Bellum Americanum: The U.S. View of Twenty-First-Century War and Its Possible Implications for the Law of Armed Conflict

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For nearly as long as humans have engaged in organized violence, there have been attempts to fashion normative architectures to constrain and limit it. Such architectures—labeled the law of armed conflict in late-twentieth-century parlance—are the product of a symbiotic relationship between law and war. At times, man, fearful that warfare is evolving in a negative direction, acts proactively through law to forestall possible deleterious consequences. Thus, for example, many States, including the United States, have agreed to ban the use of blinding lasers in advance of any military force fielding them.1 Much more frequently, however, law has proven reactive.2 Indeed, in the twentieth century, codification efforts have followed major wars in almost lock-step fashion.3

As the global community enters the next millennium, it is a propitious moment to consider how this symbiosis between war and the law of armed conflict will continue to evolve. That is the purpose of this essay. It begins by

The opinions shared in this paper are those of the author and do not necessarily reflect the views and opinions of the U.S. Naval War College, the Dept. of the Navy, or Dept. of Defense.
asking what warfare might look like in the twenty-first century. This prognosis provides the foundation on which to offer suggestions as to how law might respond to future war.

Two obstacles stand in the way of any predictive endeavor along these lines. First, it quickly becomes apparent that there are myriad reasonable alternative futures, for the universe of variables is vast. Who are likely to be the core adversaries of the next century? How technologically advanced will these notional opponents be, and what might they target? What types of conflict will dominate the future? Will States generally fight alone, or cooperatively under an umbrella organization such as the UN, NATO, WEU, or even the European Union? How will economic, political, ethical, and social forces affect weapons development and acquisition?

The second obstacle is more basic. Even assuming arguendo that a “best” guess can be discerned among potential futures, history, as Arthur Schlesinger has noted, “teaches us that the future is full of surprises and outwits all our certitude.”4 Who, for example, watching the Wright brothers’ Flyer in 1903 would have predicted that air power would dominate late-twentieth-century warfare or that reconnaissance would be conducted from man-made objects circling the earth?5

Despite the fog obscuring the future, the search for its correct trajectory is a necessary exercise in our efforts to affect it positively. This essay acknowledges the uncertainty involved but evades its full force by focusing on a particular alternative future, what will be called here Bellum Americanum—American war, the view of future war and warfare most prevalent in U.S. military circles. Use of the model should be judged neither xenophobic nor ethnocentric. Rather, it was selected because its vision is, in a relative sense, developmentally mature. Moreover, as the construct of a technologically-oriented military wielding significant influence over how even combined operations6 are executed, the U.S. approach will likely exhibit determinative influence over warfare’s evolution for the foreseeable future.

After describing Bellum Americanum at some length, the essay turns to the “stressors” it presents for the current law of armed conflict. The term “stressors” is used to suggest that law evolves as it is stressed by changing circumstances. Much as water seeks a constant level, law inevitably moves to fill normative lacunae. Correspondingly, law loses its normative valence when it no longer serves “community”—a relative concept—ends. Thus, law is contextual and directional. It is contextual in the sense that it is understood and applied based upon the specific social, economic, political, and military milieu in which it operates. It is directional, for it is characterized by distinct
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vectors; its generation or demise is rarely spontaneous or random. Cognizant of the suspect character of any predictive effort, then, this essay will describe and analyze how the context of a notional future, *Bellum Americanum*, might affect law substantively and directionally. Of course, only time can validate the approach.

The U.S. Vision of the Twenty-First-Century Political-Military Environment

In the U.S. vision of the twenty-first-century world, the gap between rich and poor States—between “have” and “have-nots”—will continue to grow. This chasm will result in great part from the ability of developed States to leverage their comparative economic and technological advantages. At the same time, global economic interdependence will increase due to specialization in production by individual countries or blocs thereof. That interdependence may play itself out in the form of regional trading blocs, possibly dominated by a single State. As might be expected, State-centrism will continue to weaken in the face of the growing influence of intergovernmental and nongovernmental organizations, multinational corporations, and even terrorist groups and international criminal syndicates.

Within the developed world, increased economic well-being and wider diffusion of advanced technology will give a greater number of States the wherewithal to play a consequential role on the international scene. In particular, more States will be able to invest more in weapons acquisition. Economic and technical prowess will also allow additional States to develop an indigenous weapons production capability, a destabilizing trend that would likely lead to further proliferation of high-technology weapons.  

On the other side of the chasm, the lesser and undeveloped countries will suffer from declining standards of living. Citizens of the disadvantaged States will be increasingly aware of their plight due to the pervasiveness of mass communications. The result will be, at least in some areas, unrest and instability, as the “have-nots” are sensitized to the gap between themselves and the “haves.”

Regional conflict is expected to remain the major threat to international peace and security, and there will be an increasing likelihood of asymmetrical challenges. Stymied by the relative dominance of the United States and its allies in conventional warfare, opponents, whether States or not, will consider such unconventional means as weapons of mass destruction, information warfare, and terrorism to strike less traditional centers of gravity. Many threats will be transnational in nature—such as international drug and weapons trade;
political, religious, or ethnic extremism; environmental damage—and the risk of "wild card" events, i.e., unanticipated occurrences that fundamentally change the international power scheme, will always be present.

Security specific visions of the next century are the byproduct of these larger trends. Military power will continue to be a major determinant of national strength, though resort to force by developed States will most often be in collaboration with others. Proliferation of conventional weapons will be widespread, and the number of nuclear powers will grow. Military forces will continue to be called on to conduct humanitarian operations and deter the spread of regional conflict, as in the case of Bosnia.

In the developed world, militaries will become smaller, compensating for their loss of personnel and equipment by leveraging technology to allow them to fight asymmetrically against larger forces. Lesser developed but upwardly mobile countries, particularly those which aspire to regional dominance, will retain large standing armies because of the symbolism of such forces. Terrorism will be a growing factor in military planning, particularly if terrorists acquire nuclear, chemical, or biological weapons.

Warfare will become ever more driven by and dependent upon technology. Advances in microtechnology, biotechnology, and information technology will radically transform the weapons of war and the way war is fought. So too will the growing dependence of the military on space-based assets. As society and warfare evolve, the desired targets of war will also shift. The goal will still be to strike decisively at an enemy's center of gravity (or that of a target State or, in situations short of armed conflict, non-State actor), but what constitutes a center of gravity in the future may radically differ from those with which warfighters are familiar today. It is clear that the old paradigms of war and warfare are being broken as we enter the next millennium.

The U.S. Response

In order to deal effectively with this uncertain geopolitical environment, the United States has fashioned a national security strategy labeled "Engagement," the underlying premise of which is a rejection of isolationism in favor of the post–World War II global involvement in world affairs—illustrated by the Marshall Plan, NATO, the UN, the International Monetary Fund, the World Bank, etc.—that is viewed as having won the Cold War. Because there are no well-defined adversaries, the military component of the strategy is capability, vice threat, based. The goal, one that will likely continue in rough form into the foreseeable future, is to "be able to deter and defeat nearly simultaneous,
large-scale cross border aggression in two distant theaters in overlapping time frames, preferably in concert with regional allies. This capability to fight and win two major theater wars is complemented by the ability to conduct “multiple, concurrent smaller-scale contingency operations,” such as limited strikes, no-fly-zone enforcement, sanctions monitoring, or peacekeeping/enforcement operations.

Operationally, these capabilities (and any others for which the need may surface) will be achieved through “full spectrum dominance,” the ability to dominate warfare whether it occurs in space, the air, on land, or at sea, and regardless of the level of hostilities. “Joint Vision 2010” is the U.S. articulation of how this will be accomplished in the twenty-first century. It advances operational concepts, made possible through technological innovation and information superiority, that express how the United States will fight in the future. Three are particularly relevant to this essay.

The first, “dominant maneuver,” is “the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint air, land, sea and space forces.” In the past, battlefields were generally linear—fielded forces faced each other across a geographically distinct line. In dominant maneuver warfare the battlefield is replaced by the battlespace, with force being applied from a wide variety of precision platforms, which are maneuvered in synchronization with other platforms to defeat a target pinpointed by superior information capabilities.

“Precision engagement,” the second operational concept, “will consist of a system of systems that enables [U.S.] forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess our level of success, and retain the flexibility to reengage with precision when required.” The concept of precision implies more than precise weapons; it is the ability to achieve a desired effect on a specified objective. Key to the concept is a robust surveillance and reconnaissance capability and a collection of weapons systems that can generate just the right degree and kind of effect. Complementing precision engagement is “full-dimension protection,” which will employ information technology to enhance the survivability of U.S. forces. It is based on the truism that the easiest threat to deter is often a known one.

Conceptually, then, warfare as envisioned in “Joint Vision 2010” will be fast-paced, mobile, and highly lethal. An array of information gathering and processing assets will operate synergistically to generate greater situational awareness of the battlespace and provide the means necessary to shape it. If successful, the warfighter of tomorrow will be able to operate within the
enemy’s decision cycle. This alternative future will cause new law to surface and highlight that which is no longer responsive to its context.

The Revolution in Military Affairs

The question *du jour* among those who focus on security issues is whether these operational concepts are being made possible by a “revolution in military affairs” (RMA).\(^\text{26}\) Revolutions in military affairs occur whenever the nature of war and warfare fundamentally changes.\(^\text{27}\) For instance, Napoleon’s use of the citizen-soldier in the French army of the 1790s presaged war involving entire societies. A more recent RMA occurred with the advent of nuclear weapons.\(^\text{28}\) In the then-existing bipolar world, offsetting nuclear arsenals led to war by proxy but deterred the major-power massive conflicts that had characterized inter-State conflict during the past century and a half. As in other RMAs, new weapons and defenses (e.g., nuclear mines and artillery, intercontinental ballistic missiles, and antiballistic missile systems) were fielded, and new operational concepts (e.g., limited nuclear options, extended deterrence, counterforce and countervalue targeting) were developed.

When they occur, RMAs generate fundamental change in the normative architecture of war. For instance, the carnage that resulted from the clash of mass armies during the Napoleonic era motivated much of Hague law. Further, the sheer size of the resulting conflicts, and the fact that they now often occurred where civilians were, led to greater suffering by noncombatants; Geneva law resulted.\(^\text{29}\) So too with the nuclear RMA. In the very short period since nuclear weapons have been in existence, and despite only two uses of atomic bombs, the global community has responded with treaties,\(^\text{30}\) attempts to articulate customary law,\(^\text{31}\) and judicial opinions.\(^\text{32}\) The causal relationship between RMAs and law is apparent.

