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Emerging Technology and Perfidy in Armed Conflict

Ian Henderson, Jordan den Dulk & Angeline Lewis

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Emerging Technology and Perfidy in Armed Conflict

Ian Henderson,* *Jordan den Dulke*** & *Angeline Lewis****

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I. INTRODUCTION

The idea of perfidy arouses strong debate, as exemplified by the arguments on the lawfulness of the reported 2008 killing of Hezbollah leader Imad Mughniyah in Damascus by a bomb concealed in what appeared to be a civilian vehicle.¹ Other examples include the discussion following the Colombian government's recovery of FARC-held hostages through use of a "white helicopter" and a fictitious cover story indicating the operation was being conducted by an international humanitarian non-governmental organization,² and a 2009 Australian Commission of Inquiry report into the loss of HMAS *Sydney II* in 1941.³ The latter devoted some thirty-four pages to dispelling theories about what had caused the warship to bring herself so close to the German raider HSK *Kormoran* that she lost all strategic advantage. Since no sensible commander would have done so deliberately, argued these theorists, the only possible explanation could have been perfidy on the part of *Kormoran*—whether by flying a Norwegian flag, pretending to surrender, feigning an engineering or medical emergency, or using the secret call sign of a merchant vessel while disguised, and then opening fire without revealing her true status. Despite nearly sixty years of fervid speculation, the Commission found no evidence to support any of these theories.⁴

Why does perfidy provoke such persistent, strident and enduring controversy? The *idea* of perfidy as deceit and treachery still appeals strongly to a sense of honor in warfare, calling the greatest opprobrium on those who would breach it. Yet this sense of honor has been overtaken in much of the

1. See, e.g., Kevin Jon Heller, *The CIA Violated the Terrorist Bombing Convention*, OPINIO JURIS (Jan. 31, 2015), <http://opiniojuris.org/2015/01/31/cia-violates-terrorist-bombing-convention/>; Rogier Bartels, *Killing With Military Equipment Disguised as Civilian Objects is Perfidy*, JUST SECURITY (Mar. 20, 2015), <http://justsecurity.org/21285/disguising-military-weapons-civilian-equipment-perfidy-or-be/>; Kevin Jon Heller, *No, Disguising Military Equipment as Civilian Objects to Help Kill Isn't Perfidy*, JUST SECURITY (Mar. 24, 2015), <http://justsecurity.org/21391/no-disguising-military-equipment-civilian-objects-kill-perfidy/>; Marty Lederman, *Perfidy, Ambush, Snipers, and the COLE Bombing (al Nashiri) Case*, JUST SECURITY (Mar. 24, 2015), <http://justsecurity.org/21398/perfidy-ambush-snipers-cole-bombing-al-nashiri-case/>.

2. See John C. Dehn, *Permissible Perfidy? Analysing the Colombian Hostage Rescue, the Capture of Rebel Leaders and the World's Reaction*, 6 JOURNAL OF INTERNATIONAL CRIMINAL JUSTICE 627 (2008).

3. HMAS SYDNEY II COMMISSION OF INQUIRY, *THE LOSS OF HMAS SYDNEY II* (2009).

4. *Id.*, vol. 3, ch. 30.

law of armed conflict by its reduction to rules of considerable specificity and unemotional application.⁵ On closer examination, this is also the case with the rule against perfidy, which outlaws treacherous deception, but only when it has certain results and involves deliberate action. However, this reality continues to be obscured by the emphasis on the umbrella term with its traditionally condemnatory connotation.

This article explores the limits of perfidy as a concept in the law of armed conflict in light of emerging technologies. The exercise highlights the need to recognize perfidy as a breach of international law with a significantly limited application, distinct from the many other potential wrongs that may be committed in international and non-international armed conflicts.

II. THE PROHIBITION OF PERFIDY IN THE LAW OF ARMED CONFLICT

In this Part, we outline the longstanding international prohibition on acts of treachery, or as it is more contemporarily termed, perfidy. Article 23(b) of the Hague Regulations Respecting the Laws and Customs of War on Land of 1907 (Hague Regulations) prohibits killing or wounding “treacherously.”⁶ Article 37(1) of Additional Protocol I (API) prohibits killing, injuring, or capturing an adversary by means of perfidy.⁷ Although the nuances in the definitions, and their practical effect, are outside the scope of this article, it is important to note that Article 37(1) does not supersede Article 23(b), but rather the two treaties operate concurrently.⁸ Views differ on whether the terms treachery and perfidy are interchangeable and, if not,

5. Sean Watts, *Law-of-War Perfidy*, 219 MILITARY LAW REVIEW 106, 107–8 (2014).

6. Regulations Respecting the Laws and Customs of War on Land, annexed to Convention No. IV Respecting the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2227, T.S. No. 539 [hereinafter Hague Regulations].

7. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 3 [hereinafter API].

