Well, hopefully we do not want to think about that at the moment we actually need to do it; we want to think about it a little bit in advance.

LOAC Principles

Another aspect is thinking about what it means to learn, train, and think about LOAC. It is not just the how, but the why. We start by learning the four core principles of LOAC. I find myself regularly saying, "If I only had five minutes to teach you LOAC, I can teach you military necessity, humanity, distinction, and proportionality, and if you understand those, you can answer most questions in a reasonable manner." You might not get the answer exactly right, but you can get most of the way to a reasoned and reasonable answer. You might not get everything right about exactly what the rules for internment are or different specific issues, but in terms of the use of force, for example, you will make some pretty good decisions. Those basics are going to become ever more valuable when we are in the dark because we are not going to have the high-powered tools that we are used to, that we do not even realize we are relying upon all the time–all the tools, the capabilities and information, and so on.

We are really talking about how you implement the law, law that essentially requires some amount of information. Distinction inherently means that we have some information. Proportionality inherently means there is some information – it may be a tiny bit, but there is something. Something causes you to say that person is a combatant or that person is directly participating in hostilities. It is not just putting your finger in the air and seeing which way the wind is blowing. We have to figure out how we gather information, how we assess information, when we have a lot less of it. We have spent a lot of time over the last fifteen years talking about the challenges of so much information, which is another, and very interesting, question. How do you process a tidal wave of information and

try to piece out what you need? But what about when there is very little information and very few tools to gather the information we are used to thinking is "the information I need to make my decision," but you might not have it. And it is not only that a small unit out far forward does not have it, but headquarters might not have it. The folks who are ordinarily very used to having it, might not have it. So, how do we think about training? I put this out more as a challenge, as a question. I do not know the answer, but it is important to think about. That is one starting point.

Interoperability

One of the ways we navigate interoperability is through technologies that allow us not just to share information, but to also find common ways of looking at information, and maybe acclimate where we take slightly different perspectives. Although we can have policy overlays and we can use a lot of tools that help us to navigate that space, we may not have all those capabilities. So how do we think about our legal understandings, about policy frameworks? How do we think about those relationships in order to continue and even enhance the shared understandings that we have without maybe some of the crutches that work very well when you have them, but maybe you do not have them available.

As an example, some of you probably have used Google Translate when you were somewhere where you did not speak the language and you were trying to figure out any number of simple questions. I am old enough to remember if you did not speak the language, you pointed at a lot of things and hoped for the best. Now, of course, today I would just look it up on my phone and find my way, so we are losing some of those low-tech ways that we ordinarily might have. If you take that into the more fraught scenario of armed conflict, we can see there are some ways we need to think around some of our current systems.

Consider collateral damage estimation methodology (CDEM) and similar tools, for example. Two different states might have slightly different understandings or ways they implement proportionality, but at least this might be a common tool that they can agree on where they are both going to be comfortable. Now if this is taken out, now you need to find another tool, another way to find common ground. Perhaps this involves more training in a shared space with our partners.

Another important area in this implementation space is just how we talk about the law. We are so accustomed to talking about it in the context of all these capabilities that we almost need to think about other language. I came here to talk to all of you about this, and I am resorting to stories about Google Translate and airplane trips. We do not really have a vocabulary anymore because we are so used to the vocabulary that has developed along with all of our capabilities. We need to think about how we talk about weaponeering, precautions, proportionality, identifying lawful targets, and any other issues without instinctive reliance on the capabilities to which we are accustomed. It would be as if I required you all to talk without using any acronyms.

If all these technologies can be shut off, we have to be able to talk about the law apart from the capabilities that we take for granted. We have to be able to come up with hypotheticals for class or for training that are not based on surveillance and pattern of life assessment, but rather draw from entirely different scenarios. For example, I was part of the Woomera Project on International Law and Military Space Operations. We had a number of international lawyers and, thankfully, some space experts. As we discussed how distinction, proportionality, and precautions work in space, we needed examples to try to tease out what we were talking about. For the first couple of years, nearly every example the lawyers came up with was: if you blow up a satellite what would happen? All we really understood was that there are satellites in space and so the only idea we could come up with was destroying the satellites. I suppose there are a thousand other ways you could think about hard questions in space, but it took us a few years to get that example out of our system and try to be a little bit more sophisticated and diversified in how we talked about it. So, we need to be able to come up with different vocabulary, to bring out examples and hypotheticals from past conflicts in order to draw them out, because they are still relevant, and they may be even more relevant in certain scenarios.