In the U.S. view, an RMA is well under way. The United States sees fundamental change in three areas: information operations, weapons systems, and space.\(^\text{33}\) This author would add a fourth area of change, one derivative of the other three—militarization of civilians and of civilian activities. *Bellum Americanum* clearly envisions a leveraging of the advantages offered by this revolution.

*Information Systems.*\(^\text{34}\) It would appear that Alvin and Heidi Toffler’s “Third Wave” is upon us.\(^\text{35}\) Most agree that the key to the RMA of the twenty-first century will be information.\(^\text{36}\) Recognizing the importance of information in
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warfare hardly represents a strategic epiphany; however, in the next century these capabilities will themselves be a key source of national power.37

Many of the powerful information technologies are next generation improvements on current systems.38 For example, by the early part of the twenty-first century, satellites will offer worldwide coverage any time of day and with astonishing spatial resolution. The future may even include sound sensors powerful enough to allow a satellite to detect conversations on earth.39 Advances in artificial intelligence will allow this data and that from other sensors to be fused, organized, and disseminated almost instantaneously.

Even more fantastic are new technologies. Consider micromachining. Scientists now believe that in the future they will be able to build robots, disguised as insects, that will have both optical and communications capabilities. Such systems could be used in areas where current systems are ineffective, like jungles with thick canopies. Some scientists believe that the sensors may one day approach the size of dust mites40 and be seedable by unmanned aerial vehicles (UAV). More amazing still, micromachined sensors may be able to taste and smell—useful senses when seeking out chemical weapons or finding objects made with a particular substance, such as the metal of military vehicles or aircraft.41 Of course, whether new or improved, sensor technologies are no panacea, a fact well illustrated by the futile attempt to destroy mobile Scuds during the Gulf War.42

The ultimate benefit of information technologies is that they allow the warfighter to get inside his opponent’s OODA—observe, orient, decide, act—loop and shape the battlespace before his adversary can. This represents a decisive advantage. For instance, in the not-too-distant future the individual soldier will be equipped with the Land Warrior Modular Fighting System. Its components include a helmet-mounted computerized display tied to an improved weapon with a thermal sensor capable of night vision and an image enhancer for accuracy. The system will be capable of seeing around corners and over barriers, and of digitizing images for transmission up the chain of command. Soldiers of tomorrow will be able to view real-time “picture maps” on eye-sized video displays. Not unexpectedly, they will also be equipped with computers linked to others in their unit. The net result will inevitably be a more lethal soldier, and one able to operate more autonomously in the heat of battle.43

Similar enhancements will pervade other arenas of armed conflict. Combat aircraft will benefit from information gathered by sensors on other aircraft, as well as space and ground-based sensors and uninhabited reconnaissance aerial vehicles (URAV).44 This will improve targeting precision, enhance
survivability, and reduce the possibility of fratricide. Shipboard information improvements may include the Force Threat Evaluation and Weapon Assignment System, being tested by Johns Hopkins University. The system will fuse data from all of a naval battle group’s radars to create a three-dimensional display containing graphics, rather than symbology, of threats; it will then recommend which should be engaged and when.45

At the operational (theater) and strategic levels of warfare, decision-making will be enhanced by the new C4ISR technologies.46 Senior commanders will be able to literally watch the battle unfold. The transparency of one’s opponents and the reliability and ease of communication with subordinate units will produce an unprecedented operational tempo. In particular, access to on-demand, real-time information will allow real-time planning, rather than the current practice of executing plans developed in advance of the engagement.47

Lest information be considered a panacea, it must be recognized that the technology proponents of the new era herald may generate little more than additional Clausewitzian fog of war. For instance, microminiaturization will enhance stealth (that is, low-observable/masking technologies, or LOMT), as will active-radio-frequency and next-generation passive infrared capabilities.48 Similarly, by the removal of their pilot and cockpit—producing “uninhabited combat aircraft vehicles” (UCAV)—aircraft can be designed with radar cross-sections reduced by a factor of two (or four against area-surveillance radars).49 A possible obstacle to transparency may be data overload—so much information that human decision-makers become overtired and overstressed, and therefore make bad decisions.50

Finally, the availability of the systems may breed unhealthy dependencies—and vulnerabilities.51 Today the U.S. military alone has over 2.1 million computers and ten thousand local area networks.52 Given their importance, information systems will be key targets. Indeed, during the Gulf War they represented the lead target set for Coalition attacks.53 If forces become dependent on information resources, will they be able to operate in the event of disruption?54 Will information enable the forces of tomorrow . . . or cripple them?

**Weapons Systems.** The second change underlying the RMA is a quantum leap in weapons systems capabilities. It is an exaggerated continuation of a trend that has been underway for some time. For instance, through 1943 the U.S. Eighth Air Force attacked only fifty strategic targets in Germany. By contrast, in 1991 Coalition air assets struck 150 strategic targets on the first day of the
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war alone. Improvements on this scale will continue into the twenty-first century; they can be grouped into two categories, weapons systems "intelligence" and weapons effect.

Advances in the first category are previewed by today's precision guided munitions (PGMs), colloquially known as "smart" weapons. In the next century, weapons systems will be much more than smart—they will be "brilliant." The key is the concept of a weapon system. Twenty-first-century weaponry will draw information from a wide variety of sources (a system), not simply from the launcher or onboard sensors, to identify a target, strike it, and report results. To illustrate, consider an attack on a suspected biological weapons facility. Because of the risk that the attack could release biologicals, precision is essential. One Air Force study describes the type of information that would be gathered prior to such an attack:

In the year 2025, sensor collection provides enough data for a virtual 3-D model of the [target] to include its composition, internal structure, baseline characteristics, and tendencies. Sensors determine the building's exact dimensions and floor plan. They then highlight soft spots. Sensors distinguish between rooms containing biological agents, test equipment, sleeping quarters, and even the snack bar. Target acquisition sensors also construct a baseline, or living archive, of data concerning routine activity and environmental conditions. Examples include the average number of people who enter and exit each day, the number of vehicles in the parking lot, and the level of noise generated by the facility.

Using this information, mission planners can determine when the facility appears to be generating biologicals, where they are stored, and when it can be struck without causing high numbers of civilian casualties. To destroy the biologicals before they can be released into the atmosphere, a warhead will be used that will actually count walls as it penetrates them to ensure explosion in the proper room.

Systems not only will be more capable of determining where to strike, they will be better able to strike the exact point selected. With global positioning, inertial navigation, and other guidance systems, in the not-too-distant future accuracy will be measured in centimeters, not meters as it is today. Weapons systems will also be much smaller due to miniaturized munitions technology (MMT), thereby allowing more weapons to be carried. In the future, a single UCAV carrying brilliant weapons for release far from the target may have the same effect as a flight of manned aircraft that would today have to fight its way to the release point.
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The second fundamental change in weapons, that of effect, will abandon the approach of this century, whereby most weaponry destroys through penetration and explosive force. In the twenty-first century the continuum of effect will be multidimensional; explosives will predominate but be much more refined. For example, microtechnology will make possible microexplosives, mere grams of which can destroy targets. At the other end of the spectrum, nonlethal weapons (also known as “less lethal,” inasmuch as they still have the capacity to kill) will increasingly be employed to limit collateral damage and incidental injury during armed conflict and provide commanders greater tactical flexibility during peace operations.

The variety of nonlethals being considered is impressive. Acoustic weapons can produce sound frequencies that disorient, cause pain, and bring on nausea. Microwave weapons will be able to induce seizures or simply bring on discomfort by raising the target’s body temperature. There is even some discussion of sleep-inducing agents. Nonlethals can also incapacitate weapons and equipment. Electromagnetic-pulse weapons generate radio-frequency wavelengths that damage electrical components, usually without causing direct harm to humans. Supercaustics and liquid metal-embrittlement agents will attack surfaces, the former by corroding them (bridges, optical lenses, roads, tires, etc.), the latter by making them brittle and thereby liable to fracture in use. Both could be delivered by shell or sprayed from an aircraft. Microbes that eat rubber, silicon, electronics, and even oil have also been mentioned as possibilities. Seemingly more benign are “stick-ums” and “slick-ums.” The first uses polymers that form a sticky foam capable of immobilizing humans without killing them; a variant is a “super glue” that can be dispensed from the air to foul weapons and equipment components. Slick-ums, by contrast, coat surfaces with an antitraction chemical that make them difficult to walk or drive upon.

Finally, given the reliance of future war on information systems, it is inevitable that weapons will be developed to attack them. Such traditional tactics as jammers or missiles that home in on specific electronic signals will continue to be refined. More revolutionary will be attacks on computer networks, sometimes called “hacker war.” This form of warfare includes sending computer viruses into an adversary’s computer system to destroy or alter data and programs. For example, “logic bombs” can be introduced that sit idle in a computer system, awaiting activation at the occurrence of a particular event or a set time; an air defense system logic bomb might be set to “explode” only when the missile launch sequence is initiated. Other techniques for disrupting an information system are as simple as flooding it with false
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information, or using “sniffer” programs to collect access codes that allow entry into a target system. In some cases, such attacks may occur without revealing the source, or even the fact, of the attack.

**Space.** The third defining aspect of the current RMA is the use of space. In much the same way that the airplane revolutionized twentieth-century warfare by opening a third medium from, through, and in which to fight, so too will access to space revolutionize warfare in the twenty-first. The value of space operations was illustrated dramatically during the Gulf War. By the twenty-first century, they will transform how war is fought, the lethality that can be brought to bear against military objectives, the degree and nature of collateral damage and incidental injury to civilians and civilian objects, and even where conflict will occur. Space, after all, is the ultimate high ground, that objective that militaries have sought since the first combat; the fact that it is a high ground of infinite depth renders it more valuable still.43

Control of space, then, is an alluring prospect. The United States Space Command envisions space control—the ability to defend one’s own space assets from space or ground-based threats while denying the use of space to an opponent.44 The reasoning is clear:

[S]o important are space systems to military operations that it is unrealistic to imagine that they will never become military targets. Just as land dominance, sea control, and air superiority have become critical elements of current military strategy, space superiority is emerging as an essential element of battlefield success and future warfare. . . . An increased dependence on space capabilities may lead to increased vulnerabilities. As space systems become lucrative military targets, there will be a critical need to control the medium to ensure U.S. dominance on future battlefields. Robust capabilities to ensure space superiority must be developed—just as they have been for land, sea, and air.45

Should space control operations become a reality, the next logical step is force projection from space. Not surprisingly, the USAF Scientific Advisory Board is already discussing such possibilities as space-based lasers, or space-based mirrors to direct lasers on the ground.46 Space is clearly the next arena of warfare in the Bellum Americanum.