8. See YORAM DINSTEIN, *THE CONDUCT OF HOSTILITIES UNDER THE LAW OF INTERNATIONAL ARMED CONFLICT* ¶ 571 (2d ed. 2010). While agreeing that the two treaties operate concurrently, Watts argues that there is a strong interpretative case that vis-à-vis the perfidy/treachery provisions, the provisions on perfidy in API replace the provisions on treachery in the Hague Regulations. Watts, *supra* note 5, at 151–52. Of course, the Hague Regulations remain the operative treaty law for non-State parties to API or in armed conflicts to which API does not apply.

which one is more or less inclusive.⁹ For the purposes of this article and in keeping with API, the term perfidy will be used.

Article 37(1) of API defines perfidy as “[a]cts inviting the confidence of an adversary to lead him to believe that he is entitled to, or is obliged to accord, protection under the rules of international law applicable in armed conflict, with intent to betray that confidence.” The International Committee of the Red Cross (ICRC) in its *Customary International Humanitarian Law* study (CIL study) suggests that this definition defines the essence of perfidy and treachery in international and non-international armed conflicts, although the consequences might vary in terms of international criminal responsibility for the wrong.¹⁰

Perfidy may generally be said to consist of three cumulative elements. First, there must be an identifiable act. Second, this act must either (a) invite the confidence of the enemy to believe he is protected from attack or (b) invite the belief in the enemy that he is obliged to accord protection to the attacker. Third, the act which invites the confidence or belief of the enemy must do so in a way that enables the attacker to intentionally betray that confidence or belief, although whether this is to be determined objectively or subjectively is not made clear.

We next briefly explain these principles in the context of international and non-international armed conflicts.

A. Perfidy in International Armed Conflicts

As previously observed, Articles 37(1) of API and 23(b) of the Hague Regulations are applied concurrently in international armed conflicts. This is of significance as they do not comprehensively prohibit all acts of deceit. Pursuant to Article 37(1), an act is not perfidious as a matter of law unless it results in the killing, injuring or capture of an adversary. Thus, it does not prohibit otherwise perfidious acts which result in the destruction of a military objective such as a building or a car.¹¹ Similarly, while Article 23(b) of the Hague Regulations prohibits the treacherous killing or wounding of an

9. See Watts, *supra* note 5, at 143–44; MICHAEL BOTHE, KARL PARTSCH & WALDEMAR SOLF, *NEW RULES FOR VICTIMS OF ARMED CONFLICTS* 204 (1982); 1 *CUSTOMARY INTERNATIONAL HUMANITARIAN LAW* r. 65 (Jean-Marie Henckaerts & Louise Doswald-Beck eds., 2005) [hereinafter CIL STUDY].

10. CIL STUDY, *supra* note 9, at 221–22.

11. Watts, *supra* note 5, at 145.

adversary, the capture of adversaries or the destruction of property is not precluded, even if achieved by otherwise treacherous means.

Articles 37(1) of API and 23(b) of the Hague Regulations are distinctive in that they do not prohibit the *act* of perfidy, but rather the *outcome* of the perfidious act as a method of warfare.¹² The way in which these articles are drafted is an acknowledgement that while there may be some deception in methods of warfare, the killing, injuring and capture in API of an adversary by resort to perfidy betrays the social order of war and will undoubtedly lead to decreased respect for the law of armed conflict.¹³ Similarly, the Lieber Code provided in 1863 that

while deception in war is admitted as a just and necessary means of hostility, and is consistent with honorable warfare, the common law of war allows even capital punishment for clandestine or treacherous attempts to injure an enemy, because they are so dangerous, and it is difficult to guard against them.¹⁴

The object of these articles, in both the Hague Regulations and in API, is important to keep in mind, particularly when comparing the prohibition of perfidy with legitimate ruses of war under Article 37(2) of API.

B. *Perfidy in Non-International Armed Conflicts*

The question of whether there is a prohibition on acts of perfidy in non-international armed conflicts is not entirely settled. The ICRC in its CIL study observed that the prohibition of perfidy is a customary norm applicable in both international and non-international armed conflicts.¹⁵ The study did not, however, observe clear and consistent State practice on the application of perfidy in the latter, but instead noted divergence in the views of States and in their adoption of varying definitions of perfidy. Cer-

12. Rotem Giladi, *Out of Context: "Undercover" Operations and IHL Advocacy in the Occupied Palestinian Territories*, 14 JOURNAL OF CONFLICT & SECURITY LAW 393, 412–15 (2010).

13. COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE 1977 TO THE GENEVA CONVENTIONS OF 12 AUGUST 1949, ¶¶ 1499–1500 (Yves Sandoz, Christophe Swinarski & Bruno Zimmermann eds., 1987).

14. U.S. Department of War, Instructions for the Government of Armies of the United States in the Field, General Orders No. 100 art. 101, Apr. 24, 1863.

