

ARTICLES

THE FIRST AMENDMENT AND THE END OF THE WORLD

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ABSTRACT

This paper deals with a serious question that is largely unaddressed by the U.S. or international legal systems: how should society deal with inherently, catastrophically dangerous information—information that, in the wrong hands, could lead to the destruction of a city, a continent, or, conceivably, the entire planet? Such information includes, but is not limited to, blueprints for nuclear weapons, as well as specific formulae for chemical and biological weapons of mass destruction.

The paper is not a critique of the existing statutes and regulations that various governments use to keep their secrets secret. Rather, it is a discussion of what to do when some such secrets are inevitably disclosed, or, more generally, how to deal with catastrophically dangerous information that is generated outside of governmental control.

Addressing these issues is primarily a matter of policy, but policy with significant constitutional dimensions. Perhaps the most fundamental of those dimensions is the question of whether a governmental restriction on receipt, dissemination, and even mere possession of information can be reconciled with the speech and press clauses of the First Amendment. Although existing authorities do not directly address the subject, what little authority there is suggests that reasonable restrictions upon the possession and dissemination

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of catastrophically dangerous information—even when that information is already within the public domain—can be implemented in a way that is consistent with the First Amendment.

Given the growing urgency of the subject and the need for a comprehensive approach, I advocate a statutory solution in the United States that defines and limits access to catastrophically dangerous information, but which also limits governmental seizures and restrictions to only the most dangerous types of information, and which provides for a pre-seizure warrant requirement and expedited post-seizure judicial review. Given the global dimensions of the problem, I also advocate a corresponding international regime patterned upon the Nuclear Nonproliferation Treaty of 1968.

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*If you could blow up the world with the flick of a switch
Would you do it?
Yeah yeah yeah yeah, yeah yeah yeah yeah*¹

I. INTRODUCTION

In this article, I propose placing statutory and treaty restrictions upon the possession and dissemination of what I refer to as “catastrophically dangerous information”—information that, in the wrong hands, could lead to the destruction of a city, a continent, or, conceivably, the entire planet. Such information includes, but is not limited to, blueprints for nuclear weapons as well as specific formulae for chemical and biological weapons of mass destruction. I propose that possession and dissemination of such information should be restricted even if that information has been released into—or generated in—the public domain.

Such a proposal is not likely to be popular among law professors or civil libertarians, especially in an era when we are treated to what seem like daily revelations of outrageous and unconstitutional conduct by the Executive Branch.² Indeed, my proposal raises the specter of Bradburian book burnings, jackboots in public libraries, and Orwellian thought police. It also, of course, raises fundamental First Amendment issues.

Such concerns are valid; I share them. But I believe that my proposal is compatible with the First Amendment and with the protection of civil liberties generally. In contrast, I think that American society’s current *de facto* policy—doing almost nothing about catastrophically dangerous information—poses a far greater threat not only to our basic constitutional rights, but also, not incidentally, to the continued existence of human life itself. Accordingly, I begin this article with a detailed discussion of that threat.

1. THE FLAMING LIPS, *The Yeah Yeah Yeah Song . . . (With All Your Power)*, on AT WAR WITH THE MYSTICS (Warner Bros. Records 2006).

2. See, e.g., *Coerced Testimony in Plan: A U.S. Proposal to Try Terror Suspects Includes Use of Hearsay and Withholding Evidence*, KAN. CITY STAR, Aug. 3, 2006, at A8; Clifford Krauss, *Evidence Grows That Canada Aided in Having Terrorism Suspects Interrogated in Syria*, N.Y. TIMES, Sept. 17, 2005, at A7; Adam Liptak & Eric Lichtblau, *U.S. Judge Finds Wiretap Actions Violate the Law*, N.Y. TIMES, Aug. 18, 2006, at A1 (discussing *Am. Civil Liberties Union v. Nat’l Sec. Agency*, 438 F. Supp. 2d 754 (E.D. Mich. 2006)).

II. THE END OF THE WORLD?

A. Fermi's Paradox and the Drake Equation

In 1950, the nuclear physicist and Nobel Laureate Enrico Fermi, in what was apparently a casual lunchtime discussion, reportedly posed a question that has since haunted the scientific community: if intelligent life exists elsewhere in the universe, then where is it?³

Implicit in Fermi's question is the calculation that if intelligent life exists in only a small proportion of the billions of solar systems in the Milky Way galaxy,⁴ and has only existed for a small proportion of the age of that galaxy, then any extraterrestrial neighbors of ours should have made their presence known to us long ago. This may seem counterintuitive, but consider: any civilization that has existed for only a few million years could develop interstellar travel,⁵ and, given a few million years more, could easily colonize most of the galaxy. A few million years may seem like a very long time, but, compared to the roughly 13.6-billion-year age of the Milky Way,⁶ it is but a blink of the galactic eye. So the question that is now known as the Fermi Paradox remains: given billions of stars, billions of planets and billions of years—where is everybody? If intelligent, extraterrestrial beings exist, then why haven't we found them, or they us?

In 1961, Frank Drake, a young astronomer at the National Radio Astronomy Observatory in West Virginia, came up with an idea that suggested at least one possible answer. He constructed a simple multivariable equation that quantifies the probability of detecting intelligent extraterrestrial life in our home galaxy. It is now generally known as the Drake Equation:⁷

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

where

3. Seth Shostak, Space.com, *Our Galaxy Should Be Teeming with Civilizations, but Where Are They?*, http://www.space.com/searchforlife/shostak_paradox_011024.html (last visited Mar. 10, 2007).

4. The Milky Way is, of course, only one of billions of galaxies in the observable universe.

5. Terrestrial civilization is only a few thousand years old, and is already on the verge of sending its first probe, Voyager 1, beyond the solar system. Voyager 1 is now in a region called the "heliosheath" that marks the edge of interstellar space. Jet Propulsion Laboratory, *Voyager 1: 'The Spacecraft that Could' Hits New Milestone*, Aug. 15, 2006, <http://voyager.jpl.nasa.gov/> (last visited Mar. 10, 2007). NASA estimates that Voyager 1 "could cross into interstellar space within the next 10 years." *Id.* Voyager 2 is not far behind. *Id.*

6. Paul Rincon, *Stars Reveal the Milky Way's Age*, BBC NEWS, Aug. 17, 2004, <http://news.bbc.co.uk/1/hi/sci/tech/3573914.stm>.

7. Space.com, *The Drake Equation to Estimate Intelligent Extraterrestrial Life*, http://www.space.com/searchforlife/seti_drake_equation.html (last visited Mar. 10, 2007).

- N = The number of civilizations in the Milky Way Galaxy whose electromagnetic emissions are detectable. In other words, the number of intelligent civilizations which might be detectable through radio signals or similar means;
- R_* = The rate of formation of stars suitable for the development of intelligent life;
- f_p = The fraction of those stars with planetary systems;
- n_e = The number of planets, per solar system, with an environment suitable for life;
- f_l = The fraction of suitable planets on which life actually appears;
- f_i = The fraction of life-bearing planets on which intelligent life evolves;
- f_c = The fraction of civilizations that develop technologies that release detectable signs of their existence into space;
- L = The length of time such civilizations release detectable signals into space.

Thus, according to the Drake Equation, the number of detectable extraterrestrial civilizations— N —varies directly with the value of the remaining variables. In other words, the more stars that form, the more planets that orbit those stars, the more of those orbiting planets that are habitable, etc., the greater the chance that we can detect intelligent, extraterrestrial life in our galaxy. While the Drake Equation offers no definitive answer— N , of course, depends upon the inputs, most of which are still unknown—it does provide an analytical framework for estimating the probability of discovering extraterrestrial intelligence.

Drake is now a Professor Emeritus of Astronomy and Astrophysics at the University of California Observatories. He also serves as the Director for the Carl Sagan Center for the Study of Life in the Universe at the Search for Extraterrestrial Intelligence (SETI) Institute.⁸ Although it may seem easy to dismiss any organization with the initials “ET” in its name as the province of cranks obsessed with finding little green men, SETI is actually a well-respected scientific research organization that has administered more than \$150 million of funded research since its founding in 1984, and boasts two Nobel Prize winners on its Board of Trustees.⁹

Moreover, the relevance of SETI’s mission has been underscored over the last two decades with the discovery of the first planets outside of our own

8. SETI Institute, Statement of Purpose, <http://www.seti.org> (follow “About Us” hyperlink) (last visited Mar. 10, 2007).