The last point I want to raise in thinking about implementation, before we move on and talk about the law writ large is – as Lieutenant General (LTG) Pede termed it – the "COIN hangover."[1] Most of you have read his piece, *The Eighteenth Gap*, and there has been a lot of discussion over the

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[1] Lieutenant General Charles Pede & Colonel Peter Hayden, *The Eighteenth Gap,* MIL. REV., (March- April 2021), at 6, 17.

last few years about the transition to a focus on peer-on-peer conflict and the risk of a counterinsurgency (COIN) or counterterrorism (CT) hangover. We have become very accustomed to operating under highly constrained and policy-driven frameworks – that is not going to look the same in a peer-on-peer conflict, but if we take that posture into a peer-on-peer conflict, we are going to have some challenges. Almost all of those policy constraints – imposed for very good reasons in these types of fights – are dependent on technological capabilities. If you look at the constraints in the Presidential Policy Guidance (PPG), for example, they are inherently based on the fact that we are either fighting in a conflict where we own the ISR space, we have air superiority, or we have the ability to gather enormous amounts of information through drones, satellites, and other technological capabilities – and therefore, we can use that advantage to impose and implement policy constraints. However, that is not going to look the same in a peer-on-peer fight. So, the idea of fighting a conflict in the dark just adds one more challenge in making sure that we are not bringing this COIN hangover with us into the next conflict.

Driving the Law

Now, what about the law itself? It is not hard to see the need to prepare in terms of training and implementation for this idea, but what about the law? What do we need to think about in terms of the law itself? What might be risks for the law in how it develops long-term, in pressure points from this kind of scenario? I like to think about this question of what is going to happen down the road, because often when we are focused on 20-meter targets, we understandably are not initially thinking about whether the law might look different in twenty years. Sometimes you get to that spot twenty years later and you either do not notice that the law looks different, like the story of the frog in the boiling water, or you notice that the law has changed, but you do not really know how you got there or how to get back. For that reason, it is worthwhile to try to think about it ahead of time and drive rather than let the technology drive us.

A couple of areas I would like to highlight. Proportionality – what is this going to mean for how proportionality works and how we understand and implement it? What about precautions? And then at higher altitude, what about the core touchstone of the law, the idea of reasonableness and, as companion issues, doubt and certainty. A fourth area is to explore a few

ideas about specific domains and technologies, even though we are turning them off. And then, that overarching question of what is the relationship between capabilities and obligations, which we are going to flip on its head because we normally talk about it as "if you have a lot of capabilities, you have a lot more obligations." I am going to come back to that: we are going to turn that one on its head.

Proportionality

Let us think about proportionality first. If we played a word association game and I said "proportionality," what would pop into your minds first? Hopefully in the ideal world, if I said "proportionality," somebody would say "reasonableness." Someone else would say "reasonable commander," someone might say "excessive," "military advantage," or "protection of civilians." These all go together. But just as likely, in today's world, if I said "proportionality," someone would say "pattern of life." Someone would say "Collateral Damage Estimate Methodology" or "NCV" (non-combatant cutoff value) or any number of other concepts that are, in effect, third generation when we think about proportionality. They are not at the essence of proportionality, but we cannot help but link them. If you consider the way we think about proportionality, especially in the classroom, it is always based on a hypothetical where you just magically know where the civilians are, when they go to school, and that there is a hospital and kindergarten nearby. You just know all of this information and now, how would you make your assessment? We do not tend, at least in the classroom, to frame scenarios as, "if you do not know any of this information, you still have to make a decision. Now, how are you going to do it?" That is a much more challenging conversation, but you almost need to have the judgment conversation first and then take that into what, paradoxically, is the advanced level where you do not have all the information. We need to think about proportionality not just as a legal principle, which it is, and as a core guiding foundation of the law, but also as a methodology, because ultimately, proportionality and precautions are a methodology for how we implement the law. It is a process for the steps you take in how you work your way from "I need to do something to gain an advantage against the adversary" and "I have to walk through all of these steps." This process is how we implement the law to ensure that in the process of applying combat power, we are doing it in a lawful and moral manner.