15. CIL STUDY, *supra* note 9, r. 65.

tainly, Common Article 3 of the Geneva Conventions¹⁶ and Additional Protocol II (APII) to the Geneva Conventions¹⁷ do not prohibit perfidy, treachery or any recognizably similar formulation in non-international armed conflicts. However, the doubts expressed by some commentators about the International Criminal Tribunal for the former Yugoslavia's decision in *Prosecutor v. Tadić* that the prohibition on perfidious conduct applied in non-international armed conflicts¹⁸ may have been overtaken by the entry into force of the Rome Statute of the International Criminal Court. That Court's jurisdiction includes, among other serious breaches of the laws and customs of war, offenses of treacherously killing or wounding combatant adversaries in both international and non-international armed conflicts.¹⁹ Perfidious damage to military objects remains outside the scope of this definition, and the customary international law status of perfidious capture, applying to international armed conflicts through API, is unclear.²⁰

C. Ruses of War and Improper Use of Emblems

What is clear, so far as both international and non-international armed conflict is concerned, is that there are deceptive acts which do not meet the threshold definition of perfidy and are not otherwise forbidden.²¹ For example, acts which amount to "ruses of war" are specifically "not prohibited" by Article 37(2) of API, which states:

16. Convention (I) for the Amelioration of the Condition of the Wounded and Sick in the Armed Forces in the Field art. 3, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31; Convention (II) for the Amelioration of the Condition of the Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea art. 3, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85; Convention (III) Relative to the Treatment of Prisoners of War art. 3, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135; Convention (IV) Relative to the Protection of Civilian Persons in Time of War art. 3, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287.

17. Protocol Additional to the Geneva Conventions of August 12, 1949, and Relating to the Protection of Victims of Non-international Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 609 [hereinafter APII].

18. *Prosecutor v. Tadić*; Case No. IT-94-1-I, Decision on Defence Motion for Interlocutory Appeal on Jurisdiction, ¶ 125 (Int'l Crim. Trib. for the former Yugoslavia Oct. 2, 1995). For a discussion of those doubts, see, e.g., SANDESH SIVAKUMARAN, *THE LAW OF NON-INTERNATIONAL ARMED CONFLICT* 420 (2012).

19. Rome Statute of the International Criminal Court arts. 8(2)(b)(xi), 8(2)(e)(ix), July 17, 1998, 2187 U.N.T.S. 90.

20. See Watts, *supra* note 5, at 111 n.15, 144.

21. DINSTEIN, *supra* note 8, ¶ 570.

Such ruses are acts which are intended to mislead an adversary or to induce him to act recklessly but which infringe no rule of international law applicable in armed conflict and which are not perfidious because they do not invite the confidence of an adversary with respect to protection under that law.

Further, both API (Articles 38(1) and 39) and the Hague Regulations (Article 23(b)(f)) distinguish between acts of perfidy and the separate wrong of the improper use of a distinctive insignia, flag or military emblem. By way of background, the Hague Regulations require armed forces, who legitimately engage in international armed conflict, to “have a fixed distinctive emblem recognizable at a distance” and to “carry their arms openly.”²² Traditionally, legal requirements as to uniform and appearance have been explained as a means of facilitating the principle of distinction.²³ While the emblem criterion was not included in the API definition of armed forces adopted in 1977, it nonetheless remains a legal requirement as API does not replace, but rather complements the Hague Regulations. API’s focus, so far as military insignia was concerned, was on entirely prohibiting the use of flags, insignia or emblems of any State not party to the conflict, and the use of the enemy’s indicia was prohibited “while engaging in attacks or in order to shield, favor, protect or impede military operations.”²⁴

These prohibitions apply even though such misuses do not result in death, injury or capture. The rules against improper use of insignia are thus broader than the rule against perfidy. The prohibition is only against using a false emblem or flag. Significantly, these requirements do not extend to the mandatory marking of vehicles or other equipment. Although militaries may, for their own reasons, choose to apply distinguishing marks, it is not a legal requirement.²⁵ The only legal requirement is that if a military does choose to mark land vehicles, it must not misuse the markings of the enemy, neutrals or other States not a party to the conflict.

22. Hague Regulations, *supra* note 6, art. 1.

23. See, e.g., Toni Pfanner, *Military Uniforms and the Law of War*, 84 INTERNATIONAL REVIEW OF THE RED CROSS 93, 118–21 (2004).

24. API, *supra* note 7, art. 39(1)–(2).

25. See BOTHE, PARTSCH & SOLF, *supra* note 9, at 214, who when discussing use of captured enemy vehicles note that it is prohibited to use “captured vehicles, tanks, self-propelled artillery and other major weapons, without first removing the enemy national markings. Unmarked and or camouflaged captured materiel may, however, be used immediately.”