9. SETI Institute, Institute History, <http://www.seti.org> (follow “About Us” hyperlink; then follow “Institute History” hyperlink) (last visited Mar. 10, 2007).

solar system. Until the 1990's, notwithstanding decades of speculation in science fiction stories and Hollywood movies, no one could be certain that extrasolar planets existed. As of July, 2006, however, two hundred extrasolar planets had been discovered.¹⁰ These discoveries are only part of a recent explosion in our knowledge of the universe in general terms.¹¹ Indeed, Dr. Drake now believes that there is enough hard data to fill in enough variables in his famous equation to estimate that $N = 10,000$. That is, Drake believes that 10,000 detectable technological civilizations may exist in our galaxy alone.¹²

But Drake may be too optimistic. He and his colleagues have been systematically searching the heavens now for decades, and still have not found a trace of another civilization. This result may be because, as Drake insists, the heavens are a big place, and we have searched only a tiny part of them so far.¹³ Or, it may be that Drake's calculations or assumptions are flawed. For example, he may be assigning too great a value to the last variable in the equation, which is the one that concerns us here: L , which represents the average length of time that a technologically advanced civilization might release detectable signals into space. Although there are many reasons why L may be low, one obvious reason is that an advanced, technical civilization capable of producing electromagnetic emissions will soon use its technical knowledge, intentionally or inadvertently, to destroy itself.¹⁴ If this is the

10. See Dan Vergano, *A New Hope: Astronomers Reach 200-Exoplanet Milestone*, USA TODAY, July 24, 2006, http://www.usatoday.com/tech/science/columnist/vergano/2006-07-24planet-milestone_x.htm. This does not mean that astronomers have directly observed all of these planets. Rather, for the most part, they have deduced the existence of the planets through a variety of indirect observations, such as precise measurement of the gravitational effect of those planets upon the stars they orbit. A star orbited by one or more planets appears to "wobble" as those planets orbit the star. Laurence R. Doyle, Space.com, *Detecting Other Worlds: The Wobble Method*, http://www.space.com/searchforlife/seti_wobble_method_010523.html (last visited Mar. 10, 2007). This "wobble" can be detected by astronomers who measure the changes in the light emitted by the star, which shifts between blue and red as the star moves toward or away from Earth. *Id.* See Exoplanets.org, *Capabilities of Various Planet Detection Methods*, <http://exoplanets.org/othermethframe.html> (last visited Mar. 10, 2007). This is an example of the same Doppler Effect that changes the perceived pitch of a train whistle as it approaches or moves away from an observer. Doyle, *supra*. Recently, however, astronomers claim to have actually observed and photographed an extrasolar planet for the first time. See Robert Roy Britt, *Astronomers Capture Photo of Extrasolar Planet*, CNN.COM, Apr. 15, 2005, <http://www.cnn.com/2005/TECH/space/04/01/extrasolar.planet.photo/>.

11. Indeed, much, perhaps most, of what we know about the cosmos has been discovered in only the last few decades. See Verlyn Klinkenborg, *On the Recentness of What We Know*, N.Y. TIMES, Aug. 9, 2006.

12. *Origins: Where Are the Aliens?* (PBS television broadcast Sept. 28 & 29, 2004), available at http://www.pbs.org/wgbh/nova/transcripts/3113_origins.html.

13. *Id.*

14. It may not be coincidental that electromagnetic emissions, in the form of radio waves, were first

case, then the Drake Equation solves Fermi's Paradox: no one from an advanced extraterrestrial civilization has contacted us because they are all dead.

An empty universe, littered with the remains of countless ruined societies, presents a chilling prospect. Its implications for human civilization are dire. If, in fact, L is a low number, representing the relatively short time that a technical civilization can exist before destroying itself, then humanity is living on borrowed time. Unfortunately, many purely terrestrial reasons exist for believing that this is so. Indeed, one might say that our particular doomsday clock started ticking over half a century ago on a desolate mesa in the American Southwest.

B. Dr. Oppenheimer and Dr. ElBaradei

In October, 2005, Mohamed ElBaradei, the Director General of the International Atomic Energy Agency (IAEA), was, along with the IAEA itself, awarded the Nobel Peace Prize for combating the proliferation of nuclear weapons.¹⁵ The award was well-deserved, for there are few, if any, issues more important to the establishment and maintenance of international peace than the limitation, and, if possible, the elimination of these terrible devices.

The sobering facts are familiar, yet they bear review and emphasis. A single nuclear explosive, detonated in a densely populated city, can, in less than one second, kill millions of people and destroy property worth billions of dollars.¹⁶ The intense flash of light produced by such a detonation can blind observers miles away, and the resulting cloud of dust and debris can spread massive amounts of lethal radioactivity for hundreds of miles. The ultimate effects of detonating thousands of these devices simultaneously, as might occur in a full-scale nuclear exchange between the U.S. and Russia, are

widely produced on our planet at roughly the same time as atomic fission; both appeared early in the 20th Century. The two technologies require similar levels of scientific and engineering knowledge. If a comparable pattern exists in other technological civilizations, then the means of our detection of those civilizations (emissions) appear at the same moment, historically speaking, as the means of those civilizations's self-destruction. So L may, in fact, be exceedingly low, perhaps less than 100 years.

15. Craig S. Smith, *Atomic Agency and Chief Win the Peace Prize*, N.Y. TIMES, Oct. 8, 2005, at A1.

16. The precise effect of a nuclear explosion is, of course, subject to many variables, including the topography of the target, the altitude of the device upon detonation, and the force of the explosion itself. See generally Federation of American Scientists, Nuclear Weapon Effects Calculator, <http://www.fas.org> (follow "Nuclear Weapons" hyperlink; then follow "Bomb-A-City Calculator" hyperlink) (last visited Mar. 10, 2007).

incalculable. At the very least, hundreds of millions of people would die immediately, while millions more would die in the aftermath.¹⁷ Millions more would suffer the long-term effects of radiation poisoning, including genetic damage.¹⁸ Beyond the direct effect on the human populations, the effect on the Earth's environment is unknown, although there is informed speculation that significant damage to the ozone layer, as well as genetic mutations in plants and animals would occur.¹⁹ These environmental effects would compound the damage done to any survivors.²⁰ Thus, it is no overstatement to say that Dr. ElBaradei and his colleagues are literally attempting to save the world.

Doing so is an increasingly difficult challenge. Indeed, it is remarkable that humanity has managed to avoid self-annihilation in the six decades since the United States detonated the first nuclear explosive at the Trinity test site in Alamogordo, New Mexico in July of 1945.²¹ Upon witnessing that first successful test, Robert Oppenheimer, the physicist who oversaw the U.S. nuclear weapons development effort, code-named "Manhattan," recalled the words of the Hindu god Vishnu from the *Bhagavad-Gita*: "I am become Death, Destroyer of Worlds."²²

Oppenheimer spent the rest of his unhappy life wrestling with the knowledge that he had played a crucial role in developing what soon would become a doomsday device. However, most of the inhabitants of our particular world took a little longer to recognize the momentousness of the Trinity test. This lack of knowledge is understandable, both because of the revolutionary—and previously secret—nature of the technology in question, and also because that technology remained under the control of only two nations, Great Britain and the United States, for the first several years of the nuclear age. Consequently, the immediate chance of global catastrophe was relatively slight.²³

17. See generally CONG. OF THE U.S. OFFICE OF TECH. ASSESSMENT, THE EFFECTS OF NUCLEAR WAR (1979), available at http://www.wws.princeton.edu/ota/ns20/alpha_f.html (follow "Jump to Letter: E" hyperlink; then follow "The Effects of Nuclear War" hyperlink).

18. *Id.* at 109-12.

19. *Id.* at 112-15.

20. *Id.*

21. F.G. GOSLING, U.S. DEP'T OF ENERGY, THE MANHATTAN PROJECT: MAKING THE ATOMIC BOMB 48 (1999), available at <http://www.cfo.doe.gov/me70/manhattan/publications/DE99001330.pdf> [hereinafter THE MANHATTAN PROJECT].