How do we think about the value of the target, and how destroying, neutralizing, or capturing it is going to contribute to our tactical and operational end state? How do we think about the civilian population, the civilians in the area, the blast radius, the effects, and what harm might look like? Internalizing those questions beyond the information that we have is going to be an important step in our thinking. How do we understand civilian patterns? How do we understand civilian infrastructure? How do we understand the effect of actions taken in a space where there are civilians if we do not have the technological capabilities that we are used to? The law of armed conflict does not allow us to say, "gee, I just do not know." It does not require that we have all of these capabilities, because it was written and has been implemented long before we had such capabilities. We need to take a step back and ask how do we understand this? What other ways might we have to answer these questions? What information might we gather beforehand, before the conflict? What is useful to know about the environment we are going into? We do that now, but maybe we need to think about it in a way that can self-generate a little bit more and not just feed into our existing systems. For example, what other means might we have of not just gathering but assessing existing information? How can we think about the human capabilities versus the technological capabilities and putting those to use, and also understanding what human judgment means? Ultimately, the reasonable commander is not a calculator that takes all sorts of information and types it in and gets an answer. The reasonable commander is a person who uses considered judgment and feeds information into that considered judgment. To borrow from an article from a number of years ago: there is no "proportionometer"[2] – at least, I did not bring mine with me today.

The loss of capabilities – the LOAC in the dark – also means that a lot of the tools that we might have to disable and degrade enemy capabilities would not be available to us, and we might have to accomplish these objectives through kinetic means. If previously you would jam or otherwise deny the enemy's air defense or any other capability and now you do not have that available, that does not mean you say, "well, I guess they are just going to be able to use their air defense." No, you are still going to want to take it out, but now you need to use kinetic means. That just adds to our thinking about proportionality and about precautions

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[2] Joseph Holland, *Military Objective and Collateral Damage: Their Relationship and Dynamics*, 7 YBK. INT'L HUM. L. 35, 48 (2004).

because all of a sudden, we are thinking about other types of potential harm. This does not mean it is unlawful, but it may be harm that we have not had to cause while we have had the ability to take care of some of these objectives without using kinetic means. It is a bit of a socializing, in essence, but it also means that we are going to have more proportionality and precautions assessments and questions. Here is where we get back to the idea of how we transition from thinking about COIN to peer-on-peer conflicts. It might mean that more harm is caused simply because we have more targets that we have to take out kinetically or because we do not have the same precision capabilities available or the same capabilities to know exactly the patterns of movement.

There is an educational component here as well in talking about how the law works and how much harm is reasonable, acceptable, and comfortable. We run the risk of a common, but incorrect, theme that we see in the course of talking about at least some conflicts, that whoever causes more harm must be more at fault – they must be the ones who are committing atrocities. This notion has no basis in law whatsoever. But particularly in a conflict where most of the casualties are on one side because that is where the conflict is being fought, we sometimes hear, "look how many casualties were over there, therefore, they must not be following the law because they are the ones that caused more casualties." That is not how the law works, but it is a huge legitimacy question, and ultimately legitimacy is the key touchstone here. If interpretations are going to change in this way that causes, ultimately, dents in legitimacy, we need to understand that better, because you have to not just comply with the law, but also think about how to maintain your legitimacy so that you can continue operations.

Precautions

What about precautions? What kind of precautions are we talking about? Verify that targets are lawful military objectives, choose means and methods of attack that will minimize harm to civilians, provide effective advance warning – we talk about taking all feasible precautions. Well, what does that mean? How do you define feasible? It is usually defined as those which are practically or practicably possible. It is not based on capability per se, but we cannot help but think and talk about them in the context of capabilities. And feasibility is in some way linked to capability,

because if you have the capability to do something, then it is probably feasible to do it. It is a little bit hard to say, "well, today, that is not feasible. I have an unmanned aerial vehicle (UAV) and other capabilities but it does not feel feasible today. If it was a different day, maybe." Capabilities do matter but that does not mean that when you turn them all off that you do not have to take any precautions. That cannot possibly be the law, because it would not be hard to imagine a belligerent shutting down their own capabilities and then arguing that they do not have to take any of those pesky precautions.

How does a more limited choice of tools to take precautions affect the lawfulness of attacks? As a matter of law, the law only asks if it is a lawful military objective – yes or no? You have to decide that whether or not you have super emerging technological capabilities or just your own two eyes – you still have to actually do the distinction. Is it a lawful military objective or not? You still have to make some judgment about whether there is going to be harm to civilians, and if there is, whether it would be excessive in relation to the military advantage gained. You still have to take those steps. Now, by the same token, we know that just because you have precision-guided munitions or other capabilities, you do not have to use them. There may be times when a commander decides he is not going to use a certain capability because the attack can still be executed lawfully without using it, and that capability may be needed at another time, all understood in the absence of an infinite supply of such capabilities and based on the commander's understanding of the battlespace.