But there are exceptions in both directions. For example, customary international law at sea has long recognized the right of a warship (but not military and auxiliary aircraft) to fly a false flag as a legitimate ruse, provided it is hauled down and the ship's own ensign is raised before she opens fire.²⁶ In contrast, the launching of an attack while feigning "surrender or distress by, e.g., sending a distress signal or by the crew taking to life rafts," thereby inviting belief of an obligation to rescue the shipwrecked, is not a ruse, but is perfidious in nature.²⁷ Warships are generally considered only to be prohibited from

actively simulating the status of:

- (a) hospital ships, small coastal rescue craft or medical transports;
- (b) vessels on humanitarian missions;
- (c) passenger vessels carrying civilian passengers;
- (d) vessels protected by the United Nations flag;
- (e) vessels guaranteed safe conduct by prior agreement between the parties, including cartel vessels;
- (f) vessels entitled to be identified by the emblem of the red cross or red crescent; or
- (g) vessels engaged in transporting cultural property under special protection.²⁸

Conversely, customary international law requires that in order for a military aircraft to lawfully exercise belligerent rights in an international armed conflict, it must, *inter alia*, "carry an exterior mark indicating its nationality and its military character."²⁹

26. *See, e.g.*, SAN REMO MANUAL ON INTERNATIONAL LAW APPLICABLE TO ARMED CONFLICTS AT SEA ¶ 110 (Louise Doswald Beck ed., 1995) [hereinafter SAN REMO MANUAL]; J. Ashley Roach, *The Law of Naval Warfare at the Turn of Two Centuries*, 94 AMERICAN JOURNAL OF INTERNATIONAL LAW 64, 73 (2000). Paragraphs 113–14 of the *San Remo Manual* indicate that the false flag may include the flag of a party neutral to the conflict, provided that the specific limitations in paragraph 110 are not breached. This custom is preserved by Article 39(3) of API.

27. SAN REMO MANUAL, *supra* note 26, ¶ 111.

28. *Id.* ¶ 110.

29. Rules Concerning the Control of Wireless Telegraphy in Time of War and Air Warfare, Part II art. 3, Drafted by a Commission of Jurists at The Hague (Dec. 1922–Feb. 1923), available at <http://www1.umn.edu/humanrts/instree/1923a.htm> [hereinafter Hague Rules on Air Warfare]. There is no similar rule applicable in non-international armed conflict.

Both the separate wrong of misuse of emblems and the requirements for the marking of different vehicle groups pose challenges for the application of the concept of perfidy to emerging technologies. In Part III, we review how the law of perfidy might apply to four types of emerging technology, namely: unmanned aerial vehicles, unmanned maritime vehicles, autonomous weapons on land and cyber attacks.

III. PERFIDY AND EMERGING TECHNOLOGIES

A. Unmanned Aerial Combat Vehicles

As indicated above, for a military aircraft to lawfully exercise belligerent rights in an international armed conflict, that aircraft must, *inter alia*, have exterior markings of its nationality (and not those of any other State) and military character. The authors are of the view that this requirement for external marking applies equally to manned and unmanned aircraft. The Rules Concerning the Control of Wireless Telegraphy in Time of War and Air Warfare of 1923 state, “[t]he rules of air warfare apply to all aircraft, whether lighter or heavier than air, without discriminating whether or not they are capable of floating on water.”³⁰ While these rules do not directly refer to unmanned aircraft, Article 1 indicates that the rules are intended to have the widest application. Further, the definition of “military aircraft” in the *Manual on International Law Applicable to Air and Missile Warfare* covers unmanned aircraft.³¹ Although the *Manual* is not law as such, like the *San Remo Manual* it was produced by a prominent group of experts after a series of meetings and broad consultation with other experts, practitioners and States in an attempt to reflect the various extant treaties and customary international law as it applies specifically to the air environment.

Prima facie, it would appear that the requirement to carry an external mark of national and military character applies regardless of the size of the unmanned combat aerial vehicle (UCAV). However, there is a point at which markings no longer serve a useful purpose. The U.S. Air Force currently operates a UAV called Wasp III with a wingspan of only 72.3 centi-

30. *Id.*, art. 1.

31. PROGRAM ON HUMANITARIAN POLICY AND CONFLICT RESEARCH, MANUAL ON INTERNATIONAL LAW APPLICABLE TO AIR AND MISSILE WARFARE r. 1(x) (2009). *See also* INTERNATIONAL HUMANITARIAN LAW RESEARCH INITIATIVE, HPCR COMMENTARY ON THE HPCR MANUAL ON INTERNATIONAL LAW APPLICABLE TO AIR AND MISSILE WARFARE r. 1(x), ¶ 6 (2010).

meters, a length of 25.4 centimeters and a weight of 453 grams.³² Currently under development is an unmanned aerial vehicle (UAV) called the Delfly Micro, which weighs just three grams and is only ten centimeters from wing tip to wing tip.³³ Any marking on such a UAV even if “as large as possible”³⁴ would be practically unobservable in flight. One of the authors has argued elsewhere that State practice may be moving towards an evolving customary international law norm that smaller unarmed UAVs need not be marked.³⁵ As all UCAVs are still relatively large and are marked, it is too early to tell whether this will also be the case for small UCAVs.