22. KAI BIRD & MARTIN J. SHERWIN, AMERICAN PROMETHEUS: THE TRIUMPH AND TRAGEDY OF J. ROBERT OPPENHEIMER 309 (2005). Oppenheimer reportedly quoted Vishnu aloud, but such reports are apparently mistaken. *Id.*

23. On the other hand, the possibility of a limited nuclear strike was never foreclosed. Only weeks

Inevitably, however, the nuclear monopoly enjoyed by the Anglo-Americans was short lived. On August 29, 1949, the Soviet Union, aided by the efforts of its spies at the Manhattan Project,²⁴ detonated its own first atomic weapon at the Semipalatinsk test site in what is now the independent nation of Kazakhstan.²⁵ The race for nuclear supremacy then began in earnest. In November, 1952, over Oppenheimer's objections,²⁶ the United States successfully tested its first "super" nuclear device, which would be developed into the so-called hydrogen bomb.²⁷ A hydrogen bomb can generate explosive force thousands of times greater than the weapons detonated over Hiroshima and Nagasaki.²⁸ Nine months later, in August of 1953, the Soviet Union

after the Trinity test, the United States dropped two atomic bombs on Japan, bringing the Second World War to a rapid and decisive conclusion. See THE MANHATTAN PROJECT, *supra* note 21, at 51-54. There is an important historical lesson here for those who dismiss the very idea of nuclear conflict as "unthinkable." They would do well to remember that the United States has already waged, and won, a nuclear war. This lesson has not been overlooked by subsequent American Presidents, who have thought very hard about whether to use nuclear weapons again. See, e.g., Robert S. Norris & Hans M. Kristensen, *U.S. Nuclear Threats: Then and Now*, BULL. OF THE ATOMIC SCIENTISTS, Sept./Oct. 2006, at 69-71 (George W. Bush, Nixon, Eisenhower, and Truman); Associated Press, *Nixon Considered Using Nukes in Vietnam*, ABC NEWS, Aug. 1, 2006, <http://www.abcnews.go.com/Politics/wireStory?id=2259840> (Nixon).

24. BIRD & SHERWIN, *supra* note 22, at 285-87; TERRENCE R. FEHNER & F.G. GOSLING, U.S. DEP'T OF ENERGY, ORIGINS OF THE NEVADA TEST SITE 42 (2000), available at <http://www.cfo.doe.gov/me70/manhattan/publications/DOENevadaTestSite.pdf>.

25. Robert S. Norris & William M. Arkin, *Soviet Nuclear Testing: August 29, 1949-October 24, 1990*, BULL. OF THE ATOMIC SCIENTISTS, May/June 1998, at 69, 69-71.

26. BIRD & SHERWIN, *supra* note 22, at 416-30.

27. A word about nomenclature is in order. What we commonly refer to as "nuclear weapons" come in many varieties and go by several different names. Early nuclear explosives, and some smaller weapons in the current U.S. arsenal, are commonly called "atomic bombs" or, more properly, fission weapons. These weapons generate explosive force through nuclear fission, which involves "splitting" the nuclei of heavy, unstable elements such as plutonium or uranium-235. See Nuclear Fission and Nuclear Fusion, <http://xenon.che.ilstu.edu/genchemhelfhomepage/topicreview/bp/ch23/fission.html> (last visited Mar. 11, 2007). In contrast, "super" nuclear weapons are fusion weapons which generate energy through the combination, or fusion, of lighter elements. See *id.* See also Michael Lennick, "We Knew that if We Succeeded, We Could at One Blow Destroy a City": A Final Interview with the Most Controversial Father of the Atomic Age, Edward Teller, AM. HERITAGE MAG., June/July 2005, available at http://www.americanheritage.com/articles/magazine/ah/2005/3/2005_3_54.shtml. These fusion weapons make up the bulk of the modern arsenals of both the United States and Russia. Because fusion can only take place at extremely high temperatures (such as exist in the interior of stars), these super atomic weapons are often called "thermonuclear" weapons. In order to generate the temperatures necessary for fusion, thermonuclear weapons use the less-powerful fission weapons as triggers. U.S. ARMS CONTROL AND DISARMAMENT AGENCY, WORLDWIDE EFFECTS OF NUCLEAR WAR: SOME PERSPECTIVES n.2 (1996), available at <http://www.gutenberg.org/dirs/etext96/nukwr10.txt> (last visited Mar. 11, 2007) [hereinafter WORLDWIDE EFFECTS].

28. According to the U.S. Arms Control and Disarmament Agency:

The most widely used standard for measuring the power of nuclear weapons is "yield," expressed as the quantity of chemical explosive (TNT) that would produce the same energy

followed suit. Both countries then embarked upon aggressive testing programs, which resulted in the development of ever more powerful and compact thermonuclear weapons. Soon, these weapons were small enough to be carried as the payloads of newly-developed missiles, which traveled at supersonic speeds along high, ballistic trajectories, making any defense almost impossible.²⁹ The most powerful of these missiles could deliver nuclear weapons over intercontinental distances, and were therefore dubbed Inter-Continental Ballistic Missiles, or ICBM's.³⁰ The time from such a missile's launch in say, Siberia, to an impact in say, Washington, D.C., was less than one hour. With the advent of large arsenals of thermonuclear weapons mounted on ICBM's, humankind had, by about 1960, truly attained the power of Vishnu.

In early October of 1962, that power was almost unleashed. Over thirteen fateful days, the future of the world hung in the balance as U.S. President John

release. The first atomic weapon which leveled Hiroshima in 1945, had a yield of 13 kilotons; that is, the explosive power of 13,000 tons of TNT. (The largest conventional bomb dropped in World War II contained about 10 tons of TNT.)

Since Hiroshima, the yields or explosive power of nuclear weapons have vastly increased. The world's largest nuclear detonation, set off in 1962 by the Soviet Union, had a yield of 58 megatons—equivalent to 58 million tons of TNT. A modern ballistic missile may carry warhead yields up to 20 or more megatons.

WORLDWIDE EFFECTS, *supra* note 27, at n.1.

29. Despite billions of dollars and several decades of research, comprehensive ballistic missile defense remains little more than Ronald Reagan's dream. See Michelle Ciarrocca, *Missile Defense*, FOREIGN POL'Y IN FOCUS, May 2003, available at <http://www.fpiif.org/briefs/vol8/v8n01missile.html>; Michelle Ciarrocca, *Missile Defense All Over Again*, FOREIGN POL'Y IN FOCUS, Oct. 2004, available at <http://www.fpiif.org/briefs/vol9/v9n04missdef.html> (last visited Mar. 11, 2007). While some local missile defense systems, such as the much-touted Patriot missile, can occasionally hit their targets, none have reached 100% effectiveness. See *60 Minutes: The Patriot Flawed?* (CBS television broadcast July 27, 2004), available at <http://www.cbsnews.com/stories/2004/02/19/60minutes/main601241.shtml> (last visited Mar. 11, 2007). Indeed, the United States Missile Defense Agency has a rather modest stated mission of "moving forward to provide a *limited* defensive capability against a long-range ballistic missile attack aimed at any of our 50 states." U.S. DEP'T OF DEFENSE, A DAY IN THE LIFE OF THE BMDS [BALLISTIC MISSILE DEFENSE SYSTEM], available at <http://www.mda.mil/mdalink/pdf/bmdsbook.pdf> (last visited Mar. 11, 2007) (emphasis added).

30. There are, of course, several other ways to deliver nuclear weapons to their targets, including the use of manned bombers, cruise missiles (which fly at low altitudes, like aircraft, as opposed to following high, ballistic trajectories), and submarines (which may launch either ballistic or cruise missiles). See generally Center for Defense Information, Current World Nuclear Arsenals, <http://www.cdi.org/nuclear/database/nukestab.html> (last visited Mar. 11, 2007) [hereinafter World Arsenals]. Given the increasing miniaturization allowed by technology, there seems to be no end to the possible methods of delivering nuclear weapons to their targets. Indeed, as early as the 1950's and 60's, the United States deployed atomic cannons, which could shoot so-called "tactical" nuclear weapons for distances of up to twenty miles. See GlobalSecurity.org, M65 Atomic Cannon, <http://www.globalsecurity.org/military/systems/ground/m65.htm> (last visited Mar. 11, 2007).

F. Kennedy faced off with Soviet Premier Nikita S. Khrushchev over the deployment of medium-range Soviet nuclear missiles in Cuba. As tape recordings³¹ of the top-secret meetings of the Executive Committee (ExComm) of the U.S. National Security Council demonstrate, several of President Kennedy's advisers advocated aggressive military responses to this perceived provocation, including air strikes, invasion and even, in the case of Maxwell D. Taylor, Chairman of the Joint Chiefs of Staff, "the possible use of nuclear weapons"³² against the Soviet missile sites in Cuba, which were just then becoming operational. This was true despite the fact that everyone in the room recognized the likelihood of a massive Soviet military response if, as noted by Secretary of Defense Robert S. McNamara, several hundred Soviet soldiers and technicians were killed in a U.S. attack:

McGeorge Bundy, National Security Advisor:	Killed?
McNamara:	Killed. Absolutely! We're using napalm, 750-pound bombs. This is an <i>extensive</i> strike we're talking about.
Bundy:	Well, I hope it is!
C. Douglas Dillon, Secretary of the Treasury:	I think they'll take Berlin.
George W. Ball, Under Secretary of State:	[We should provide a twenty-four hour warning, to give] Khrushchev <i>some</i> way out. Even though it may be illusory, I think we <i>still</i> have to do it.
John F. Kennedy, President of the United States:	[Khrushchev will] grab Berlin anyway.
McNamara:	[O]nce you start down that course, it's possible that Khrushchev outmaneuvers you.
JFK:	[The European allies will think that we lost Berlin because of missiles in Cuba] which, as I say, do not bother them.
Robert F. Kennedy Attorney General:	I think he moves into Berlin.
McNamara:	What do we <i>mean</i> exactly? Do they take it with Soviet troops?
JFK:	That's what I would see, anyway.