**Militarization of Civilians and Civilian Activities.** The final factor revolutionizing warfare is a growing military dependency on civilians, and on civilian objects and activities. This continues a trend that began with Napoleonic warfare and the advent of the Industrial Revolution. By the time of
the Second World War, civilians and civilian objects were being attacked directly, reflecting their criticality to military forces. In the future, the relationship with civilians and civilian activities will be closer still. As drawdowns in military forces occur in the developed world, many of the activities traditionally performed by military personnel are being assumed by civilian contractors. For example, the U.S. military is contracting out aircraft maintenance, facilities maintenance, base security, transportation, communications, and the feeding and housing of troops. Increasingly, it is approaching a point where “member of the armed forces” will be synonymous with “trigger-puller.”

Moreover, as emphasis shifts to information operations, equipment becomes less identifiable as military in character. The push to purchase “off-the-shelf” products in order to lower acquisition costs means that a device’s character is a matter of the use to which it is put. Indeed, the bulk of information operations hardware and software comprises commercial products adapted to military use. As former Vice Chairman of the Joint Chiefs of Staff, Admiral William Owens, has noted,

Today, the center of technological acceleration in each of these technologies [battlespace awareness, C4I, and precision use of force] lies generally in the commercial, non-defense sectors. Our ability to accelerate the fielding of systems, on which we will base our future military superiority, thus depends on our capacity to tap into developments taking place for the most part outside the existing Department of Defense laboratory and development infrastructure.77

Compounding the difficulty of distinguishing civilian from military is the fact that to keep costs low, many facilities—ranging from office buildings to airports—are shared by military and civilian operations. Such sharing is particularly likely with space-based assets because of the cost of putting them in orbit. Thus, Space Command is actively seeking partnerships with commercial entities and consortia, sometimes multinational in character, as well as with civilian agencies (e.g., NASA) involved in space operations. It also seeks links with foreign and international space operators, such as the European Space Agency.78

The Legal Implications of Bellum Americanum

As noted at the outset, the context in which law operates determines its content. Changing contexts cause stress to existing normative architectures, causing new law to emerge, or outdated and irrelevant law to fade away. The
remainder of this essay will shift from the predictive to the speculative, suggesting certain stressors found in *Bellum Americanum* and their possible effects on the current law of armed conflict. The catalog is neither exhaustive nor definitive, but merely the reflections of one writer on the possible implications of one alternative future. Moreover, the analysis is not an effort to suggest lex ferenda. The goal is to posit probable normative vectors, rather than offer aspirational visions of the twenty-first century.

**Jus ad Bellum.** *Bellum Americanum* will stress the current *jus ad bellum* in a number of significant ways. Most fundamentally, the concept of war and peace—of the difference between an act that is merely unfriendly and one that is wrongful as a threat or use of force under Article 2(4) of the United Nations Charter—will be strained. In particular, because information operations “attack” an adversary without actually employing force in the kinetic sense, they will raise serious questions about what constitutes “force.” Should the term include State-sponsored or State-conducted hacker attacks on a country’s banks, communications networks, or stock exchange? Does it make a difference if the operations are conducted to “prepare the battlefield” in anticipation of an actual conflict by, for instance, destroying military deployment plans and reserve force records, corrupting intelligence systems, or sending satellites off course? Similar stressors exist vis-à-vis the Article 39 threats to the peace, breaches of peace, or acts of aggression that empower the Security Council to authorize Chapter VII responses. Moreover, the information era will challenge the concept of self-defense, both under Article 51 and the Inherent right found in customary international law. Under what circumstances might a State be justified in responding with force to an information attack? Might such an attack constitute an “armed attack” under Article 51? When may a State use information operations in anticipation of an armed attack?

Arguably, such stressors might move the *jus ad bellum* in the direction of a regime based on consequences, vice acts. In the current normative scheme, the consequences of an act are often less important than its nature. For instance, a devastating economic embargo is not a “use of force” or an “armed attack” justifying forcible self-defense, even though the embargo may result in enormous suffering. On the other hand, a relatively minor armed incursion across a border may constitute both a use of force and an armed attack. This contrary result derives from the law’s use of “acts” as a cognitive shorthand for what really matters—consequences. Acts are more easily expressed (to “use force” versus to cause a certain quantum and quality of harm) and more easily
discerned than a standard based on effects, on the harm suffered. This
synecdoche does not work well in the age of information operations because
information attacks, albeit potentially disastrous, may be physically
imperceptible. Thus, as the nature of an hostile act becomes less determinative
of its consequences, current notions of “lawful” coercive behavior by States and
the appropriate responses thereto are likely to evolve accordingly.

Even beyond information warfare, the reality of military operations in the
next century will stress existing distinctions between a premature use of
“defensive” force and valid self-defense. In tomorrow’s high-tech battle the
first shot may be the last. As weapons become more lethal, the incentive to
strike first grows, and the threshold for preemption in self-defense on the basis
of apparent hostile intent drops precipitously.

Bellum Americanum may also call into question jus in bellum participatory
notions. Since the Peace of Westphalia in 1648 and the rise of the
nation-State, war has been the province, and until the turn of this century the
prerogative, of States. When non-State actors have participated in organized
violence, the normative paradigm has been that of international and domestic
criminal law, not the law of armed conflict. Even the involvement of
international organizations is a relatively new phenomenon.

Yet if the U.S. vision is accurate, in the next century military forces will
increasingly face non-State actors, ranging from terrorists to drug cartels. As
that occurs, there will be growing pressure to articulate neoteric legal
justifications for forceful responses. Consider Operation EL DORADO
CANYON, the 1986 strike on targets in Libya in response to Libyan-supported
terrorist attacks against Americans in Europe, including the La Belle Disco
bombing in Berlin. Though justified at the time in terms of self-defense, it has
been difficult to articulate the instant and overwhelming need to resort to
force once those bombings had taken place. Or consider a hypothetical
well-guarded drug laboratory in a remote region: under current international
law, there is no legal basis for bombing the facility if more traditional law
enforcement techniques fail. Or consider even a terrorist group that acquires
biological weapons but is sheltered by a rogue State. Again, under present law
there are no grounds for attacking the group until the point when it actually
employs (or is about to employ) the weapons. If twenty-first-century national
security threats are to come from non-State actors, then the law governing the
resort to force is bound to evolve in a way that permits an effective defense
against them. This will necessitate either blurring the State–non-State actor
distinction or sharpening it by a new body of law governing actions against
non-State actors.

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The Jus in Bello Generally. In terms of the jus in bello, the differentiation between international and non-international conflict will continue to be strained. Bellum Americanum sees more Bosnias on the horizon, as ethnic and religious tensions remain divisive. The applicative difficulties posed by the conceptually “neat” distinction between international and non-international armed conflicts—Additional Protocol II and common Articles 3 of the Geneva Conventions versus Additional Protocol I and the Conventions in their entirety—have been well illustrated in the seemingly contradictory conclusions regarding conflict status issued by the International Criminal Tribunal for the Former Yugoslavia. The difficulty of fitting future conflicts into what William Fenrick has labeled the “two box” approach will create pressures to dissolve the distinction. Resistance to this pressure will come, of course, from States who jealously guard their autonomy. Thus, the natural tension between humanitarian concerns and sovereignty, a tension evidenced in such issues as humanitarian intervention, will worsen as attempts are made to determine which law applies to which twenty-first-century conflicts.

Discrimination. Discrimination is a general principle of the law of armed conflict that requires an attacker to distinguish between civilians and civilian objects on one hand and military objectives (combatants or objects) on the other, and to use weapons capable of that discrimination. Paradoxically, despite vast improvement in weapons systems accuracy and battlespace transparency, complying with the principle may become increasingly difficult. The problem is that the lines between lawful targets and protected objects will blur due to the growing dependency on civilians and civilian activities during military operations.

The Additional Protocol I approach to ascertaining military objectives is relatively restrictive. Before an object may be deemed a legitimate target, it must “make an effective contribution to military action” and its destruction must offer the attacker a “definite military advantage.” Objects which make an effective contribution are those that are by nature beneficial to the military effort: weapons, aircraft, communications, etc. “Definite military advantage” refers to objects which contribute by virtue of their location (bridges, buildings used for shelter, etc.); such objects may not be attacked if only a “potential or indeterminate” advantage is anticipated. Civilians may not be attacked unless taking “direct part in the hostilities.” The International Committee of the Red Cross (ICRC) commentary to the Protocol defines “direct” as “acts of war which by their nature or purpose are likely to cause actual harm to the
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personnel and equipment of the enemy armed forces." When doubt exists, a presumption of civilian status attaches.

The degree of nexus between the object or individual to be attacked and military operations is already the subject of considerable debate. The United States generally opposes any interpretation as restrictive as that propounded by the ICRC. For instance, the U.S. Army has issued a legal opinion that mission-essential civilians working at U.S. bases during an armed conflict would be appropriate targets of attack by the enemy. Moreover, the most recent of the U.S. military manuals, The Commander's Handbook on the Law of Naval Operations, states that "[e]conomic targets that indirectly but effectively support and sustain the enemy's war-fighting capability may . . . be attacked." While this is not the place to resolve the debate, it is clear that a further blurring of the distinction can only increase pressures to render the standard less restrictive. By what logic, for example, would a civil engineer responsible for rapid runway repair at Base X be immune from direct attack when his military counterpart at Base Y would not be? An analogous dilemma is presented by objects. By current standards a munitions factory is a valid target. Given the essentiality of computers in twenty-first-century warfare, would not a Microsoft plant also offer an information-dependent military advantages that would merit a place for it on an air tasking order? Might the Internet itself be a lawful target?

The operational principle of "dominant maneuver" set forth in "Joint Vision 2010" is a further potential stressor for the principle of discrimination. As battle becomes virtual and nonlinear, as battlefields are transformed into battle spaces, military objectives and civilians and civilian objects will be increasingly intermingled. This diminishes the de facto protection formerly provided by distance from the forward edge of the battle area. While it is true that the fast-paced maneuver warfare of, for example, the German blitzkrieg made it difficult to achieve this protection, the difference from prior warfare was quantitative, not qualitative—civilians could still flee the onslaught. Dominant maneuver generates a qualitative evolution because, at least in belligerent territory, there are far fewer places to which to flee, perhaps none. Similarly, in the past strategic bombing could be avoided by moving from the vicinity of strategic targets. In the twenty-first century, by contrast, both the tactical and strategic fight may occupy the same space. Thus, civilians might move away from strategic targets (factories, storage facilities, etc.) only to find themselves in the midst of battle proper.