In addition to the marking of the UCAV, there is the issue of who is operating it. If it is a civilian, there can be no question of perfidy as a civilian cannot “feign” civilian status. Of course, the civilian would not enjoy the combatant’s privilege in an international armed conflict, but that is a separate issue. In an international armed conflict, the question is whether the military crew of a UCAV must distinguish themselves from the civilian population by, for example, wearing military uniform?³⁶ We believe the answer to be yes. While there is some debate about whether the military crew of a manned aircraft needs to wear uniform, the better view is that they do not.³⁷ This is because in a properly marked military aircraft, sufficient distinction from the civilian population is achieved merely by being on board the aircraft and there is no positive requirement to wear distinguishing military uniforms while on board. Of course, wearing such uniforms is useful in case the crew is separated from the aircraft in hostile territory (either by forced landing or through bailing out).³⁸ However, the crew of a UCAV is inherently “separated from the aircraft” and it is for this reason that they

32. *Wasp III*, U.S. AIR FORCE (Nov. 1, 2007), <http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104480/wasp-iii.aspx>.

33. *Delfly Micro*, DELFLY, <http://www.delfly.nl/micro.html> (last visited May 14, 2015). While it has been referred to as a remotely piloted aircraft, the goal is fully autonomous flight. As such, it will ultimately be a misnomer to call it *remotely* piloted.

34. Hague Rules on Air Warfare, *supra* note 29, art. 7.

35. Ian Henderson, *International Law Concerning the Status and Marking of Remotely Piloted Aircraft*, 39 DENVER JOURNAL OF INTERNATIONAL LAW AND POLICY 615, 627 (2011).

36. Technically, the issue is about wearing “a fixed distinctive emblem recognizable at a distance.” Hague Regulations, *supra* note 6, art. 1(2).

37. Ian Henderson & Patrick Keane, *Air and Missile Warfare*, in THE ROUTLEDGE HANDBOOK OF THE LAW OF ARMED CONFLICT ch. 18 (Rain Liivoja & Tim McCormack eds., forthcoming September 2015).

38. See Hague Rules on Air Warfare, *supra* note 29, art. 15 (“The crews of military aircraft shall bear a fixed distinctive emblem of such a nature as to be recognizable at a distance in the event of crews finding themselves separated from the aircraft.”).

should wear a distinguishing uniform. Further, it will not usually be apparent what sort of unmanned aircraft is being operated by a ground crew (i.e., military or civilian, military medical aircraft or UCAV).

The prohibition on perfidy incorporates no definitive requirement of proximity in the perfidious act, only that the act results in a prohibited outcome. Therefore the requirement to wear a uniform applies regardless of the ground crew's distance from the battlefield. The enemy's ability to attack a UCAV crew is limited by the enemy's ability to project force, not inherently by the location of hostilities. While there is an alternative argument—that the need for the perfidious act “to invite confidence” in the enemy implies an element of proximity or causation between the act and the responders, which might limit perfidy to the visible appearance of the UCAV no matter who is operating it or what they wear—this is by no means clear.

There are two exceptions to the above. First, as discussed in Part II.A, in an international armed conflict to which API applies, in certain circumstances a combatant retains the combatant's privilege and does not commit perfidy by omitting to wear a distinctive sign.³⁹ There is no reason in principle why this would not apply to a UCAV crew, although we would query what would be sufficient for the UCAV crew to meet the criterion of carrying their arms openly. Second, the discussion above as to the requirement for a UCAV ground crew to wear uniform applies in an international armed conflict. It is far from clear what the equivalent position would be in

39. API, *supra* note 7, art. 44(3) (“In order to promote the protection of the civilian population from the effects of hostilities, combatants are obliged to distinguish themselves from the civilian population while they are engaged in an attack or in a military operation preparatory to an attack. Recognizing, however, that there are situations in armed conflicts where, owing to the nature of the hostilities an armed combatant cannot so distinguish himself, he shall retain his status as a combatant, provided that, in such situations, he carries his arms openly:

- (a) during each military engagement, and
- (b) during such time as he is visible to the adversary while he is engaged in a military deployment preceding the launching of an attack in which he is to participate.

Acts which comply with the requirements of this paragraph shall not be considered as perfidious within the meaning of Article 37, paragraph 1 (c).”) As explained by Ipsen, this rule needs to be “read down” as applying only in exceptional circumstances and having very limited application to government forces (see Knut Ipsen, *Combatants and Non-combatants*, in *THE HANDBOOK OF INTERNATIONAL HUMANITARIAN LAW* 79, 91–93 (Dieter Fleck, ed., 2d ed. 2008)).

a non-international armed conflict. This is a hotly debated issue and beyond the scope of this article.⁴⁰

A third question flows from the distinction between perfidy and ruses explained in Part II.C: into which category does camouflaging a UCAV to look like a bird or other flying animal fall?⁴¹ Militaries have long used animals to augment their military capability, including horses,⁴² dogs,⁴³ elephants,⁴⁴ bears⁴⁵ and, very relevantly, pigeons.⁴⁶ While animals would, arguably, have to meet the definition of a military objective under API Article 52(2) before being attacked, they enjoy no special protection under the law of armed conflict. It would seem, therefore, that there is no legal prohibition on disguising a UCAV to look like a flying animal.