31. On July 16, 1973, Alexander Butterfield, an aide to President Richard M. Nixon, famously revealed the existence of a secret, voice-activated tape recording system at the White House, leading to Nixon's near-impeachment and resignation a year later. See Lawrence Meyer, *President Taped Talks, Phone Calls*, WASH. POST, July 17, 1973, at A1. Far less famously, on July 17, 1973, President Kennedy's presidential library revealed the existence of secret tapes made during JFK's presidency, some of which covered meetings of the Executive Committee of the U.S. National Security Council during the Cuban Missile Crisis. See SHELDON M. STERN, *THE WEEK THE WORLD STOOD STILL: INSIDE THE SECRET CUBAN MISSILE CRISIS 1* (2005).

32. STERN, *supra* note 31, at 31, 32, 34.

McNamara: I think there's a real possibility of that. We have U.S. troops there. What do they do?
 Taylor: They fight.
 JFK: And they get overrun.
 RFK: Then what do we do?
 Taylor: Go to general war, assuming we have time for it.
 JFK: You mean nuclear exchange?
 Taylor: Guess you have to.³³

Fortunately, cooler heads prevailed. An aggressive U.S. military reaction would almost certainly have prompted a global conflict. Indeed, the Cubans, at least, were quite ready for a showdown. On October 27, 1962, Cuban President Fidel Castro sent a cable to Premier Khrushchev indicating Castro's belief that an American attack was imminent.³⁴ According to a later account in a letter from Khrushchev to Castro, the cable also contained a chilling proposal:

In your cable of October 27 you proposed that we be the first to carry out a nuclear strike against the enemy's territory. Naturally you understand where that would lead us. It would not be a simple strike, but the start of a thermonuclear world war.

Dear Comrade Fidel Castro, I find your proposal to be wrong, even though I understand your reasons.³⁵

The conflict ended when Kennedy publicly pledged that he would not attack Cuba and secretly offered to withdraw obsolescent Jupiter medium-range ballistic missiles from Turkey in exchange for the withdrawal of the Soviet missiles from Cuba. Fortunately, Khrushchev agreed.³⁶

33. *Id.* at 58-59 (quotations adapted) (emphases in original).

34. Letter from Nikita Khrushchev to Fidel Castro (Oct. 30, 1962), available at http://www.pbs.org/wgbh/amex/presidents/35_kennedy/psources/ps_defendcuba.html (last visited Mar. 11, 2007). Some of the Soviet missiles could have struck targets as far away as San Francisco, according to a Department of Defense display board. See STERN, *supra* note 31, at 35-37.

35. *Id.*

36. See STERN, *supra* note 31, at 195. Before leaving this most terrifying episode in the Cold War, I must note one truly remarkable aspect of the Cuban Missile Crisis that is often overlooked: The deployment of Soviet missiles in Cuba did little, if anything, to alter the strategic balance between the United States and the Soviet Union. As noted in the ExComm tapes:

Bundy questioned whether the missiles were militarily significant: "How gravely *does* this *change*," he rapped the table for emphasis, "the strategic balance?" McNamara boldly distanced himself from the Chiefs under his authority: "Mac, I asked the Chiefs that this afternoon. In effect, they said 'substantially.' My own personal view is, not at all."

Id. at 47. As noted, the U.S. already had nuclear missiles stationed along the southern border of the USSR in Turkey. The Cuban deployments provided a roughly equivalent striking ability to the Soviet Union. One can argue that such deployments were destabilizing, because both the Turkish and Cuban missiles would give very little warning time before reaching their targets. Again, however, the threats were equivalent.

The Cuban Missile Crisis is only the most infamous episode of Cold War nuclear brinkmanship. Over the next several decades, the world teetered alternately away from, and closer to, the nuclear abyss on several occasions.³⁷ On November 9, 1979, U.S. nuclear forces were put on launch alert when the U.S. early warning system indicated that a massive Soviet nuclear attack was underway. Air defense fighters were launched, along with the president's airborne "doomsday" command center. It was a false alarm, prompted by a realistic training tape that had mistakenly been inserted into the early warning system's computers. Less than a year later, on June 3, 1980, the early warning system again erroneously indicated a Soviet nuclear attack; this time, a faulty computer chip was to blame. On September 26, 1983, a new Soviet early-warning system mistook the rising sun as the launch of several hundred American missiles, with near-fatal consequences. On January 25, 1995, Russian defense officials thought that a Norwegian sounding rocket was an attacking American missile. As the Russian military forces prepared to launch a counterstrike, Russian President Boris Yeltsin went so far as to activate his emergency nuclear warfare communications system before the error was finally discovered. These are the publicly known dates upon which human civilization almost ended.³⁸ In all likelihood, several more—perhaps many more—such episodes remain classified and therefore unknown to the world at large.

Moreover, by 1962, both the U.S. and U.S.S.R. were operating submarines equipped with ballistic nuclear missiles which could be stationed near to each other's coastlines. See Federation of American Scientists, 629 Golf, <http://www.fas.org/nuke/guide/russia/slbn/629.htm> (last visited Mar. 11, 2007); Federation of American Scientists, Polaris A1, <http://www.fas.org/nuke/guide/usa/slbn/a-1.htm> (last visited Mar. 11, 2007). The ExComm, and presumably, its Soviet counterpart, were fully aware of this fact, and discussed its significance. See STERN, *supra* note 31, at 156. Submarine-launched ballistic missiles were, and remain, just as destabilizing as the ground-based missiles deployed in Cuba and Turkey, perhaps even more so, given the difficulty of detecting ballistic missile submarines. But despite the fact that the Soviet missiles in Cuba were militarily insignificant, there were people on both sides of the Cuban Missile Crisis who were apparently quite willing to use them as a reason to destroy the entire world.

37. This situation has been notably monitored via the notorious "Doomsday Clock" maintained in *The Bulletin of the Atomic Scientists*:

Since its inception in 1947, the Doomsday Clock has signified the level of threat posed by nuclear weapons and other changing factors in international security As the state of international security has changed, the Doomsday Clock has been moved 18 times to reflect the danger level of the period The Doomsday Clock was last moved on February 27, 2002 and currently stands at seven minutes to midnight.

See Bull. of the Atomic Scientists, Doomsday Clock, http://www.thebulletin.org/doomsday_clock/ (last visited Sept. 17, 2006).

38. Geoffrey Forden, *Reducing a Common Danger: Improving Russia's Early-Warning System*, POL'Y ANALYSIS, May 3, 2001, at 1, 3-7, available at <http://www.cato.org/pubs/pas/pa399.pdf> (last visited Mar. 11, 2007).

C. Modern Nuclear Nightmares

The Cold War is said to have ended in the late 1980's with *perestroika*, *glasnost*, and ultimately, the dissolution of the Soviet Union. But those who take comfort in these political developments, and who consequently believe that concern over global cataclysm is an overblown relic of an earlier age, would do well to heed Dr. ElBaradei's Nobel speech. As he accepted his prize, Dr. ElBaradei lamented the fact that, roughly fifteen years after the collapse of authoritarian communism in Europe, more than twenty thousand nuclear weapons remain in the arsenals of the United States, the former Soviet Union, and other countries.³⁹ Significantly, many of those weapons remain on high alert status; that is, they can be launched within minutes.⁴⁰ It may be true that the risk of an intentional conflict between the Western allies and the various countries that comprised the former Soviet Union is lower now than it was fifteen years ago.⁴¹ On the other hand, the risk of an accidental nuclear exchange may actually be higher today than it was during the Cold War because of the aging command and control systems in the former Soviet Union⁴² and decreased security at sites that were formerly part of the Soviet military-industrial complex.⁴³

39. See Walter Gibbs, *Accepting Nobel, ElBaradei Urges a Rethinking of Nuclear Strategy*, N.Y. TIMES, Dec. 11, 2005, § 1, at 9. The Center for Defense Information estimates the total number at approximately 21,844, including the arsenals of the U.S. Russia, China, France, India, Israel, Pakistan and Great Britain. See World Arsenals, *supra* note 30.