This reality is likely to encourage strengthened obligations for precaution in attack, particularly target verification. The information environment and
existence of brilliant weaponry will ease compliance, should this occur. One potential downside of the greater transparency of targets may well be that it encourages placement of military personnel and equipment near protected objects or persons in the hope that the other side will hesitate to attack lest harm befall them. The use by Saddam Hussein of civilians and cultural sites as shields is well known; indeed, since the conflict ended Iraqi civilians have flooded potential targets on numerous occasions to protect them in the face of threatened air attacks, against which the Iraqi military would likely prove impotent. In much the same way that Iraqi use of these tactics should not be particularly surprising, given their weakness vis-à-vis their opponents, the risk of similar practices in the notional asymmetrical battles of Bellum Americanum is especially high.

Perhaps an even more ominous prospect is that transparency may place a premium on perfidious acts by potential targets. If I cannot hide, perhaps I can survive by appearing to the enemy to be other than what I am. In fact, the relaxation of the criteria for combatant status in the past decades is historical precedent supporting such a likelihood. Recall that under the Regulations annexed to the Hague Convention IV, combatants were members of the regular armed forces (or formal militia), were commanded by a person responsible for their conduct, wore a fixed distinctive emblem (or uniform), carried their weapons openly, and conducted operations in accordance with the law of war. The 1949 Geneva Convention on Prisoners of War extended this status to members of an organized resistance movement which otherwise complied with the Hague IV requirements. This change was one of status, not acts. Thus, for example, Josip Broz Tito's guerrillas would have fallen within the definition.

As the nature of warfare evolved in the postwar period from primarily State on State to that of wars of national liberation and the like, many of the forces involved declined to distinguish themselves or carry weapons openly. The reason was quite practical. Facing a militarily superior force which occupied much of the territory in which they were operating, guerrilla fighters could not possibly make themselves so conspicuous and have any chance of success. This fact was recognized in Additional Protocol I's Article 44 exception for situations where "owing to the nature of the hostilities an armed combatant cannot so distinguish himself." In such cases, a combatant need only carry his arms openly "during each military engagement" and "during such time as he is visible to the adversary while he is engaged in a military deployment preceding the launching of an attack." Law responded to practicalities that rendered compliance difficult or dangerous for particular participants in the conflict.
The pervasiveness of surveillance and reconnaissance capabilities in next-generation warfare can only serve to exacerbate this trend, as the disincentives against distinctive clothing, etc., swell for many combatants. In light of the technology that will be available, even revealing themselves briefly during or immediately preceding an attack will prove risky. How States react to this reality will be driven by their perspective on the humanitarian issues presented. But just as it is not surprising that States who might be expected to face guerrillas tended to oppose Article 44 while those that either had arisen from guerrilla movements or were unlikely ever to face one did not, States which enjoy a technological advantage can be expected to resist further erosion of the standard. Those which are technologically disadvantaged may not.

A final aspect of the Bellum Americanum that may prove a stressor for discrimination is the use of nonlethal weapons. Nonlethals, while less deadly, tend to be less discriminatory. A slick-um will render a road treacherous for whoever passes down it, and an acoustic device is as likely to make a child playing nearby sick as it is to keep potential attackers away from a perimeter. Interestingly, the use of nonlethals derives from a desire to foster proportionality in warfare—less precise weapons are employed in lieu of more lethal ones. Accordingly, there will be significant support for relaxing the demands of discrimination when it conflicts with efforts to enhance proportionality by limiting the quantum of collateral damage and incidental injury.

Proportionality. Proportionality is the general principle in the law of armed conflict that prohibits means and methods of warfare that cause collateral damage to civilian objects, or incidental injury to civilians, disproportionate to the military advantage sought. The “Joint Vision 2010” operational concept of precision engagement enabled by information systems and brilliant weaponry is likely to push traditional proportionality calculations toward a point where immediately foreseeable collateral damage or incidental injury is unacceptable, at least when caused by a technologically advanced military. In the twenty-first century, the mere possibility of such damage may cause mission planners, or even individual soldiers, to shift to different weapons or tactics.

Collateral damage and incidental injury have historically been the product of three factors: (1) lack of full knowledge as to what is being hit; (2) inability to meter the amount of force being applied to the target; and (3) inability to ensure that a weapon strikes precisely the right point. With regard to the first,
consider the Al-'Amariyah bunker incident.\textsuperscript{118} Some three hundred
noncombatants were killed during the Persian Gulf War when U.S. aircraft,
unaware that civilians had entered the Iraqi command and control bunker
during the night, destroyed it. As to weapons availability and capability,
extended gaps along the continuum of force remain. For instance, because
nonlethals are absent from the inventory of most militaries, forces sent into a
crowd-control or perimeter-defense situation have nothing to resort to
between warnings or warning shots and the use of deadly force. Finally, in
terms of accuracy—and despite the morbidly spectacular film of PGM strikes
during the Persian Gulf War—the reality is that many weapons continue to
lack fully reliable precision guidance. Today, for instance, fighter-bombers still
“toss,” “dive bomb,” or simply drop the majority of their weapons, which in
most cases are unguided, general-purpose bombs.\textsuperscript{119}

Each of these obstacles will eventually be overcome by technology.
“Shooters” will be able to know what is they are hitting, and to hit it with a
weapon that applies only the amount of force necessary to destroy or disable it.
Accuracy will be nearly 100 percent. The commander, planner, and shooter
will no longer have to carefully weigh expected collateral damage and
incidental injury against the concrete and direct military advantage anticipated;\textsuperscript{120} properly planned and executed, an attack should necessarily
result in \textit{de minimus} collateral damage or incidental injury.

But civilian casualties will inevitably occur, and civilian objects will be
damaged and destroyed—even in the twenty-first century. The evaluation of
such results will turn on the exercise of “due care” in analyzing the target and
selecting weapons and tactics. Of course, this standard is operative today in
Article 57 of Additional Protocol I and in customary international law.\textsuperscript{121} The
difference in the future will be the complexity of the process, given the greater
availability of target information, wider selection of weapons, and the
discrimination difficulties noted above. The Al-'Amariyah bunker provides a
prototype of the concerns that will surround collateral damage and incidental
injury. In that case the weapon selected was the GBU-28, a
five-thousand-pound, laser-guided bomb able to penetrate twenty feet of
concrete before exploding. It was just the right weapon to use, because though
it would destroy the bunker, its laser guidance and the bunker's thick walls
rendered collateral damage and incidental injury outside the bunker unlikely.
The question, therefore, was not whether the ensuing deaths outweighed the
military advantage gained in destroying this important Iraqi command and
control facility, but whether the planners \textit{knew or should have known} there were
civilians therein.
Nonetheless, proportionality, as traditionally understood, will retain its utility in assessing reverberating effects, i.e., those effects not directly caused by the attack but rather by first-tier damage. The most often cited example is the attack on the Iraqi electrical grid during the Gulf War. That attack severely degraded Iraqi command, control, and air defenses; unfortunately, it also denied electricity to the civilian population, thereby affecting hospitals, refrigeration, emergency response capabilities, and so forth. This type of problem will only be exacerbated in the next century due to the interconnectedness of military and civilian functions. For instance, an attack on a satellite providing weather data necessary for flight operations may deny that information to agriculture, disaster relief operations, etc. Destruction of a satellite providing position data may likewise endanger civilian aircraft or ships by denying them essential navigational information. Shutting down a computer used to direct rail traffic, in an effort to disrupt the military logistic chain, may cause shortages of essential civilian goods. The spreading dependence on highly interconnected information and communications systems implies particular risks of reverberating effects during information warfare. These future realities will impel proportionality calculations towards a macro view of collateral damage and incidental injury.

Military Necessity. The full-spectrum dominance envisioned in Bellum Americanum will surely stress, in an unintended way, traditional understandings of military necessity. Under current norms, an actor must be able to articulate the imperative military advantage to be gained by an attack. “There must be some reasonable connection between the destruction of property [or individuals] and the overcoming of the enemy forces.” The problem is that as one faces an opponent capable of military domination across the diverse spectrum of war, one inevitably considers asymmetrical attacks, possibly using unconventional means.

The Iraqi Scud missile attacks against Israeli population centers were portentously archetypal. In no way did the attacks contribute to directly overcoming Iraq’s enemies; Israel was not even involved in the conflict. Yet the apparent randomness of the attacks disguised a clever attempt to fragment the coalition by drawing in the Israelis and thereby putting Arab Coalition members in the position of being supported by Israelis in an attack on fellow Arabs. Facing full-spectrum dominance, Saddam Hussein was seeking psychological means to weaken the forces facing him.

History teaches that forces facing vastly superior opponents often resort to seemingly random acts of violence. As incidents ranging from the bombing of
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the King David Hotel in Jerusalem to that of the Khobar Towers in Riyadh demonstrate, when frustrated in battle disadvantaged opponents often carry the fight beyond the fields of fire in order to rupture alliances, cause an enemy to lose the will to fight, or weaken public or international support for their adversary's war effort. If full-spectrum dominance becomes a reality, acts that would seem wanton or random—that is, not militarily necessary—are likely to be all that remain to the disadvantaged side. This may cause the concept of military necessity to slip over time, in much the same way that practicalities have caused a relaxation in the criteria for combatant status.

**Humanity.** By contrast, *Bellum Americanum* exhibits stressors which may suggest a heightening of the standards of humanity, a concept initially expressed in the St. Petersburg Declaration of 1868 in connection with prohibiting means of warfare that "uselessly aggravate the sufferings of disabled men, or render their death inevitable." The maturation of the principles of proportionality and necessity has subsumed much of humanity's original meaning; after all, to the extent suffering is useless it is militarily unnecessary and, because it offers no direct and concrete military advantage, disproportionate. What remains are *ab initio* prohibitions on methods and means of warfare that are not so much inhumane as inhuman. We intuitively recognize them as wrongful regardless of the context in which they occur. To some extent, they are acts which violate the "dictates of public conscience," acts that civilized people *just do not do*.

There has been a clear trend in the direction of prohibiting weapons on the basis of humanity, most recently evidenced by the Chemical Weapons, Biological Weapons, Conventional Weapons, and Anti-Personnel Mines conventions. There is little doubt that each of the prohibited weapons can be employed in specific scenarios so as to cause minimal suffering and little risk to civilians or civilian objects. The use of tear gas to protect a facility is more humane than firing a rifle. Similarly, Protocol IV of the Conventional Weapons Convention forbids the use of permanently blinding lasers, thereby driving soldiers to the use of lethal force to protect themselves. The rationale for these and analogous cases is humanity. However much sense it might make in a particular context, civilized human beings do not blind or poison each other, and therefore such behavior is outlawed.

Recall just some of the weapons imagined above for the twenty-first century—acoustic weapons that induce vomiting, microwaves that cause the human body to heat up, and electromagnetic pulses that will cause an airplane to fall to the earth after its engines shut down. Such weapons may be humane in
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certain circumstances, but there is little doubt that many individuals will react to them viscerally as inhuman. Given the current trend in humanity-based conventions, we can expect many of these weapons to be targeted for prohibition, regardless of their military necessity or the possibilities they offer for proportionate use.