The trickier question is whether the UCAV would have to bear external national and military markings. There is no legal requirement, under treaty or customary international law, to “distinguish” military working animals, including flying military working animals, from “civilian” animals. The requirement for a UCAV to have visible external markings is a customary international law issue, and the rules for small UAVs, including UCAVs, on the bearing of external markings are arguably still evolving. Accordingly, at this time it is not possible to say with certainty whether or not a UCAV camouflaged as a flying animal would be required to bear external markings. However, it would seem likely that the same rule, whatever that may be, would apply to both a camouflaged and non-camouflaged UCAV.

40. See Ian Henderson, *Civilian Intelligence Agencies and the Use of Armed Drones*, in 13 YEARBOOK OF INTERNATIONAL HUMANITARIAN LAW 133 (Michael Schmitt, Louise Arimatsu & Tim McCormack eds., 2010).

41. Our thanks to Mrs. Nicki Henderson for posing this interesting question.

42. JOHN M. KISTLER, ANIMALS IN THE MILITARY: FROM HANNIBAL'S ELEPHANTS TO THE DOLPHINS OF THE US NAVY 97 (2011).

43. Including by the Russians in an anti-tank role during WWII. Will Stewart, *Revealed: Stalin's Kamikaze Canines Who Were Trained to Blow Themselves Up as Anti-Tank Dogs*, DAILY MAIL (Dec. 3, 2013), <http://www.dailymail.co.uk/news/article-2517413/The-kamikaze-canines-blew-destroy-Nazi-tanks-WWII-photographs-reveal-Stalins-dogs-war-explosives-strapped-them.html>. More generally, see KISTLER, *supra* note 42, ch. 1.

44. KISTLER, *supra* note 42, ch. 2.

45. *E.g.*, GARRY PAULIN, VOYTEK THE SOLDIER BEAR (2008).

46. *E.g.*, KISTLER, *supra* note 42, ch. 5.

B. Unmanned Maritime Vehicles

The longer and arguably more detailed development of the law of the sea and of naval warfare, combined with the nature of the maritime environment, treats unmanned maritime vehicles somewhat differently. The first problem of nomenclature is that “unmanned maritime vehicles” may mean many different things. The category includes unmanned underwater vehicles (UUVs), unmanned surface vehicles (USVs) and unmanned vehicles which, while not aircraft in the sense previously discussed, affect airspace from the sea, for example in weapon delivery. All of these vehicle types may be launched from the surface, underwater or from the air, and they may make way themselves in the water or may be towed or tethered. Some may also meet the definition of an unmanned combat underwater vehicle, such as the CAPTOR mine. In use since 1979, this mine is emplaced by torpedo and is programmed to launch a second torpedo when a hostile acoustic signature is identified.⁴⁷

More recent technology emphasizes “bio-mimicry,” such as the U.S. Navy’s “GhostSwimmer” UUV, which was tested in December 2014. This five-foot fish-shaped UUV is designed to “swim” by oscillating its tail and is intended to provide a capability for “low visibility intelligence, surveillance and reconnaissance . . . missions and friendly hull inspections.”⁴⁸ This system will complement the use of actual “Marine Mammal Systems” (dolphins and sea lions) in mine detection and clearance operations, such as occurred with the REMUS vehicles used during the clearance of Um Qasr port in Iraq in 2003.⁴⁹

A second problem of nomenclature concerns the issue of how to classify UUVs. Academic consensus seems to be forming, relying on the COLREGs (popularly known as the Rules of the Road),⁵⁰ that a vehicle controlled from shore meets the definition of a ship or vessel for the pur-

47. See further, Rob McLaughlin, *Unmanned Naval Vehicles at Sea: USVs, UUVs, and the Adequacy of the Law*, 21 JOURNAL OF LAW, INFORMATION AND SCIENCE 100, 101–2 (2012), and the references he cites.

48. Edward Gutierrez III, *Navy Tests New Unmanned Underwater Vehicle at JEBLC-FS*, AMERICA’S NAVY (Dec. 12, 2014), http://www.navy.mil/submit/display.asp?story_id=84845.

49. Hunter Keeter, *UUV Master Plan—New Capabilities, New Vehicle Class*, UNDERSEA WARFARE: THE OFFICIAL MAGAZINE OF THE U.S. SUBMARINE FORCE, Spring 2005, at 10, available at http://www.navy.mil/navydata/cno/n87/usw/issue_26/uuv.html.