40. "[B]oth the United States and Russia maintain and regularly exercise a capability to launch on warning thousands of nuclear warheads after a missile attack is detected but before the incoming warheads arrive. The United States could launch approximately 2,700 strategic warheads within minutes; Russia 2,100." THE NUCLEAR TURNING POINT: A BLUEPRINT FOR DEEP CUTS AND DE-ALERTING OF NUCLEAR WEAPONS 3 (Harold A. Feiveson ed., 1999).

41. Or maybe not. Despite recent gains by relatively liberal groups in Ukraine, other former Soviet republics, such as Belarus, remain firmly in the grasp of authoritarian regimes. Russia, under its former-KGB President Vladimir Putin, seems to be sinking back into political repression. See Freedom House, 2006 Country Report: Russia, <http://www.freedomhouse.org/template.cfm?page=22&year=2006&country=7044> (last visited Mar. 11, 2007).

42. See Forden, *supra* note 38, at 12-13.

43. This decreased security has created a significant risk of diversion of highly-enriched fissile materials:

Russian radioactive materials are all too vulnerable, in reprocessing facilities, abandoned weapons, research labs: 1,500 tons of uranium, 150 tons of plutonium, enough to build some 300,000 nuclear bombs. Some of it is poorly secured, and some still virtually unsecured, waiting to be stolen and sold on the black market.

MARTIN SCHRAM, AVOIDING ARMAGEDDON 9 (2003).

Moreover, an exclusive focus on the illusory security benefits of the demise of the Soviet-American rivalry overlooks the significant proliferation of non-Soviet nuclear weapons states since 1949. Over the past several decades, a number of other nations have acquired such weapons, including France, China, India, and almost certainly Israel.⁴⁴ Pakistan also has nuclear weapons.⁴⁵ Iran is plainly making such an attempt.⁴⁶ And as this article is being written, North Korea, one of the most unstable regimes in the world, has apparently just tested its first atomic weapon.⁴⁷ Many of Dr. ElBaradei's efforts—and a great deal of international diplomacy—are currently directed at discouraging any further proliferation. But no one can guarantee the success of those efforts, and, meanwhile, other nations may follow North Korea's lead and enter the nuclear arena at any time. Ominously, Hugo Chavez, the President of Venezuela, has recently announced interest in developing a nuclear power program.⁴⁸ One must wonder why a nation awash in petroleum and petroleum revenues would need a nuclear power program. Perhaps Mr. Chavez is concerned about global warming.

Some proliferation of nuclear weapons is no doubt inevitable, since nuclear energy in all of its various forms is clearly implied by the immutable and universal laws of physics, and no nation has a monopoly on scientific knowledge. Still, it is troubling that so many different nations have made the decision to devote their scarce resources to the development of the enormously expensive technologies necessary for deployment and

44. See World Arsenals, *supra* note 30.

45. The "father" of the Pakistani bomb, A.Q. Khan, sold a great deal of nuclear weapons technology on the black market. See William J. Broad & David E. Sanger, *Pakistani's Nuclear Black Market Seen as Offering Deepest Secrets of Building Bomb*, N.Y. TIMES, Mar. 21, 2005, at A7; Salman Massod, *Health Concern For Father of Bomb*, N.Y. TIMES, June 17, 2005, at A9. Khan is now under house arrest in Pakistan, but remains a national hero. David E. Sanger, *Pakistan Leader Confirms Nuclear Exports*, N.Y. TIMES, Sept. 13, 2005, at A10.

46. See William J. Broad & David E. Sanger, *New Worry Rises on Iranian Claim of Nuclear Steps*, N.Y. TIMES, Apr. 17, 2006, at A1.

47. "North Korea . . . [became] the eighth country in history, and arguably the most unstable and most dangerous, to proclaim that it ha[d] joined the club of nuclear weapon states." David E. Sanger, *North Korea Says It Tested a Nuclear Device Underground*, N.Y. TIMES, Oct. 9, 2006 at A1. Moreover, the big fear about North Korea, American officials have long said, has less to do with its ability to lash out than it does with its proclivity to proliferate. The country has sold its missiles and other weapons to Iran, Syria and Pakistan; at various moments in the six-party talks that have gone on for the past few years, North Korean representatives have threatened to sell nuclear weapons.

Id.

48. Larry Rohter & Juan Forero, *Venezuela's Leader Covets a Nuclear Energy Program*, N.Y. TIMES, Nov. 27, 2005, § 1, at 14.

maintenance of nuclear arsenals. It is equally troubling that several of those nations, including both the United States and the former Soviet Union, have made the decision to stockpile huge numbers of such weapons, far in excess of the total needed to destroy all major targets in each country many times over.⁴⁹ As has often been noted by various observers, the detonation of any one of these weapons under the right circumstances might lead to an escalation of hostilities ending in a global conflagration.

Moreover, along with the proliferation of so many weapons goes the proliferation of individual human beings who each have the ability to begin such a war. In popular fiction, the president of the United States and his Soviet or Russian counterpart are often characterized as the two omnipotent men who have the ability to destroy all of humanity with a single decision. The reality is far more complex and disturbing. Given the vagaries of command and control, there are dozens, perhaps hundreds, of people around the world who have effective authority over nuclear weapons. Each of these individuals, whether civilian or military, well-intentioned or malevolent, sane or not, may hold the fate of our species in his or her hands.

One fictional treatment⁵⁰ that addresses this particular aspect of the nuclear dilemma is Stanley Kubrik's classic 1964 film satire, "Dr. Strangelove: Or How I Learned to Stop Worrying and Love the Bomb." In *Dr. Strangelove*, a mentally unbalanced Air Force general orders his squadron of B-52 bombers to attack the Soviet Union without provocation. Despite the concerted efforts of the U.S. and Soviet governments to either recall or destroy the attacking planes, one bomber manages to evade the Soviet air defenses, drops a hydrogen bomb, and sets in motion a chain of events in

49. See Robert S. Norris & Hans M. Kristensen, *Global Nuclear Stockpiles: 1945-2006*, BULL. OF THE ATOMIC SCIENTISTS, July/August 2006, at 64. The standard justification for such stockpiling is the argument that large, dispersed arsenals deter surprise attacks because a potential aggressor cannot be certain that it will destroy its opponent's entire nuclear arsenal in a first strike. While this argument may have some merit from the perspective of game theory, it also has some important weaknesses. First of all, it presupposes an opponent that is simultaneously irrational enough to contemplate a massive first strike but rational enough to be deterred by careful calculations of possible levels of nuclear retaliation. Moreover, large arsenals create the near-certainty that, if deterrence fails, the resultant nuclear exchange will be far more destructive than a war fought with smaller numbers of weapons. Large arsenals also necessarily create a larger circle of individual civilians and military officers with command-and-control responsibilities, any one of whom might make a poor decision.

50. Professor Paul Brians of Washington State University has attempted to compile an exhaustive list of the remarkable outpouring of fictional treatments of nuclear war. See Paul Brians, *Nuclear Holocausts Bibliography*, <http://www.wsu.edu/~brians/nuclear/a.htm> (last visited on Mar. 11, 2007). His list, dating back to the late nineteenth century, contains hundreds of entries.

which human civilization is ultimately destroyed.⁵¹ In the more than forty years since the release of *Dr. Strangelove*, the chance of such an event has not diminished; in fact, just the opposite is true. If *Dr. Strangelove* were re-made today, the role of the American Air Force general might better be assigned to a mid-level Indian or Pakistani military officer who has direct control over tactical nuclear weapons. Such a character could be mad, as in Kubrick's film, or merely the victim of circumstance. Indeed, it is all too easy to imagine an escalating conflict along the unstable, highly-militarized border of the disputed province of Kashmir, in which a local commander is faced with the difficult choice of either launching his weapons or losing them to advancing enemy troops. It is quite conceivable that such a commander would make the decision to launch. The resulting Indo-Pakistani nuclear exchange could kill millions of people in South Asia alone.⁵² But the damage would not stop there. Lethal radioactive fallout would enter the stratosphere and travel around the world.⁵³ Moreover, any such conflict could quickly spread to China, which might easily mistake dozens of nuclear detonations along its southern border for an attack; then similarly to Russia; then to the rest of the world.

But as frightening as these doomsday scenarios undoubtedly are, they perhaps do not present the greatest current risk of global catastrophe. It is the rare government official—one hopes—who would consciously make the decision to commit national suicide by launching an initial nuclear strike against another nuclear power. There are, however, other people who have

51. Or at least driven underground into deep mineshafts for many decades; the conclusion of the film is open-ended. In one of the final lines, Air Force General Buck Turgidson, played by actor George C. Scott, discusses his plans for the aftermath of the nuclear holocaust:

Turgidson:

Yeah. I think it would be extremely naive of us, Mr. President, to imagine that these new developments are going to cause any change in Soviet expansionist policy. I mean, we must be . . . increasingly on the alert to prevent them from taking over other mineshaft space, in order to breed more prodigiously than we do, thus, knocking us out in superior numbers when we emerge! Mr. President, we must not allow . . . a mine shaft gap!