Treaty Regimes. War as envisioned in Bellum Americanum will stress a number of treaty regimes. For instance, the 1972 Biological Weapons Convention prohibits the development, stockpile, acquisition, or retention of “microbial or other biological agents, or toxins in quantities that have no justification for prophylactic, protective or other peaceful purposes” and of “weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.”134 By this standard, the use of microbes capable of “eating” rubber, silicon, electronics, or oil is likely to be forbidden. Similarly, the 1972 Chemical Weapons Convention prohibits parties from developing, acquiring, stockpiling, or using chemical weapons. Chemical weapons include toxic chemicals which through their “chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals.”135 Many supercaustics and metal embrittlement agents could certainly fall into this category, and there is little doubt that sleep-inducing agents would.

A particular challenge posed by Bellum Americanum is to the current legal regime of space. There are a number of conventions which limit military activities in space, the Outer Space Treaty having the widest scope.136 Article I of the treaty creates a res communis, res nullius area by providing that “[o]uter space . . . shall be the province of all mankind . . . [and] . . . shall be free for exploration and use by all States.” Article III requires all activities in space be carried on “in the interest of maintaining international peace and security” and restricts use of the moon and other celestial bodies to “peaceful purposes.”137

These provisions would appear at odds with the conception of space operations set forth in “Joint Vision 2010” and by both the U.S. Space Command and the U.S. Air Force Scientific Advisory Board. How, for example, does the operational concept of space control, which includes denial of the use of space to the enemy, comport with the Article I requirement that it be preserved for use by all States? How can concepts of force projection be squared with the reservation of space for peaceful purposes? Indeed, how can the centrality of space to the U.S. vision of warfare in the twenty-first century be at all consistent with the treaty prohibitions?
In fact, the inconsistency is not as substantial as might at first glance appear. First, there is no prohibition on the placement of weapons in space, only upon weapons of mass destruction. Thus, whether or not their use is prohibited, their development and emplacement would not be. More fundamentally, whether or not the treaty would survive the outbreak of hostilities is the subject of vigorous debate.

Under classical international law, treaties did not retain their effect during armed conflict; war existed beyond the realm of international relations—*bellum omnium contra omnes*. The more modern approach accepts the survival of certain legal relationship between opposing belligerents. Three schools of thought characterize this camp. The first maintains that whereas some legal relations survive, treaties do not. A second group argues that treaties survive armed conflict unless their existence is fundamentally contrary to the existence of conflict, as for example a collective defense treaty between two adversaries would be. The third approach, the "theory of differentiation," takes a middle ground, asking whether continued vitality of the treaty in question is consistent with the larger context in which it operates (such as the existence of Parties not involved in the conflict). This area of law remains unsettled, particularly when applied in the context of a multilateral treaty governing an entire dimension of the earth-space environment. Nevertheless, the fervor of the debate can only be exacerbated by *Bellum Americanum*'s emphasis on space-based operations. As this occurs, calls to establish some degree of normative clarity are certain to be heard.

Clarity will also surely be sought over the concept of the reservation of space for "peaceful purposes." There is a long-standing dispute over the latter term, with some arguing that peaceful purposes should be understood to be "nonmilitary," whereas others, including the United States, interpret it as meaning "nonaggressive." Any military activities conducted under a UN Chapter VII mandate, pursuant to the Article 51 right to individual or collective self-defense, or consistent with the inherent right of self-defense under customary international law would by definition be nonaggressive. As some States begin to enjoy full-spectrum dominance grounded in great part on space-based assets, whereas others without the resources to exploit space are rendered vulnerable by their relative nonparticipation in the space regime, the peaceful-uses issue is likely to resurface as a major substantive point of international discord.

*Dissemination.* In *Bellum Americanum*, the ability to direct lethal force is increasingly pushed down the chain of command. Individual soldiers, sailors, or
airmen of the twenty-first century will have far more information on which to base the decision to employ force than have their twentieth-century counterparts. Moreover, they will control a wider spectrum of force, capable of being applied with greater precision. Thus, they will be both more and less lethal, and operate more autonomously than ever before. This will drive a need for relatively complex training in the law of armed conflict at far lower levels. Future warfare will therefore move current law of armed conflict dissemination requirements toward reinforcement and strengthening, and it will increase the importance of legal advisers.141

**Normative Relativism.** As the gap between the military “haves” and “have nots” widens, there will be subtle stressors that encourage an interpretation of the law of armed conflict relative to the State to which it is applied. For instance, due to their high cost, not all States can afford the precision munitions that help foster discrimination and proportionality. State A, which cannot afford them, is not criticized when it drops an unguided bomb that causes incidental injuries that are proportional to the military advantage gained. However, when State B, which can afford PGMs, elects to employ an unguided bomb in lieu of a precision weapon, it must justify that decision as reasonable in the circumstances (e.g., preserving PGMs for other targets which present a greater risk of collateral damage and incidental injury). In abstracto, an identical standard is applied to both States—a requirement to minimize collateral damage and incidental injury. In practice, however, the developed State is held to a higher standard.

In the high-technology war of the twenty-first century this reality will be exaggerated many-fold, as the gap between “haves” and “have nots” widens. If State A has limited sensor capabilities whereas State B’s are robust, must State B reasonably exhaust those capabilities to ensure the target is what B believes it to be? Or will it only be held to the standard of care imposed on A? In all likelihood, the answer lies in the teleological underpinnings of the law of armed conflict. It is no longer a body of law designed to ensure a fair fight between two opponents; on battlefields of the twentieth and twenty-first centuries, the law of chivalry has been overtaken by humanitarian law. Today, the law of armed conflict is designed primarily to minimize suffering and prevent unnecessary destruction. This being so, belligerents are held to the standards to which they are capable of rising. The sole exceptions are absolute prohibitions, such as the direct targeting of civilians or the use of poison.

This normative relativism may take on a new form in the next century. If the economic and technological gap widens as the alternative future set forth...
above suggests it will, the move towards a capability-based humanitarian regime may play itself out in an obligation to field weapons that pose the least risk to protected persons and objects. Some may even argue that if a wealthy State has the economic wherewithal to arm its forces with precision weapons, it should be obligated to do so. Similarly, it may be argued that if it has access to nonlethal weapons, its forces must be armed with them so long as doing so is otherwise operationally sound. This subtle shift from dictating tactics to dictating public policy may well prove a by-product of the “haves–have nots” polarization of the twenty-first century.

The polarization may also determine the position States take toward law of armed conflict codification efforts. For logical reasons, States likely to be the target of a particular mean or method of warfare are most likely to support its prohibition; those likely to use it will generally oppose its banning. Thus, for example, the United States opposes the Ottawa treaty on antipersonnel mines in part because it sees great utility for the weapon on the Korean Peninsula. Similarly, the United States, which will remain the major space power into the next century, interprets the Outer Space Treaty quite liberally. Given the technological gap between militaries that will emerge in the twenty-first century, there are certain to be attempts to offset weaknesses through bans on weaponry and its use. Support for such efforts, whether motivated by genuine humanitarian concerns or a clear-eyed view of one’s own military impotence, will be determined in great part by the extent to which a State enjoys the benefits of Bellum Americanum.

Of course, one must always be careful of what one wishes for. The “haves–have nots” dichotomy is driven by war-fighting concerns; opposition to weaponry may not always be positive in terms of humanitarian principles. After all, much of the weaponry on the drawing boards will effectively reduce collateral damage and incidental injury to civilians and civilian objects. States likely neither to use new weapons nor be the target thereof will, therefore, play a vital role as “honest-brokers” in maintaining the humanitarian raison d’être of the law.

Concluding Thoughts

Only time will tell whether the alternative future that has here been labeled Bellum Americanum will be realized. To the extent that it is, law can be expected to respond reactively and proactively to it. The normative consequences, some of which have been suggested above, are likely to be momentous. Assessments of whether such changes are steps forward or
backwards will often depend on one’s perspective—nationality, ethical and humanitarian values, economic station in life, etc. Nevertheless, regardless of the conclusions individual cognitive contexts lead us to, there are portents of danger on the horizon for humanitarian principles. The line between war and peace and between inter- and intra-State conflict may become dangerously vague. Discrimination is placed at risk by growing militarization of civilians and civilian activities. The widening gap between military “haves” and “have-nots” will encourage disadvantaged forces to fight asymmetrically in ways that stress, possibly even violate, current normative parameters. Finally, the risk of warfare extending into a new arena—space—is looming.

In light of these risks and the fact that a revolution of military affairs is upon us, perhaps the international community should take an increasingly proactive approach to normative change. As new technologies in warfare are brought on line, the disincentives for the “haves” to abandon or limit them will be high, as will the incentives for the “have-nots” to defeat them through other than conventional means. In a world evolving as rapidly as today’s, time is of the essence. Of course, this is not to suggest codification for the sake of codification. Some weapons and operational concepts foster humanitarian ends. The point is that the time to think clearly about twenty-first-century war and what can be done to shape it is now.

In closing, it is worth noting that one objectively valid threat to a normative architecture which fosters world order in the twenty-first century is the seeming isolation of the acts of future warriors. The further removed they are from their acts of war, the more difficult it will be for them to retain the humanitarian spirit that underlies the law of armed conflict. It is one thing to push a button while flying through the sky surrounded only by clouds; it is quite another to watch a human being one has shot bleed to death. The latter act brings home much more vividly the moral significance of the authority to use deadly force that one has been entrusted with. As we enter the next millennium, we must not lose sight of the reality of armed conflict, a reality found only in the consequence of an act, not the act itself.

Notes

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2. For instance, only the advent of the U.S. Civil War motivated adoption by the Union Army of Professor Francis Lieber’s “set of regulations,” today known as the Lieber Code, regarding conduct in war. Francis Lieber, Instructions for the Government of Armies of the United States in the Field, originally published as U.S. War Dep’t, General Orders No. 100 (Apr. 24, 1863), reprinted in THE LAWS OF ARMED CONFLICTS: A COLLECTION OF CONVENTIONS, RESOLUTIONS AND OTHER DOCUMENTS 101 (Dietrich Schindler & Jiri Toman eds., 3d ed. 1988) (Discussed in Richard R. Baxter, The First Modern Codification of the Law of War, INTL REV. RED CROSS, June 1963, at 171). Likewise, it took Henri Dunant’s account of the horrendous misery at the Battle of Solferino during the Italian War of Unification to focus international attention on the need for a humanitarian organization to address wartime suffering. HENRI DUNANT, SOUVENIR DE SOIFERINO (1862). The International Committee of the Red Cross (ICRC) was created as a result.