We are talking about reasonableness, common sense, and good faith and we do not in any way want to suggest that parties with lower tech capabilities are not capable of complying with LOAC. That would be an extremely counterproductive result of this conversation because that would just be a recipe for discarding the law. So, I am posing the question, indeed a challenge, for how we can think about and talk about the law and the tools that can enable the implementation of precautions in the absence of or in an environment of severely compromised capabilities? For me, this reinforces the idea of precautions as a methodology, and if you have not read Professor Geoffrey Corn's article about precautions[3] as a methodology, as a process, and as a risk mitigation tool, I strongly urge

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[3] Geoffrey S. Corn & James A. Schoettler, Jr., *Targeting and Civilian Risk Mitigation: The Essential Role of Precautionary Measures*, 223 Mil. L. Rev. 785 (2015).

you all to read it because it is a great way of thinking about precautions: not just something you check off, but as a mindset. This raises one last question on precautions: Do we need to think about steps to protect our capabilities as a kind of precaution in and of itself? If using these capabilities is a way that we can ensure compliance with the law, that we can ensure or maximize lethality and effectiveness, then we need to think about defending the capabilities almost as a form of precaution – one of our steps to make sure that we still have them available.

Reasonableness

A third area to think about is reasonableness. In a sense, we have been driven to think about reasonableness with the enhanced focus on and use and development of emerging technologies because they have put pressure on reasonableness. I want to take that conversation and see if we still have as robust a conception of reasonableness as we should, and we used to, and that the law thinks we have and relies upon us to have. However, over the last few decades, we have seen a steady chipping away at the idea of reasonableness in thinking about its role in the law in two different ways.

One appears in the international criminal law space. If you think about the big picture, the nature of war – the fog of war – inherently works against any concept of certainty. You have confusion, uncertainty, literally smoke and fog, and the law, as it has developed over time, is based on reasonableness as a touchstone. We talk about the reasonable commander, the commander exercising reasonable judgment. It is how we assess, at the time and after, the lawfulness of actions; was it reasonable at the time, or if not, was it reckless or willful. The law, unlike war, which inherently has confusion and uncertainty and fog, provides for, and demands from us clarity of definition. Who is a combatant? Who is a civilian? What is a military objective? Those definitions are not maybes. We can all recite the definition of military objective, it is clear, it is written in certain words. Now, it may not always be clear in the implementation, but we know what it means. We know who is a combatant, who is a civilian, and who can lawfully be targeted. It is in the implementation of these definitions, in the face of uncertain facts and uncertain information, that we encounter challenging situations. So, we have law that requires clarity in a factual situation that has a lot of confusion and uncertainty, and that is why reasonableness is so important. But what do we see developing over time?

In the criminal accountability space, we have the challenge of taking a law based on reasonableness into the courtroom, and the courtroom likes a little bit more than reasonableness. We see a drive in the criminal accountability space towards certainty or methods of analysis that feel like certainty. Law of armed conflict does not quantify the amount of information that is required for a targeting judgment to be reasonable; LOAC does not say that you need to be 77.85 percent certain and if you are shy of that, well, then it was unlawful, but if you are just above that, you are good to go. There is no magic number. But the courtroom requires more specificity because it is about trying to decide whether somebody is guilty or not, which can lead to an effects-based approach. In the media and the general discourse, there is an instinct that civilian casualties must be a war crime. For example, "I see the effects and what was destroyed. People are killed. Therefore, clearly, somebody did something wrong." That is not how the law works, but it is not hard to see how the layperson makes that connection. One important job, particularly in the educational space, is to push back and make sure that we understand how the law works so the discourse can be productive. It is not hard to see the problems of the effects-based approach, in essence, a strict liability standard where a commander can be reasonable but wrong after the fact, and then liable for misconduct. That type of standard provides no guidance to commanders on how to make decisions, because if the facts afterwards decide whether the commander was right or wrong, then there is no way to decide because there is no methodology.