50. Convention on International Regulations for Preventing Collisions at Sea Oct. 20, 1972, 28 UST 3459, TIAS 8587, 1050 U.N.T.S. 17.

poses of the law of the sea, provided it can make way (compared to floating debris, for example).⁵¹ While McLaughlin classes a USV/UUV operated from shore as “capable of strict characterization as a warship,” he prefers to achieve sovereign immune status for them by categorizing them as government ships operated for non-commercial purposes.⁵² This becomes problematic for the prohibition against perfidy if the vehicle is used to cause death, destruction or capture in armed conflict. If controlled from a ship or aircraft, it will share the legal status of that craft,⁵³ a limit which would tend to require that, to avoid committing perfidy, an unmanned maritime system would need to be operated from a warship or military aircraft during armed conflict. If considered to be a separate vessel, then it would need to meet marking requirements and, as set out above, if operated by military personnel those personnel would need to distinguish themselves through the wearing of uniforms.

To these complexities must be added the further refinements that military UUVs, like warships as discussed above, are in some circumstances not required to be physically marked and when submerged are not in any case identifiable by such means. When also operated by civilians, how then does such a UUV, used to kill or wound the enemy, not bring itself within the purview of the prohibition on perfidy? And yet it is not the case that the use of UUVs to kill, wound or (in an international armed conflict and assuming it is physically possible) capture the enemy is prohibited as a method of warfare. Similarly, both the rules governing prohibition on perfidy at or from the sea and the traditionally legitimate ruse of flying a false flag lack helpfulness in a “highly electronic environment and with over-the-horizon or beyond-visual-range capabilities.”⁵⁴

A more effective solution is to refocus on the actual requirements of perfidy. As Melzer emphasizes in his seminal analysis of the law governing targeted killing, the essence of perfidy is the “deliberate” creation of good faith, through acts inviting the enemy’s confidence as to their legal obligations.⁵⁵ This question of deliberateness may be the solution to the challeng-

51. *E.g.*, McLaughlin, *supra* note 47, at 111–12.

52. *Id.* at 110.

53. Wolff Heintschel von Heinegg, *The Current State of the Law of Naval Warfare: A Fresh Look at the San Remo Manual*, in *THE LAW OF WAR IN THE 21ST CENTURY: WEAPONRY AND THE USE OF FORCE* 269, 272 (Anthony M. Helm ed., 2006) (Vol. 82, U.S. Naval War College International Law Studies).

54. *Id.* at 280.

55. NILS MELZER, *TARGETED KILLING IN INTERNATIONAL LAW* 372 (2008).

es of marking emerging platforms. If the UUV is either actually or in effect unmarked so that there is no issue of misuse of emblems, then the better question may be whether there has been a deliberate effort to invite confidence as to status vice an attempt merely to take advantage of the enemy's lack of observation. That is, if an unmarked UUV is not purporting to be a protected civilian object (if that is possible without misuse of emblems) but instead a fish (mimicry) and the enemy *assumes* that it is untargetable because it does not seem to them to pose a threat, then the issue is closer to that of camouflage as a legitimate ruse, rather than perfidy. In an era where UCAVs, UAVs, UUVs, etc. are known to be in use in conflicts that often transcend traditional formulations of marking and targeting because they do not necessarily proximately involve armed military combatants, there may need to be reconsideration of where the risk should lie between adversaries, as long as there is no misuse of specially protected emblems and distinction from the civilian population is not a factor.

C. *Autonomous Weapons on Land*

As discussed at Parts III.A and III.B, a key distinguishing legal feature between land vehicles and aerial vehicles—and subject to some limitations, maritime vehicles—is that there is no treaty or customary law requiring land vehicles to bear distinguishing marks. Military forces are obliged only to ensure vehicles do not bear false external marks, whether those are emblems of special protection, neutrality or, in more limited circumstances, of the enemy. Accordingly, so long as an unmanned ground vehicle (UGV) does not look like a human, there is no requirement for it to bear distinguishing external marks.

As with camouflaged UCAVs, a UGV camouflaged to look like an animal (for example, a mule) would not be required to bear distinctive external marks. However, the authors submit, *de lege ferenda*, that a UGV that had broad human form should bear a fixed distinctive emblem recognizable at a distance (for example, the uniform of the military forces operating or deploying the UGV) in similar circumstances to combatants. The rationale for this position is that the purpose behind the rule requiring combatants to distinguish themselves from the civilian population is the protection of the civilian population. A UGV with broad human form that did not bear a fixed distinctive emblem recognizable at a distance would endanger the civilian population.

Again, there is the issue of who is operating the UGV. As with UCAVs and UUVs operating independently of a ship, if it is a civilian who is operating the UGV, there can be no question of perfidy as a civilian cannot feign civilian status. However, unlike with aircraft, it has never been the law that combatants in or on a land vehicle need not wear a uniform. Accordingly, and *a fortiori* in an international armed conflict, the military crew of a UGV must distinguish themselves from the civilian population. Again, the requirement to wear a uniform applies regardless of whether the crew is proximate to or distant from the battlefield. Finally, the same two exceptions discussed for UCAVs (the application of Article 44(3) and the uncertainty of the law applicable in non-international armed conflicts) apply to UGVs.