DR. STRANGELOVE: OR, HOW I LEARNED TO STOP WORRYING AND LOVE THE BOMB (Kubrick 1964) [hereinafter *DR. STRANGELOVE*], available at <http://www.visual-memory.co.uk/amk/doc/0055.html> (last visited Mar. 11, 2007).

52. According to the National Resources Defense Council (NRDC), "a classified Pentagon study . . . concludes that a nuclear war between these countries could result in 12 million deaths." NRDC, *The Consequences of Nuclear Conflict Between India and Pakistan*, <http://www.nrdc.org/nuclear/southasia.asp> (last visited Mar. 11, 2007). The NRDC's own experts estimate that, in addition to the several million people who would be killed by nuclear explosions, "22.1 million people in India and Pakistan would be exposed to lethal radiation doses of 600 rem or more in the first two days after the attack." *Id.*

53. CARL SAGAN, *COSMOS* 325 (1980).

repeatedly declared and, indeed, demonstrated their willingness to use any means to achieve their goals, even when those means are suicidal. I refer, of course, to terrorists.⁵⁴ As has long been acknowledged by experts in the field, and as the world learned to its dismay on September 11, 2001, certain people, often motivated by ideological or spiritual fervor, perhaps personally desperate or mentally unbalanced, are quite willing, even eager, to kill innocent people to achieve their objectives. Therefore, we must consider it a virtual certainty that if such people obtain weapons of mass destruction, such as nuclear weapons, they will quickly use them, and in the most destructive way possible.

Unfortunately, it is not as hard to obtain a nuclear weapon as one might wish. The former Soviet Union contains vast stockpiles of poorly-guarded, highly-enriched, fissionable materials.⁵⁵ If terrorists were to obtain just a few pounds of these materials, they would then need only to find a relatively simple, workable design for a nuclear explosive device. Such designs are available. To take but one famous example, an undergraduate by the name of John Aristotle Phillips successfully completed in the spring of 1977 a “thirty-four-page junior independent project for the Princeton Physics Department [that] outlined plans for a plutonium fission bomb similar to the device unleashed over Nagasaki in World War II.”⁵⁶ Phillips’s project “demonstrated that a terrorist, with a background in college physics, a small amount of stolen plutonium and the wherewithal to construct the device, could pose a threat to world peace.”⁵⁷ In a 2003 interview, a then middle-aged Phillips told the *Village Voice*: “I would never have thought that we’d have gone 25 years without a terrorist getting a nuclear device. . . . I’m surprised it hasn’t happened. I still do expect it.”⁵⁸

The implications of nuclear-armed terrorists would be staggering. Indeed, former New Jersey Governor Thomas Kean, the Chair of the 9/11

54. Terrorists come in many varieties, of course, including various ethnicities and ideological backgrounds. At the moment, Islamist terrorists dominate the media. In his award-winning book, *The End of Faith*, commentator Sam Harris uses evocative (and provocative) imagery to describe such people and their potential to do harm: “It is though a portal in time has opened, and fourteenth-century hordes are pouring into our world. Unfortunately, they are now armed with twenty-first century weapons.” SAM HARRIS, *THE END OF FAITH* 107 (2004).

55. SCHRAM, *supra* note 43, at 9.

56. JOHN ARISTOTLE PHILLIPS, *MUSHROOM: THE STORY OF THE A-BOMB KID* 19 (1978).

57. *Id.*

58. Paul Collins, *The A-Bomb Kid: Don’t Try This at Home: The End of the World as We Know It Is Just a Term Paper Away*, *VILLAGE VOICE*, Dec. 17, 2003, at C56, available at <http://www.villagevoice.com/news/0351,essay,49520,1.html>.

Commission, characterizes “the possibility of a terrorist with a nuclear weapon” as “the most dangerous gap” in American security.⁵⁹ I would amend Mr. Kean’s statement only by substituting the plural for the singular; for if terrorists are able to obtain a single nuclear weapon, there is little to prevent them from obtaining two, or three, or perhaps a dozen.

Consider the situation faced by an American president who is awakened by an early-morning telephone call from his Secretary of Defense announcing an act of nuclear terrorism. If a recording system similar to those used by Presidents Kennedy and Nixon were attached to the telephone, a transcript might read something like this:

SecDef: Mr. President, I’m sorry to awaken you at this hour, but we have good reason to believe that we are under attack.
 President: What? What’s going on?
 SecDef: Sir, we have received credible reports that a nuclear weapon has been detonated in lower Manhattan. . . .
 President: [Interrupting] Oh, my God.
 SecDef: . . . Initial reports indicate that most of the southern end of the island has been destroyed, up to about 30th Street. Much of downtown Brooklyn is on fire. Apparently, the bomb was detonated from inside a delivery van on the Manhattan side of the Brooklyn Bridge.
 President: Oh my God.
 SecDef: Mr. Pres—
 President: How do you know that—about the van?
 SecDef: A group associated with the Al Qaeda terrorist network claimed responsibility about a minute before the explosion occurred, so we are confident that the claim is credible. They described the delivery van on the bridge, and that location is consistent with the blast radius of the explosion.
 President: Oh, my God.
 SecDef: Mr. President, we need to evacuate you immediately. This group, whoever it is, claims to have more than one weapon. They claim that if their demands aren’t met immediately, they will detonate another weapon in another . . . just a moment . . . just a . . . Mr. President, I have just received a report from NORAD⁶⁰ that two more targets have been hit—Chicago and, I believe San Francisco, or maybe it’s Oakland
 President: [Unintelligible; multiple voices in background]

59. Kean is unquestionably correct in his statement: “The most dangerous gap is the possibility of a terrorist with a nuclear weapon.” Sheryl Gay Stolberg, *Bush Assures That the Nation Is Safer as Memories Turn to a Day of Destruction*, N.Y. TIMES, Sept. 8, 2006, at A25. Kean also said, “We still haven’t done enough to contain about a hundred sites around the world that have enriched uranium.” *Id.*

60. NORAD stands for the North American Aerospace Defense Command, which operates the U.S. early warning system. See Andy Walton, *Cheyenne Mountain: America’s Underground Watch Tower*, CNN.COM, <http://www.cnn.com/SPECIALS/cold.war/experience/the.bomb/route/01.cheyenne/> (last visited Mar. 11, 2007). Its primary operations center is located in Cheyenne Mountain, Colorado, near Colorado Springs. *Id.*

- SecDef: . . . I'm receiving confirmation, now, Mr. President. It was San Francisco, San Francisco and Chicago. We have no idea how bad it is, but NORAD says that confidence is high that nuclear explosions have occurred near the downtown sections of both cities. According to our early warning satellites, there were no inbound missiles. The explosions occurred at or near ground level.
- President: [Long pause] So it's terrorists. What are their demands?
- SecDef: It's a long list. I think the biggest things are the immediate withdrawal of all American military forces from Iraq, Afghanistan, Saudi Arabia and, I think, pretty much everywhere in Europe and the Middle East. And also, I think . . . just a moment . . . yes, the immediate renunciation of our security commitments to Israel, and the establishment of a Palestinian state with Jerusalem as the capital city, with immediate transfer of one trillion U.S. dollars to the new Palestinian government, and . . . there's a lot more here, Mr. President.
- President: What are my options, Mr. Secretary?
- SecDef: Sir, the Marine One helicopter should be arriving to evacuate you in about five minutes—
- President: [Interrupting] No, Mr. Secretary. I mean, what are my options with regard to the terrorist demands?
- SecDef: [Silence]

This scenario could occur today. And it could be much worse. For example, an American President might be confronted with several nuclear detonations with no clear idea of who was behind them. The U.S. might mistake them for an attack by another country and erroneously order a retaliatory response, with devastating results.