Another aspect pushing against reasonableness is emerging technology, which has put strong pressure on reasonableness. Consider autonomous weapons in particular – fully autonomous weapons that can identify, select, and engage targets on their own. There are a lot of debates in law and morality and ethics about human in the loop, human on the loop, meaningful human control, and other questions. Underlying this entire debate is the fact that we want and need to know how these weapons systems would work. If we are trying to figure out if they could be used, if they could be lawful, we need to know what they are going to do, which is hard when we are describing a capability that is going to learn as it is used. Anybody here have kids? They are sort of little autonomous weapons of their own. I think I might know what they are going to do, but usually I am wrong even when I have trained them. So that question is constantly present with autonomous weapons: how would they work? What are they

going to do? How are they going to decide what is going to happen? Because especially if we are talking about humans interacting with them, you need to know some of these answers. That is a drive for certainty. If I want to know, what I am looking for is certainty.

The law of armed conflict has space for disparate judgments. The five of you in the front row might make five slightly different judgments. They could all be reasonable, but they might not all be exactly the same. If I take five calculators and I line them up, I am really hoping that all five get the same answer when I ask what 63 times 842 is. There is no reasonableness conception to how a machine like that kind of machine works. If my calculator does not give me the same answer all the time, I am going to throw it out. A reasonable guess is just not that helpful. And if my toaster sometimes toasts but other times decides to air fry, it is not that helpful because when I turn it to toast, I only want toast all the time. Autonomous weapons are not quite like that, and yet our conception of a machine is that we expect it to do the assigned task every time. That is why I got a machine, because it is supposed to do it the exact same way every time. If I wanted variety, I would have asked a human to do it. We have seen a quest for certainty when we think about autonomous weapons and other similar technologies. First, a certainty of technology: How does it work? What is it going to do? Is it durable? Is it reliable? What happens when somebody spoofs or jams or hacks it? Second, we need certainty about the legal norms if we are trying to think about whether these machines could function in compliance with the legal norms. We still often debate exactly what different concepts in LOAC mean. Now, if we add that to not quite knowing how this technology is going to function when it starts learning, that becomes quite complicated. Third, we need certainty about how such a machine makes decisions and how it analyzes, if it is going to make the same decision every time, and what level of certainty is it going to use? Can you program reasonableness? All these different kinds of questions are creating a huge push towards certainty and away from reasonableness.

A big question for me about artificial intelligence (AI) and autonomous weapons is that we might have two parallel conceptions about the law, where the expectation for humans is reasonableness, but with a machine, we want to know firmly—to feel certain about—what is going to happen and what it is going to do. The concern then is how much of that certainty framework is going to bleed back over to how we assess the actions and decisions of humans, which would change the standard. With

all of that pressure happening, what does that mean when we think about LOAC in the dark, where the main pillar we have to hold onto is reasonableness, but then perhaps we have changed to a different conception of reasonableness? That adds to the challenge, because we have to implement the law without the tools we are used to, but with the added a layer of complexity because we are not quite sure what reasonableness means or looks like anymore because we have been pushing on it so hard, inadvertently, as it is being pressured and buffeted by all of these aspects that just make the analysis and implementation a bit more complicated. We can see challenges long term for LOAC. We potentially have a huge disconnect where it is already hard enough to execute military operations and implement the law without the crutch of technology. Add on exaggerated conceptions of certainty or an effects-based analysis and we have a pretty challenging scenario.

Domains of Technological Capability

Two last things before I wrap up. What does this mean in terms of specific domains or technologies when we think about LOAC in the dark? There is little doubt, as evidence from fifteen-plus years of discourse, that heightened technologies can be harnessed to contribute to, to enhance, and even maximize LOAC implementation in any domain. But a couple domains are essentially domains of technological capability: cyber and space. These domains do not really exist without advanced technological capability. We would not be talking about them if we did not have these capabilities. Can we even effectively analyze operations in those spaces if we are talking about technologies turned off or severely compromised? Think about terrain denial fires; we probably need to think about domain denial operations, because if an adversary can turn off all of your space capabilities, then you have essentially been denied access to and use of that domain, which would be significant. Counter-space operations and counter-space capabilities ultimately are about denying access to an entire domain. We need to think not only about how this domain is critical for our military operations, but also that it is critical to our LOAC compliance. It is a key ingredient in ISR and precision targeting, for example, so it is worth considering what kind of defensive precautions and protections should be taken and developed, not just to have the capabilities, but to have LOAC implementation. To think about how to not be put into a position where we are figuring out how to implement LOAC in the dark, because

although it is interesting to discuss, surely it is better not to be in that situation.