D. Cyber Attacks

As is apparent from the above analysis, the operational environment (land, maritime or air) affects the determination of the appropriate rules of the law of armed conflict. The authors submit this carries over to cyber in the sense that the location of the hardware being used to conduct the cyber attack⁵⁶ is relevant in determining the applicable rules. Unfortunately, what can be stated as a simple proposition is not so simple in reality. For example, assume a cyber attack is initiated from a warship, but is routed through a land-based network. Is it the law of maritime or land warfare that applies—or both? We will return to that question later; but, in the meantime, two general propositions can be set out.

First, it is prohibited to launch a cyber attack that directly contributes to the killing, injuring or, where API applies, capture of an adverse party by perfidious means. The *Tallinn Manual*, comprising a number of rules and associated commentary, is currently the most comprehensive work addressing the application of the law of armed conflict to cyber operations.

Uncontroversially, Rule 60 states that the prohibition on perfidy applies to cyber operations and Rule 61 states that ruses are permitted in cyber operations. Unfortunately, what amounts to perfidy in cyberspace is much less clear. Sending an e-mail falsely claiming to be an invitation to a meet-

56. The term cyber attack is used consistent with its definition in Rule 30 of the *Tallinn Manual*: “A cyber attack is a cyber operation, whether offensive or defensive, that is reasonably expected to cause injury or death to persons or damage or destruction to objects.” TALLINN MANUAL ON THE INTERNATIONAL LAW APPLICABLE TO CYBER WARFARE 106 (Michael N. Schmitt ed., 2013) [hereinafter TALLINN MANUAL].

ing with the ICRC or a false surrender, both with a view to ambush, would be perfidious.⁵⁷ Equally, it would be perfidious to falsely mark military websites or IP addresses in such a way as to make them appear to be civilian.⁵⁸ However, it would not be perfidious to either fail to mark military networks, sites, etc. as military or to use actual civilian networks to launch attacks.⁵⁹ It would be unlawful to use a network entitled to special protection, such as a hospital network.⁶⁰ It would also probably be perfidious for the person launching the attack to feign civilian or other protected status.⁶¹ Thus, how the prohibition on perfidy applies to cyber attacks is nuanced.

Second, the prohibitions on misuse of protective emblems and emblems of nationality also apply to cyber operations beyond just cyber attacks resulting in injury, death or capture. Cathcart provides this example: “the manipulation of the enemy’s targeting database so that a friendly military headquarters appears as a hospital would constitute perfidy.”⁶² While the authors submit it would be perfidy *simpliciter* only if the headquarters was directly involved in planning and executing operations to kill, injure or capture the adversary, Cathcart’s point—that there is a general prohibition on misusing emblems of protection that has a considerably more expansive operation than the results-focused limits of the rule against perfidy—is well made.

Importantly, however, the broader rule does not prohibit all means of feigning protected status, but only the misuse of protected emblems, signs and signals. So, while it would be unlawful for a soldier to falsely wear an ICRC armband to gain access to an enemy’s prisoner of war camp to conduct reconnaissance for a future prison break, it would not technically be unlawful merely to orally claim to be from the ICRC and request permission to inspect the camp. Therefore, if the headquarters is not used directly to kill, injure or capture the adversary (e.g., it is a logistics facility), it must be questioned whether it actually would be unlawful to alter the enemy’s targeting database in the way Cathcart describes, unless actual use is made

57. *Id.*, cmt. to rule 60, ¶¶ 5–6.

58. *Id.* ¶ 12.

59. *Id.* ¶¶ 12, 14.

60. *Id.* ¶ 14.

61. *Id.* ¶ 13.

62. Blaise Cathcart, *Legal Dimensions of Information Operations*, in *THE HANDBOOK OF THE LAW OF INTERNATIONAL MILITARY OPERATIONS* 404, 412 (Dieter Fleck & Terry Gill eds., 2010).

of the protected *emblem*—as might be the case if the database identified medical establishments pictorially.

Returning to the matter of the origin of a cyber attack, this issue is briefly mentioned in the *Tallinn Manual* in the commentary to Rule 64. In short, the experts participating in the development of the *Manual* could only agree that “that the law is unsettled as to whether a cyber attack would be permitted from a warship displaying enemy or neutral flags.”⁶³ Unfortunately, there is no explanation why a cyber attack that downs an enemy aircraft should be treated any differently from the launch of an anti-aircraft missile. Hopefully this issue might be clarified in future editions of the *Manual*.

IV. CONCLUSION

There is significant contemporary debate concerning perfidy and related concepts in armed conflict. There is further debate about the application of the law of armed conflict to emerging technology. Taken together, much more work still needs to be done on analyzing how the law concerning perfidy will apply to emerging technologies. The authors hope this article has helped contribute to that debate. In addition, we believe the application of the law to existing means and methods of warfare can be illuminated by considering that law in novel circumstances, thereby leading to a deeper understanding of existing principles and rules and their application to current means and methods of warfare.

63. TALLINN MANUAL, *supra* note 56, r. 63, ¶ 8.