6. Joint operations are those which include forces of more than one service. Combined operations include forces of more than one state.

7. This vision is based primarily on JOINT CHIEFS OF STAFF, CONCEPT FOR FUTURE JOINT OPERATIONS: EXPANDING JOINT VISION 2010, at 8–9 (1997) [hereinafter CJO]. See also U.S. SPACE COMMAND, VISION FOR 2020, n.p. (1997) [hereinafter SPACE COMMAND VISION]. Note that the term “vision” is employed here because it is the term used within the U.S. military when articulating views of the future. It is predictive rather than aspirational in nature. For example, it is not the U.S. desire to see the gap, discussed infra, between technologically advanced and technologically disadvantaged States grow.
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9. The National Security Strategy categorizes the threats described herein as regional dangers, asymmetric challenges, transnational dangers, and wild cards. WHITE HOUSE, A NATIONAL SECURITY STRATEGY FOR A NEW CENTURY 8-10 (1997) [hereinafter NSS]. For an argument that future clashes are likely to be driven by culture rather than ideology or economics, see Samuel P. Huntington, The Clash of Civilizations?, FOREIGN AFFAIRS, Summer 1993, at 22.

10. These trends are described generally in CFJO, supra note 7, at 9-10.


12. All of the likely adversaries of the United States in the Middle East are developing chemical and/or biological warfare capabilities. DEPT OF DEFENSE, OFFICE OF INTERNATIONAL SECURITY AFFAIRS, UNITED STATES SECURITY STRATEGY FOR THE MIDDLE EAST 17-18 (1995). Each also supports, in one form or another, terrorism.

13. A war game held recently at National Defense University illustrates the type of warfare the future may hold. Set in the year 2000, the scenario posits an OPEC meeting that collapses when Saudi Arabia opposes Iranian demands for a production cutback in order to drive prices up. After mobilizing its forces, Iran conducts several conventional attacks on Saudi naval vessels. Hoping to destabilize the Saudi government and keep the U.S. and U.K. out of the conflict, the Iranians conduct new generation unconventional warfare. For instance, a Saudi refinery is destroyed when computer malfunctions in its control mechanism cause fire to break out, a "logic bomb" placed in the computer system running trains in the U.S. causes a passenger train to crash into a freight train, computer "worms" begin to corrupt the U.S. military's classified deployment database, and a "sniffer" disrupts funds transfers in the Bank of England. Steve Lohr, Ready, Aim, Zep, N.Y. TIMES, Sept. 30, 1996, at D-1.

14. NSS, supra note 9, particularly at 2.


16. NMS, supra note 15, at 15. Today, the dual threat is generally viewed as consisting of North Korea and Iran or Iraq. It is recognized that these may not be the opponents of the future. However, the underlying concept, being capability based, is that the United States needs to be ready to respond to two major theater wars, whoever the opponents might be.

17. Id. at 16.
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20. See CFJO, supra note 7, at 50.
22. CFJO, supra note 7, at 51.
23. JV 2010, supra note 18, at 23.

24. Focused logistics, the fourth operational concept is the “fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while enroute, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical levels of operations.” Id. at 24.

25. The National Military Strategy cites the following “strategic enablers:” (1) a high quality force; (2) robust all-source intelligence; (3) global command and control; (4) air and sea control; (5) space control; and (6) strategic mobility. NMS, supra note 15, at 27.


27. Colin Gray, e.g., cites seven “historical transformations of warfare” since the fall of Rome: (1) fifth-century cavalry, which “ushered in a long period of advantage for soldiers who could fight on horseback”; (2) the military revolution of the sixteenth and seventeenth centuries that “was led by the adoption of firearms for siege and open warfare”; (3) the “Nation in Arms,” a “concept of popular warfare, increasingly armed and sustained by industrially and agriculturally modern states”; (4) mechanized warfare, signaled in 1916 by use of the tank in the Battle of the Somme and large-scale aerial battles over Verdun; (6) nuclear warfare; and (7) information age warfare. Colin S. Gray, The Influence of Space Power upon History, 15 COMPARATIVE STRATEGY 293, 297 (1996). See also Eltor A. Cohen, A Revolution in Warfare, FOREIGN AFFAIRS, March–April 1996, at 37.

28. For a comparison of the nuclear and information RMAs, see Martin C. Libicki, Information & Nuclear RMAs Compared, NATL DEF. U. STRATEGIC FORUM, No. 82, July 1996, available on-line at <http://198.80.36.91/ndu/ins/strforum/forum82.html>.

29. “Geneva Law” denotes that portion of the law of armed conflict addressing protected persons: civilians, prisoners of war, the sick or shipwrecked, and medical personnel. It is to be distinguished from “Hague Law,” which governs methods and means of combat, occupation, and neutrality. For a discussion of the international instruments which fall into each category, and of those which display elements of both, see Frederic de Mulinlen, Handbook on the Law of War for Armed Forces 3–4 (1987).

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33. CfJO, supra note 7, at 23–25. Some have cautioned about forgetting basic truisms of war in the haste to embrace new technologies as a panacea to clear the fog of war. Mackubin Owens of the Naval War College has noted that there is a recrudescence of a McNamara-like worship of technology in some parts of the Pentagon, a worship that ignores the principal lesson of military history: as long as war involves humans, no technology can completely eliminate friction, ambiguity and uncertainty, thereby ensuring that a military organization will function at 100 percent efficiency. . . . The question is, who is more relevant to war in the real world: Clausewitz, who observed that “everything in war is simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war.”; or those who reject him, explicitly or implicitly, assuming that technology will render friction in war obsolete?

But technology is only part of the equation. Any approach to war that ignores strategy and friction and temps us to forget that war is waged against an adversary with an active will, is doomed to failure.


34. See generally, DOMINANT BATTLESPACE AWARENESS (Stuart Johnson & Martin Libicki eds., 1995), available on-line at <http://198.80.36.91/ndu/tnss/books/dbk/dbk1.html>.

35. See generally ALVIN TOFFLER & HEIDI TOFFLER, WAR AND ANTI-WAR (1993) and ALVIN TOFFLER & HEIDI TOFFLER, THE THIRD WAVE (1980). The Tofflers posit three waves of warfare driven by the age in which they took place: agricultural, industrial, and information. Military objectives are in great part determined by the period during which they are pursued. For instance, in the agricultural era, land was an objective, whereas in the industrial period, industrial capacity was. The work of the Tofflers is now de rigueur in U.S. war colleges, though not all are convinced of its validity. For a piece criticizing the work as neo-Marxist and charging that the Tofflers had to “rearrange certain chronologies so the events develop in proper perspective,” see R.L. DiNardo & Daniel J. Hughes, Some Cautionary Thoughts on Information Warfare, AIRPOWER JOURNAL, Winter 1995, at 70. For two fascinating discussions of the origin of war, see BARBARA EHRENREICH, BLOOD RITES (1997) & ROBERT L. O’CONNELL, RIDE OF THE SECOND HORSEMAN: THE BIRTH AND DEATH OF WAR (1993).

36. In anticipation of this reality, the U.S. Air Force, Army, and Navy have all established information warfare centers, as has the Central Intelligence Agency, and doctrine on information warfare has recently been formally issued by the U.S. Joint Staff. Mark Walsh, U.S.
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Military Expands Information Warfare Defense, DEFENSE NEWS, April 28–May 4, 1997, at 25; Lohr, supra note 13, at D4; Chairman, Joint Chiefs of Staff Instruction (CJCSI 3210.01), Joint Information Warfare Policy (series, some documents classified). See also Joint Chiefs of Staff, Information Warfare: Legal, Regulatory, Policy and Organizational Considerations for Assurance (Research Report for the Chief, Information Warfare Division, J6K) (July 4, 1995).

37. This point is made by Joseph Nye and William Owens:
The core of these capabilities—dominant situational knowledge—is fungible and divisible. The United States can share all or part of its knowledge with whomever it chooses. Sharing would empower recipients to make better decisions in a less-than-benign world, and should they decide to fight, they could achieve the same kind of military dominance as the United States.

As its capacity to provide this kind of information increases, America will increasingly be viewed as a coalition leader, not just because it happens to be the strongest but because it can provide the most important input for good decisions and effective action for other coalition members. Just as nuclear dominance was the key to coalition leadership in the joint era, information dominance will be the key in the information age.


38. There are four categories of sensors: (1) far stand-off sensors, such as satellites; (2) near stand-off sensors, such as aircraft and unmanned aerial vehicles carrying various sensors (multispectral, passive microwave, electronic intelligence, etc.); (3) in-place sensors, such as acoustic, gravimetric, biochemical, and ground-based optical; and (4) weapons sensors, such as infrared, reflected radar, etc. MARTIN C. LIBICKI, WHAT IS INFORMATION WARFARE? 22 (1995).

39. Resolution is expected to reach ten meters, improvable to two-to-three meters with signal-to-noise calculations. Periodic coverage in the submeter range will be made possible through multispectral, hyperspectral, and synthetic aperture radar (SAR) images. Jeffrey E. Thierer et al., Hit 'Em Where It Hurts: Strategic Attack in 2025, in AIR UNIVERSITY, 2025, WHITE PAPERS (vol. 3, bk. 1) 173, 187 (1996).


41. Smelling sensors would be designed to detect particular chemical molecules, which would cause an organic change in the sensor detectable by irradiated light or X-ray energy. Tasting sensors would attach themselves to particular substances. They too could be irradiated. In both cases, overhead sensors could be used to collect the data. Thierer, supra note 39, at 187-88.


46. Command, control, communications, computers, intelligence, surveillance, and reconnaissance. An outline of U.S. approaches to this subject is JOINT CHIEFS OF STAFF (J-6), CHI FOR THE WARRIOR: GLOBAL COMMAND AND CONTROL SYSTEM—FROM CONCEPT TO REALITY (1994).
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47. See JV 2010, supra note 18, at 15. What these developments will do to the fundamental nature of military decision making has yet to be seen. Greater technology could lead to greater restraints on the "shooter," a phenomenon exemplified in the past by excessive radar-based ground control over East Bloc pilots conducting aerial intercepts. The danger is that the closer the senior commander is to being on the battlefield, the more he or she may want to control it. CFJO, supra note 7, at 27, notes this danger. "Access to extensive information about the tactical situation may tempt strategic and operational commanders to take control of tactical actions." On the other hand, the individual shooter will have far more information available to make informed decisions than has been the case thus far. For example, today fighters patrolling no-fly zones depend on aircraft such as the AWACS to provide them a verbal picture of their combat environment. In the twenty-first century, that information will be immediately available in the cockpit. Such individual capabilities could have the effect of allowing greater autonomy to those who directly apply force.