Coming back to autonomous weapons as a technology where this is obviously relevant, according to the new DoD Directive, 3000.09,[4] current policy requires that autonomous weapons systems be designed to allow for appropriate levels of human judgment over the use of force. What does that mean if communications are denied; what does that mean if systems or some of these capabilities are turned off? Put yourself out into the future where we have deployed an autonomous system and then certain technologies are turned off. I think that means that appropriate levels of human judgment are no longer available. If the human cannot talk to the machine or the other way around, then there is no more meaningful human control and no more appropriate levels of human judgment. Technologies do not just raise the question of how the law should apply, and can they enhance implementation of the law, which are good questions. As soon as we have a technology, we ought to be thinking about whether we can function without it and how we function without it, because as soon as we have it, someone is going to want to take it away. As soon as we have it, we adapt to using it. We like it. We get accustomed. We move on to the next thing. We better be thinking about how we operate without it.

Obligations

So let me turn to the last question I want to challenge you with, and that is the relationship between capabilities and obligations. It comes up in discussions about LOAC, but usually as a quick aside in the context of whether heightened capabilities bring heightened obligations. Does a state that has precision-guided munitions, that has all of these tools, therefore bear higher obligations under the law compared to an adversary that does not have them? From the perspective of the law, all parties have to abide by the law and comply with the law, to implement distinction and proportionality and precautions, for example. What about the opposite: does the elimination of capability mean a lowering of obligation? Is that an argument that we even want to be made? It is important to distinguish between the obligation itself and the implementation of that obligation. The law of armed conflict requires that an attacking party distinguish

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[4] U.S. DEP'T OF DEF., DIR. 3000.09, AUTONOMY IN WEAPON SYSTEMS (25 Jan. 2023).

between civilians and combatants, that an attacker identify military objectives and distinguish them from civilian objects, but does not require a specific way to do that. Law of armed conflict just wants to make sure that you distinguish between the two. If you want to do it by walking around and talking to each person in the unit of the opposing forces that you are about to attack, it would make absolutely no sense, but you theoretically could fulfill the obligation to distinguish that way. The law does not say whether you have to do it that way, or use a UAV, or use some magic sensing power that we have not developed yet. You need to distinguish, that is what the law cares about, and the law provides a methodology for applying combat power and minimizing harm to civilians. A methodology that implements the balance, the interplay and the relationship between military necessity and humanity.

The law of armed conflict rests on a foundational idea of the equal application of the law to all parties to a conflict: big states, small states, and non-state parties, it does not matter; they still have to implement and abide by the law. The fundamental principles are the same. I think it is well established that there is no legal obligation to develop or field precision-guided munitions. If you have them and you can use them, that is great, but the law does not say you cannot fight in a war unless you pursue the research and development and the rest of a lengthy and expensive process in order to have them. It does not tell a small state, "I am sorry you cannot fight a war against your neighbor because you do not have these weapons. Nope, you cannot fight, even though you were attacked, because you do not have those capabilities." However, once we are used to them—not just the military, not just those actually carrying out the military operations, but more challengingly, once the population is used to those capabilities, once the external audiences are used to them and the comfort that they provide, the sense of "of course we comply with the law because look at all these tools that we have to do so"—what is going to happen when we do not have them? This is a key question, not only in terms of implementation of the law, but in terms of the discourse about it, which holds its own weight and is important. It is a legitimacy problem.

Conclusion

So, I will leave you on that note, with the definition of legitimacy from Joint Pub 3.0, which I think highlights this challenge. "Legitimacy is based on the actual and perceived legality, morality, and rightness of the actions from the various perspectives of interested audiences."[5] There is a lot in there. The actual and perceived, that is critically important, particularly the word perceived. The actual or perceived legality, morality, and rightness of the actions from the various perspectives of interested audiences—that is a lot to consider in trying to figure out what legitimacy is. So, when we start in a situation where we have produced a perception, not the reality, that attacks are incredibly precise, weapons are flawless and war is sanitary, what are the effects and consequences when that same military now has to operate without those capabilities, but it still has a domestic and international audience that expects the same level of precision and flawlessness? This somewhat convoluted story starts by turning out all the lights and thinking about LOAC in the dark and it trickles into lots of different areas, which brings us back to "how do we train for it? How do we implement it? How do we think about the law?"

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[5] UNITED STATES DEPARTMENT OF THE ARMY, JOINT PUBLICATION 3-0, JOINT OPERATIONS, A-4 (Oct. 22, 2018).