D. Humanity's Technological Adolescence

All of this is very frightening. But the development, deployment, and proliferation of thermonuclear weapons represents merely the beginning of what the late astronomer Carl Sagan called society's "technological adolescence"—a period of time when humanity's ability to destroy itself perhaps exceeds its collective wisdom.⁶¹ The future of our society is, therefore, very much an open question:

Human history can be viewed as a slowly dawning awareness that we are members of a larger group. Initially our loyalties were to ourselves and our immediate family, next, to bands of wandering hunter gatherers, then to tribes, small settlements, city-states, nations. We have broadened the circle of those we love. We have now organized what are modestly described as superpowers, which include groups of people from divergent

61. Franklin O'Donnell, SETI News, Fourth Quarter, 1992, Goldstone Scans the Sky, <http://www.seti.org/site/pp.asp?c=ktJ2J9MMIsE&b=179144>.

ethnic and cultural backgrounds working in some sense together—surely a humanizing and character-building experience. If we are to survive, our loyalties must be broadened further, to include the whole human community, the entire planet Earth. Many of those who run the nations will find this idea unpleasant. They will fear the loss of power. We will hear much about treason and disloyalty. Rich nation-states will have to share their wealth with poor ones. But the choice, as H.G. Wells once said in a different context, is clearly the universe or nothing.⁶²

Sagan is not alone in his assessment. Commentator Sam Harris notes that:

Two hundred years from now, when we are a thriving global civilization beginning to colonize space, *something* about us will have changed; it must have; otherwise, we would have killed ourselves ten times over before this day ever dawned. We are fast approaching a time when the manufacture of weapons of mass destruction will be a trivial undertaking; the requisite information and technology are now seeping into every corner of our world. As the physicist Martin Rees points out, “We are entering an era where a single person can, by one clandestine act, cause millions of deaths or render a city uninhabitable for years”⁶³

Much like a teenager who soups up a car so that it can reach ever-more-dangerous speeds, humanity is daily inventing new technologies that, while increasing the pace, productivity, and comfort of human existence, are also increasingly dangerous. And the rate of technological advance is itself escalating.⁶⁴ While no one can predict what the next catastrophically dangerous invention will be, it is certain that more of them will soon appear. Indeed, some already exist. Small quantities of advanced chemical weapons

62. SAGAN, *supra* note 53, at 339.

63. HARRIS, *supra* note 54, at 47 (footnote omitted).

64. Gordon Moore, founder of Intel, famously predicted in 1965 that the number of transistors on a silicon chip would grow with increasing rapidity, doubling roughly every two years. See John Markoff, *I.B.M. Researchers Find a Way To Keep Moore’s Law on Pace*, N.Y. TIMES, Feb. 20, 2006, at C4. This prediction, now generally called “Moore’s Law,” has guided and prodded the phenomenal advances in the electronics industry for the past four decades. See *id.* According to Professor Ian Mackintosh, formerly a silicon chip researcher at Bell Laboratories:

Moore’s Law reflects the extraordinary improvements in silicon technology in last 40 years.

. . . .
Practically anything digital has depended critically on the swift improvement in chip density [Without this improvement, we] wouldn’t have mobile phones, laptops, digital cameras, some of the advances in medical technology, electronic games, satellites, GPS, and on and on.

Jo Twist, *Law That Has Driven Digital Life*, BBC NEWS, Apr. 18, 2005, <http://news.bbc.co.uk/2/hi/science/nature/4449711.stm>.

Moore’s Law has proven remarkably prescient, despite repeated declarations of its demise, most notably by Moore himself. See Manek Dubash, *Moore’s Law is Dead, Says Gordon Moore*, TECHWORLD, Apr. 13, 2005, <http://www.techworld.com/opsys/news/index.cfm?NewsID=3477> (last visited Oct. 1, 2006).

can wipe out cities; larger quantities can sterilize continents.⁶⁵ Virulent microorganisms, bioengineered to resist vaccines and antidotes, could spread across the globe in a matter of weeks.⁶⁶ Even allegedly peaceful technologies, such as genetically-engineered crops, could go awry, causing worldwide famine or disease.⁶⁷

Once again, nuclear history is instructive. The breathtaking power of an atomic explosion was theoretically predicted in 1905, when Einstein published his famous equation, $E = mc^2$. In that equation, “E” represents the energy that can be generated by a given mass of matter, represented by “m.” The enormity of this energy is made apparent by the value of “c,” which stands for the speed of light, an astronomically large number. Indeed, “c” is not only very large by itself. According to the equation, it is then squared, yielding a number so high that it is almost beyond human comprehension. Thus, a relatively small amount of matter—say, a few pounds of plutonium—can, under the right conditions, release stupendous amounts of energy. However, for more than thirty years, Einstein himself thought it highly unlikely that human beings would find a way to create those conditions in the near future.

Early attempts to release atomic energy by fission, or the “splitting” of atomic nuclei, seemed to prove Einstein correct. In 1932, British physicists John D. Cockcroft and Ernest T.S. Walton accelerated or “shot” protons at the nuclei of other atoms, splitting some of the target nuclei.⁶⁸ Many of these protons were, however, deflected by the positive charges of the protons in the target nuclei or by the negative charges of the electrons circling those nuclei.⁶⁹ Thus, very few atoms were split, and very little energy was released—less energy, in fact, than it took to accelerate the protons.⁷⁰ In 1933, renowned physicist Lord Ernest Rutherford, director of Britain’s Cavendish Laboratory, told the *The Times* of London that splitting atoms in this fashion “was a very poor and inefficient way of producing energy, and anyone who looked for a

65. See SCHRAM, *supra* note 43, at 167.

66. See *id.* at 200-04.

67. See Andrew Pollack, *Grass Created in Lab Is Found in the Wild*, N.Y. TIMES, Aug. 16, 2006, at A13.

68. Professor I. Waller, Member of the Nobel Committee for Physics, Presentation Speech for the 1951 Nobel Prize in Physics Awarded to Sir John Cockcroft (Dec. 10, 1951), in NOBEL LECTURES, PHYSICS 1942-1962 (1964), available at http://nobelprize.org/nobel_prizes/physics/laureates/1951/press.html.

69. See Atomicarchive.com, *The Manhattan Project: Making the Atomic Bomb; Part I: Physics Background, 1919-1939*, at 4, <http://www.atomicarchive.com/History/mp/p1s2.shtml> (last visited at Mar. 11, 2007).

70. See *id.*

source of power in the transformation of the atoms was talking moonshine.”⁷¹ Nuclear energy seemed to be locked in the realm of the theoretical.

However, an expatriate Hungarian physicist by the name of Leo Szilard found Rutherford’s “moonshine” comment in the *Times* article “rather irritating because how can anyone know what someone else might invent?”⁷² A few weeks later, Szilard suddenly realized that Rutherford was indeed wrong:

As I was waiting for the light to change and as the light changed to green and I crossed the street, it suddenly occurred to me that if we could find an element which is split by neutrons and which would emit *two* neutrons when it absorbed *one* neutron, such an element, if assembled in sufficiently large mass, could sustain a nuclear chain reaction. I didn’t see at the moment just how one would go about finding such an element or what experiments would be needed, but the idea never left me.⁷³

Szilard had deduced what now seems an obvious point, but which until that moment had eluded the best minds of his generation: by accelerating neutrons—which, as their name implies, have a neutral charge—instead of protons, the problem of proton deflection would be eliminated. As a consequence, atoms could be far more easily “split” and their energy more efficiently released. Indeed, it was Szilard who immediately realized, to his own horror, that neutron bombardment opened the door not only to carefully-controlled nuclear fission, which could be used for peaceful purposes, but to uncontrolled chain reactions, or atomic explosions. It was this realization, along with Szilard’s firsthand knowledge that the country with the most advanced physics in the world was Nazi Germany, that eventually prompted him, along with Princeton physics professor Eugene Wigner, to track down Einstein at his vacation cottage on Long Island in the summer of 1939. Szilard and Wigner explained Szilard’s ideas, as well as some recent calculations they had performed together regarding the fission of uranium. During the conversation, which took place in German, Einstein responded to these revelations with the statement, “*Daran habe ich gar nicht gedacht*” [I hadn’t thought of that at all].⁷⁴ That same day, Einstein agreed to sign a letter warning of the imminent possibility of a Nazi atomic weapon. Soon

71. WILLIAM LANOUEE WITH BELA SZILARD, *GENIUS IN THE SHADOWS: A BIOGRAPHY OF LEO SZILARD* 131-33 (1992).

72. *Id.* at 133.

73. *Id.* at 133-34 (endnote omitted).

74. *Id.* at 199.

thereafter, Szilard had the letter hand-delivered directly to President Franklin Roosevelt:

Albert Einstein
Old Grove Rd.
Nassau Point
Peconic, Long Island
August 2nd, 1939

F.D. Roosevelt,
President of the United States
White House
Washington, D.C.