48. NEW WORLD VISTAS, supra note 44, at 60; CFJO, supra note 7, at 25. Even today a stealth Comanche helicopter and a T-3 unmanned, reconnaissance aerial vehicle (URAV) are under development. To Dissolve, to Disappear, ECONOMIST, June 10, 1995, at 11.

49. NEW WORLD VISTAS, supra note 44, at 8.

50. DiNardo & Hughes, supra note 35, at 75.


53. The Operation Desert Storm Air Campaign Plan is described in DEPT OF DEFENSE, CONDUCT OF THE PERSIAN GULF WAR (Title V Report to Congress) 95–101 (1992). The approach to current targeting philosophy has been set forth by Colonel John Warden as "Five Strategic Rings." The concentric rings are political leadership, economic systems, supporting infrastructure, population, and military forces. Attacking leadership targets (command and control, communications, etc.) greatly diminishes the difficulty of attacking military forces. Leadership is seen as the primary center of gravity. See generally, John A. Warden III, The Enemy as a System, AIRPOWER JOURNAL, Spring 1995, at 44.

54. For an argument that the "network force" must train to the possibility of disruptions in the information system, see, Mark Tempestilli, The Network Force, PROCEEDINGS, June 1996, at 42, 46.


56. The most publicly visible change has been in weapons accuracy, a result of misleading Gulf War news coverage of smart bomb (precision guided munitions—PGM) attacks. In fact, they were prematurely acclaimed. Only roughly 8 percent of the weapons dropped during the war were precision guided. A General Accounting Office study of attacks on twenty major targets found that at least two laser guided weapons were used against each. At least six were dropped on 20 percent of the targets and 15 percent of the targets were attacked by at least eight. Tony Capaccio, GAO Questions U.S. Air Power Impact on Gulf War, DEFENSE WEEK, June 30, 1997, at 1. See also Barton Geldman, U.S. Bombs Missed 70% of the Time: "Smart" Munitions Far More Accurate, WASH. POST, Mar. 16, 1991, at A-1.

57. Thieret et al., supra note 39, at 185–6.
58. Technologies that will enable such analysis include hyperspectral and magnetic resonance imaging. In the former, the electromagnetic spectrum is broken into its constituent bands for hundreds of individual analyses. The data is then fused for a single readout. This capability frustrates the possibility of a target avoiding detection in one spectrum (e.g., visual or infrared). In magnetic resonance imaging, particles spread over a building by a UAV are sucked into it through the ventilation system. Air- or space-borne sensors would then image the particles to determine the building's internal structure. Id. at 187.


60. NEW WORLD VISTAS, supra note 44, at 38.

61. Thieret et al., supra note 39, at 189. For instance, today hardened targets are best attacked with at least a two-thousand-pound guided bomb unit. Programs are underway to reduce that to 250 pounds, smaller than the average conventional bomb in today's arsenal.

62. From a ground perspective, consider the Army's BAT, the brilliant antiarmor submunition that will be fired by the Army Tactical Missile System. The munitions will use acoustic and infrared sensors to identify a formation of vehicles, single one out for attack, and destroy it. Owens, supra note 15, at 37.

63. NEW WORLD VISTAS, supra note 44, at 9–10.


65. Douglas Pasternak, Wonder Weapons, U.S. NEWS AND WORLD REPORT, July 7, 1997, at 38. Both acoustic and microwave weapons could be used for perimeter defense or crowd control, and both, used to the extreme, are potentially lethal.


67. Id. at 14.

68. Id. at 20–2.

69. Jezoir, supra note 43, at 16; Schneider, supra note 66, at 27.

70. Schneider, supra note 66, at 9–10. Especially useful in urban warfare because of dependency on roads, slick-ums could also be used to disrupt resupply, provide blockage in maneuver warfare, or temporarily disable runways.


72. Space systems used during the war are described in CONDUCT OF THE PERSIAN GULF WAR, supra note 53, at 801–806.

73. On this point, see Gray, supra note 27, at 307.

74. SPACE COMMAND VISION, supra note 7, at n.p.

75. Id. at n.p. The Air Force's Scientific Advisory Board concurs: "Capabilities to defend our own space based resources and to disrupt and degrade that of an enemy will be needed sooner or later in the 21st century." NEW WORLD VISTAS, supra note 44, at 61.

76. NEW WORLD VISTAS, supra note 44, at 47. The Board has further noted that "[t]he future Force will, eventually, contain space, ground, and airborne weapons that can project
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photon energy, kinetic energy, and information against space and ground assets. Many space and information weapons will destroy. Others will confuse the enemy and weave the 'bodyguard of lies' that will protect our forces." Id. at 11.

77. Owens, supra note 15, at 38.

78. Global Partnership is one of Space Command’s four operational concepts. SPACE
COMMAND VISION, supra note 7, at n.p. This adds another dimension to the complexity—nationality. For example, consider neutrality. What if a belligerent is receiving dual-use data (e.g., weather) from a satellite owned by a neutral or a multinational corporation with neutral partners? Can it be attacked? Can the U.S. use data received from a satellite that it shares with a neutral? Such complexity will only be exacerbated in the next century as space commercialization explodes.

79. For superb summaries of the current law of armed conflict, see LESLIE C. GREEN, THE
CONTEMPORARY LAW OF ARMED CONFLICT (1993) and THE HANDBOOK OF
HUMANITARIAN LAW IN ARMED CONFLICTS (Dieter Fleck ed., 1995). The latter work reproduces the German Law of War Manual [Joint Services regulations (Zdv) 15/2, Aug. 1992] and provides extended commentary thereon by international law experts.

80. U.N. CHARTER art. 2(4): “All Members shall refrain in their international relations
from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.”

81. It would appear that the drafters of the Charter did not intend the term “force” to apply beyond armed force. Albrecht Randelzhofer, Article 2(4), in THE CHARTER OF THE UNITED

82. Under Article 39 of Chapter VII, the Security Council determines whether a “threat to the peace, breach of the peace, or act of aggression” exists. When the Council finds one does, it may “call upon the parties concerned to comply with such provisional measures as it deems necessary or desirable.” Id., art. 40. It may also directly impose “measures not involving the use of armed force,” such as interrupting aerial “means of communication.” Id., art. 41. When the Security Council determines that non-forceful measures would be or have proved inadequate, it may authorize the United Nations, regional organizations, or member States to use force under Article 42 to restore or maintain peace. Force includes “such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security . . . [including] . . . demonstrations, blockades, and other operations by air, sea, or land forces of Members of the United Nations.” Id., art. 42. For a discussion of the terms “threat, breach, and aggression,” see Jochen Frowein, Article 39, in Simma, supra note 81, 605, 608–12.

83. U.N. CHARTER art. 51:

Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.

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84. Anticipatory self-defense is self-defense which occurs immediately prior to the attack. The most widely accepted standard is that articulated by U.S. Secretary of State Daniel Webster with regard to the Caroline incident. The Caroline incident involved a Canadian insurrection in 1837. After being defeated, the insurgents retreated into the United States, where they recruited more insurgents and planned further operations. The Caroline was being used by the rebels. British troops crossed the border and destroyed the vessel by setting her afire and sending her over Niagara Falls. Britain justified the action on the grounds that the United States was not enforcing its laws along the frontier and that the action was a legitimate exercise of self-defense. Webster replied that self-defense was to "be confined to cases in which the necessity of that self-defense is instant, overwhelming, and leaving no choice of means, and no moment for deliberation." Letter from Daniel Webster to Lord Ashburton (Aug. 6, 1842), reprinted in John Bassett Moore, 2 A Digest of International Law 411, 412. Professor Yoram Dinstein adopts the terminology "interceptive" self-defense. It occurs after the other side has "committed itself to an armed attack in an ostensibly irrevocable way." He argues that interceptive self-defense is consistent with Article 51. Yoram Dinstein, War, Aggression, and Self Defence 190 (2d ed. 1994).


86. Military and Paramilitary Activities (Nicar. v. U.S.), 1986 I.C.J. 4, 103: "There appears now to be general agreement on the nature of the acts which can be treated as constituting an armed attack. In particular, it may be considered to be agreed that an armed attack must be understood as including not merely action by regular armed forces across an international border, but also "the sending by or on behalf of a State of armed bands, groups, irregulars, or mercenaries, which carry out acts of armed force against another State of such gravity as it amounts to [inter alia] an actual armed attack conducted by regular forces, or its substantial involvement therein."


88. In order to act in self-defense, U.S. forces must face either a hostile act or a demonstration of hostile intent by an opponent. Hostile intent is defined as the threat of imminent use of force by a foreign force or terrorist unit, or organization against the United States and US national interests, US forces, and in certain circumstances, US citizens, their property, US commercial assets, or other designated non-US forces, foreign nationals and their property. When hostile intent is present, the right exists to use proportional force, including armed force, in self-defense by all necessary means available to deter or neutralize the potential attacker or, if necessary, to destroy the threat. A determination that hostile intent exists and requires the use of proportional force in self-defense must be based on convincing evidence that an attack is imminent.

Chairman, Joint Chiefs of Staff Instruction (CJCSI) 3121.02, Standing Rules of Engagement for United States Forces (1994), at GL-9. This is a classified document, but large portions, including this quote, are unclassified.

89. "Instant and overwhelming" is the Caroline standard. See supra note 84.

90. Actually, the Administration's statements seemed to include justifications based on both anticipatory self-defense and retaliation. For example, in the President's national address on the subject, he initially appeared to use reprisal as the basis for the attack: "Several weeks ago in New Orleans, I warned Colonel Qadhaifi we would hold his regime accountable for any new terrorist attacks launched against American citizens. More recently, I made it clear we would
respond as soon as we determined conclusively who was responsible." He then offered a classic self-defense justification: "Self-defense is not only our right, it is our duty. It is the purpose behind the mission undertaken tonight—a mission fully consistent with Article 51 of the UN Charter." President Ronald Reagan, Address to the Nation (Apr. 14, 1986), in DEPT ST. BULL., June 1986, at 1–2. See also White House Statement, DEPT ST. BULL., June 1986, at 1. Much attention has been paid to the fact that the United States believed Libya was planning attacks on up to thirty U.S. diplomatic facilities worldwide. Joint News Conference by George Schultz, Secretary of State, and Casper Weinberger, Secretary of Defense (Apr. 14, 1986), in DEPT ST. BULL., June 1986, at 3.

91. The distinction between international and non-international armed conflict is not always clear. Protocol II Additional to the Geneva Conventions, an agreement designed to govern the latter, describes non-international armed conflict as "armed conflicts ... which take place in the territory of a [party to the Convention] between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations." 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, art. 1(7), U.N. Doc. A/32/144, Annex II (1977), 16 I.L.M. 1442 (1977), [hereinafter Protocol II]. International armed conflict is that which arises between States (or other subjects of international law). See, e.g., Common Article 2 to the Geneva Conventions: "The present Convention shall apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if a state of war is not recognized by one of them." Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, art. 2, 6 U.S.T. 3114, 75 U.N.T.S. 31 [hereinafter Geneva Convention II]; Geneva Convention for the Amelioration of the Condition of the Wounded, Sick and Shipwrecked Members of the Armed Forces at Sea, Aug. 12, 1949, art. 2, 6 U.S.T. 3217, 75 U.N.T.S. 85 [hereinafter Geneva Convention II]; Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, art. 2, 6 U.S.T. 3316, 75 U.N. T.S. 135 [hereinafter Geneva Convention III]; and Geneva Convention Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 [hereinafter Geneva Convention IV]. Additional Protocol I, which supplements the Geneva Conventions with regard to international armed conflict, simply refers back to Common Article 2. Protocol Additional to the Geneva Conventions of August 12, 1949 and Relating to the Protection of Victims of International Armed Conflict, June 8, 1977, art. 1(5), U.N. Doc. A/32/144, Annex I (1977), reprinted in 16 I.L.M. 1391 (1977) [hereinafter Protocol I]. In a somewhat controversial provision, Protocol I includes as international armed conflicts "armed conflicts in which peoples are fighting against colonial domination and alien occupation and racist regimes in the exercise of their right of self-determination." Id., art. 1(4). Note that "internal disturbances and tensions, such as riots, isolated and sporadic acts of violence and other acts of a similar nature" are not armed conflict, either international or non-international. Protocol II, supra, art. 1(2).

92. Article 3 of each of the Geneva Conventions is identical and provides basic protections for "persons taking no part in the hostilities, including members of the armed forces who have laid down their arms and those placed hors de combat by sickness, wounds, detention, or any other cause." Geneva Conventions I, II, III, IV, supra note 91, art. 3. The remainder of those conventions address international armed conflicts.

discussion of these cases, see Leslie C. Green, Erdemović-Tadić-Dokmanović: Jurisdiction and Early Practice of the Yugoslav War Crimes Tribunal (unpublished manuscript on file with author, forthcoming in Leslie C. Green, Further Essays on the Modern Law of War (Transnational Pub., 1998)).

94. See William J. Fenrick, The Development of the Law of Armed Conflict through the Jurisprudence of the International Criminal Tribunal for the former Yugoslavia, in this volume.

95. Protocol I, supra note 91, art. 48: "In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and civilian objects and military objectives and shall direct their operations only against military objectives."

96. Protocol I, supra note 91, art. 48.

97. Id., art. 52(2). The term “object” includes combatants within its scope. Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949, at 635 (Yves Sandoz, Christophe Swinarski & Bruno Zimmermann eds., 1987) [hereinafter Commentary]. Military advantage should be evaluated in terms of the entire campaign/war, not simply the advantage which accures directly to the attacking force. On this point, see Stefan Oeter, Methods and Means of Combat, in Fleck, supra note 79, at 105.

98. Commentary, supra note 97, at 635–36.

99. Protocol I, supra note 91, art. 51(2).

100. Id., art. 51(3).

101. Commentary, supra note 97, at 619.

102. Protocol I, supra note 91, art. 50(1-2).


107. Parties to Protocol I are obligated to “endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives.” Protocol I, supra note 91, art. 58(a). However, even if a Party intentionally uses civilians as a shield, the attacker remains obligated to consider collateral damage and incidental injuries in their discrimination and proportionality calculations. Id., art. 51(7-8).

108. The requirements for precautions are set forth in Protocol I, supra note 91, art. 57.
109. After attacking Kuwait, the Iraqis used Western and Kuwaiti hostages to shield their military sites from coalition air attacks. The non-Kuwaiti civilians were eventually released in December 1990 when the tactic resulted in near universal condemnation. CONDUCT OF THE PERSIAN GULF WAR, supra note 53, at 607–608. Using a civilian or other protected person in such a manner is a violation of Geneva Convention IV and Protocol I and constitutes a Grave Breach. Geneva Convention IV, supra note 91, arts. 29 & 149; Protocol I, supra note 91, arts. 75(2)(c) & 85(2). Other examples included the dispersal of helicopters to residential areas, placing surface-to-air missiles in a school in a populated area of Kuwait City, and placement of fighter aircraft next to the Temple of Ba. CONDUCT OF THE PERSIAN GULF WAR, supra, at 613–15.

110. Even if a Party intentionally uses civilians as a shield, a specific violation of Protocol I, the attacking party remains obligated to consider collateral damage and incidental injuries in their discrimination and proportionality calculations. Protocol I, supra note 91, art. 31(7–8).

111. Perfidy consists of "acts 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." Protocol I, supra note 91, art. 37. In addition to Protocol I, perfidy is forbidden in the Hague IV Annexed Regulations. Hague Convention IV Respecting the Laws and Customs of War on Land, with Annexed Regulations, Oct. 18, 1907, art. 23(9), 36 Stat. 2227, 1 Bevans 631.

112. Hague Convention IV, supra note 111, art. 1.

113. Geneva Convention IV, supra note 91, art. 4A(2).

114. The requirement that combatants distinguish themselves from non-combatants through use of a distinctive emblem dates back to the Brussels Declaration of 1874. Project on an International Declaration concerning the Laws and Customs of War, reprinted in Schindler & Toman, supra note 2, at 25. With regard to Protocol I, according to the Rapporteur, the "exception recognized that situations could occur in occupied territory and in wars of national liberation in which a guerrilla fighter could not distinguish himself throughout his military operations and still retain any chance of success." XV Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts, Geneva, 1974–1974, at 453, CDDH/407/Rev.1, para. 19.

115. Protocol I, supra note 91, art. 44(3). The United States opposes this provision on the ground that it will place civilians at greater risk by making it harder for military personnel to distinguish them from lawful combatants. I U.S. AIR FORCE, OFFICE OF THE JUDGE ADVOCATE GENERAL, OPERATIONS LAW DEPLOYMENT DESKBOOK (n.d.), tab 12, para. 1.7.6.1. Thus, by the U.S. view, those who fail to comply with the requirements of Hague become illegal combatants who can be targeted and, if determined to be illegal combatants by an appropriate Tribunal, tried and punished. NWP 1–14M, supra note 105, para. 12.7-1 (1995).

116. Protocol I, supra note 91, art. 51(5)(b) defines it as "an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated." A similar prohibition is found in the Article 57 requirements for precautions in attack. Id., art. 57(2)(a)(iii) & 57(2)(b). On proportionality generally, see William J. Fenrick, The Rule of Proportionality and Protocol I in Conventional Warf, 98 MIL. L. REV. 91 (1982); Judith G. Gardam, Proportionality and Force in International Law, 87 AM. J. INTL L. 391 (1993).

117. The targeting policy of the Coalition forces during the Persian Gulf War was clearly moving in this direction. For instance, only PGWs were used against targets in downtown Baghdad, to avoid collateral damage and incidental injury. CONDUCT OF THE PERSIAN GULF WAR, supra note 53, at 97–98.

118. Described in id. at 615.
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120. Protocol I, supra note 91, arts. 51(5) (b), 57(2) (b).

121. For instance, Article 57 requires "those who plan or decide upon an attack" to "do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection" and to "take all feasible precautions in the choices of means and methods of attack (emphasis added)." Protocol I, supra note 91, art. 57(2) (ii). The ICRC Commentary imposes a fairly demanding standard: [T]he identification of the objective, particularly when it is located at a great distance, should be carried out with great care. Admittedly, those who plan or decide upon such an attack will base their decision on information given them, and they cannot be expected to have personal knowledge of the objective to be attacked and of its exact nature. However, this does not detract from their responsibility, and in case of doubt, even if there is only a slight doubt, they must call for additional information and if need be give orders for further reconnaissance. . . . The evaluation of the information obtained must include a serious check of its accuracy (emphasis added).

COMMENTARY, supra note 97, at 680–81.


123. Paradoxically, reverberating effects may enhance the deterrent or compellant effect of an action, for the greater the impact, the more likely a target State's decision-making will be affected.


126. For an argument that the Coalition violated the principle of necessity, see Normand & of Jochnick, supra note 122, at 402–409.

127. Declaration of St. Petersburg, 1868, reprinted in Schindler & Toman, supra note 2, at 101. The principle is also expressed in Protocol I: "It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering." Protocol I, supra note 91, art. 35(2).

128. This phrase is drawn from the Martens Clause. Found in Hague IV, it provides: Until a more complete code of laws has been issued, the high Contracting Parties deem it expedient to declare that, in cases not included in the Regulations adopted by them, the inhabitants and belligerents remain under the protection and the rule of principles of the laws of nations, as they result from the usage established among civilized peoples, from the laws of humanity, and from the dictates of public conscience.

Hague IV, supra note 111, pmbl. A similar provision is found in Protocol I, supra note 91, art. 1(2).

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130. Biological Weapons Convention, supra note 1.
134. Biological Weapons Convention, supra note 1, art. 1.
135. Chemical Weapons Convention, supra note 129, art. 2.
138. This was the position taken by Judge Benjamin Cardozo in Techt v. Hughes: "international law to-day does not preserve treaties or annul them, regardless of the effects produced. It deals with such problems pragmatically, preserving or annulling as the necessities of war exact. It establishes standards, but it does not fetter itself with rules." 128 N.E. 185, 191 (N.Y.), cert. denied, 254 U.S. 643 (1920).
140. NWP 1-14 Annotated, supra note 106, at 2–38, n.114.
141. The requirement to train military personnel in the law of armed conflict is found in many instruments. See, e.g., Hague IV, supra note 111, art. 1; Geneva Convention I, supra note 91, art. 47; Geneva Convention II, supra note 91, art. 48; Geneva Convention III, supra note 91, art. 127; Geneva convention IV, supra note 91, art. 144; Protocol I, supra note 91, arts. 83 & 87; Protocol II, supra note 91, art. 19; Conventional Weapons Convention, supra note 131, art. 6. On the role of legal advisers, see LESLIE C. GREEN, ESSAYS ON THE MODERN LAW OF WAR, ch. 4 (1985).
142. Since the Persian Gulf War, the U.S. military has invested heavily in smart weapons. For example, the two U.S. carriers deployed to the Persian Gulf during the February 1998 crisis carried with them more smart weapons than all six of the carriers deployed during the war. Bradley Graham, New Weapons Give Navy Top Air Role This Time, WASH. POST, Feb. 12, 1998, at 1, 25.

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