Sir,

Some recent work by E. Fermi and L. Szilard, which has been communicated to me in manuscript, leads me to expect that the element uranium may be turned into a new and important source of energy in the immediate future. Certain aspects of the situation which has arisen seem to call for watchfulness and, if necessary, quick action on the part of the Administration. I believe therefore that it is my duty to bring to your attention the following facts and recommendations:

.....
This new phenomenon would also lead to the construction of bombs, and it is conceivable—though much less certain—that extremely powerful bombs of a new type may thus be constructed

.....
I understand that Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over. That she should have taken such early action might perhaps be understood on the ground that the son of the German Under-Secretary of State, von Weizsacker, is attached to the Kaiser-Wilhelm-Institut in Berlin where some of the American work on uranium is now being repeated.

Yours very truly,
Albert Einstein⁷⁵

So Einstein, perhaps the most prominent scientist in history, had to admit that he (and almost every other physicist of his day) had been wrong: it was far easier to release atomic energy than had long been believed. The power of the universe was suddenly at humanity's fingertips, for good and for ill.

Perhaps tomorrow, perhaps next week, humanity's power will increase again, perhaps exponentially—"because how can anyone know what someone else might invent?" There seems, tragically, to be far slower progress in the advancement of human wisdom. So the question presented by our technological adolescence remains poignantly open: will our wisdom catch up with our technology before we use that technology to destroy ourselves?

75. *Id.* at 205-06.

E. Summary

I hope that I have adequately demonstrated what to me seem several unwelcome yet obvious points: 1) information that is inherently, catastrophically dangerous now exists, and has existed for at least the past six decades; 2) the type and amount of catastrophically dangerous information is growing with increasing rapidity; 3) the available evidence, both historical and scientific, suggests that such information will eventually be used to destroy human civilization; and therefore, 4) it is in society's interest to keep catastrophically dangerous information out of the hands of incompetent or malevolent people. While we may only postpone the inevitable, it is an inevitable worth postponing.

On the other hand, I must acknowledge the equally obvious point that attaching legal penalties to the mere possession of information that may already be in the public domain presents difficult constitutional questions, at least in the United States. These obstacles become surmountable when we recognize that my proposal calls for an exception to the protections of the First Amendment which, to a great extent, already exists. Indeed, this exception is more justified than other exceptions that have long existed, however uneasily, within established First Amendment jurisprudence.

III. THE FIRST AMENDMENT

A. A Jurisprudence of Exceptions

The relevant language of the First Amendment is straightforward and succinct:

Congress shall make no law . . . abridging the freedom of speech, or of the press . . .⁷⁶

It is also absolute, as noted by Justice Hugo Black in a famous dissenting opinion joined by Justice William O. Douglas and Chief Justice Earl Warren:

As I have indicated many times before, I do not subscribe to that [balancing] doctrine for I believe that the First Amendment's unequivocal command that there shall be no abridgment of the rights of free speech and assembly shows that the men who drafted our Bill of Rights did all the "balancing" that was to be done in this field. The history of the First Amendment is too well known to require repeating here except to say that it certainly cannot be denied that the very object of adopting the First Amendment, as well

76. U.S. CONST. amend. I.

as the other provisions of the Bill of Rights, was to put the freedoms protected there completely out of the area of any congressional control that may be attempted through the exercise of precisely those powers that are now being used to “balance” the Bill of Rights out of existence.⁷⁷

This absolutist position in First Amendment jurisprudence may be the only one that is logically consistent, but it has never been generally accepted. Instead, most courts⁷⁸—and most law professors⁷⁹—find it necessary to carve out one or more exceptions to the absolutist position.⁸⁰ These exceptions include such familiar concepts as “incitement,” “hate speech” and “obscenity.” Equally familiar are a host of other legal liabilities for various forms of verbal or written communication that are constitutionally imposed pursuant to both criminal and civil law. These liabilities include prohibitions of fraud, perjury, defamation, false advertising and other forms of misrepresentation, as well as causes of action in tort, such as invasion of

77. *Konigsberg v. State Bar of Cal.*, 366 U.S. 36, 61 (1961) (Black, J., dissenting) (footnotes omitted).

78. The Court stated in *Konigsberg*:

At the outset we reject the view that freedom of speech and association as protected by the First and Fourteenth Amendments, are “absolutes,” not only in the undoubted sense that where the constitutional protection exists it must prevail, but also in the sense that the scope of that protection must be gathered solely from a literal reading of the First Amendment.

Konigsberg, 366 U.S. at 49 (citation and footnote omitted).

79. See, e.g., John C. Knechtle, *When to Regulate Hate Speech*, 110 PENN ST. L. REV. 539 (2006).

80. Even Justice Black acknowledged that the government may effectively penalize speech in certain circumstances:

The Court suggests that a “literal reading of the First Amendment” would be totally unreasonable because it would invalidate many widely accepted laws. I do not know to what extent this is true. I do not believe, for example, that it would invalidate laws resting upon the premise that where speech is an integral part of unlawful conduct that is going on at the time, the speech can be used to illustrate, emphasize and establish the unlawful conduct.

Konigsberg, 366 U.S. at 64 (footnote omitted).

He also emphasized that the issue before the Court in *Konigsberg* was itself limited to a certain type of speech, and therefore, that other types of speech might well fall outside of the First Amendment’s protection:

Whatever may be the wisdom, however, of an approach that would reject exceptions to the plain language of the First Amendment based upon such things as “libel,” “obscenity” or “fighting words,” such is not the issue in this case. For the majority does not, and surely would not, contend that the kind of speech involved in this case—wholly related as it is to conflicting ideas about governmental affairs and policies—falls outside the protection of the First Amendment, however narrowly that Amendment may be interpreted. So the only issue presently before us is whether speech that must be well within the protection of the Amendment should be given complete protection or whether it is entitled only to such protection as is consistent in the minds of a majority of this Court with whatever interest the Government may be asserting to justify its abridgment.

Id. at 66-67 (footnotes omitted).

privacy, which penalize truthful, but nonetheless prohibited, speech. Thus, First Amendment law can be described as a jurisprudence of exceptions to the general rule prohibiting governmental abridgment of speech or of the press.

The fundamental problem with such a jurisprudence is definitional. Much of the definitional debate comes down to line-drawing: which speech is to be restricted and which protected, and why? This question, no matter the particular context, is always difficult and has led to the near-demise of several exceptions. “Obscenity” is perhaps the most notable example, and Justice Stewart’s frustrated declaration, “I know it when I see it,”⁸¹ is the most famous First Amendment punt. Even the narrowly-drawn and widely-supported exception for child pornography raises difficult factual and definitional issues: Who is a child? Who is an adult? What about drawings, as opposed to photographs? What about realistic, yet virtual, images depicting children engaging in sexual activities or being abused by adults? Yet despite these difficulties, child pornography, like obscenity generally, and like all speech falling within the other judicially-recognized exceptions, remains either unprotected or less-protected by the First Amendment. In each instance, our law recognizes that some competing value (e.g., protection of children)⁸² trumps the constitutional right to free expression.

The existing First Amendment exception that is most relevant to our discussion is, of course, the national security exception of *Near v. Minnesota*⁸³ and its progeny. However, before discussing *Near*, it is appropriate to begin, as does most First Amendment jurisprudence, with a definition.

81. *Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring).

82. In *Osborne v. Ohio*, the Court held:

Given the importance of the State’s interest in protecting the victims of child pornography, we cannot fault Ohio for attempting to stamp out this vice at all levels in the distribution chain Other interests also support the Ohio law. First . . . the materials produced by child pornographers permanently record the victim’s abuse. The pornography’s continued existence causes the child victims continuing harm by haunting the children in years to come. The State’s ban on possession and viewing encourages the possessors of these materials to destroy them. Second, encouraging the destruction of these materials is also desirable because evidence suggests that pedophiles use child pornography to seduce other children into sexual activity Given the gravity of the State’s interests in this context, we find that Ohio may constitutionally proscribe the possession and viewing of child pornography.

Osborne v. Ohio, 495 U.S. 103, 110-11 (1990) (footnotes and citations omitted).

83. *Near v. Minnesota*, 283 U.S. 697 (1931).

B. Catastrophically Dangerous Information Defined

Something that is “catastrophic” can be defined as, “a momentous tragic event ranging from extreme misfortune to utter overthrow or ruin.”⁸⁴ This dictionary definition captures the acute nature of the word: a catastrophic event does not involve garden-variety misfortune, but only “extreme misfortune” or “utter . . . ruin.”

However, this common definition still covers a wide range of tragedies, from those affecting only one individual to those impacting all of humanity. Obviously, I am more concerned with the latter. However, I am not concerned solely with doomsday threats. As noted at the outset of this paper, I am also concerned with lesser, yet still major, threats, such as those that menace entire cities or nations. I focus upon these threats both because of their inherent significance and because of the potential they have for causing even greater harm.

Here we reach the classic line-drawing dilemma: if we define the word “catastrophic” too broadly, we will likely restrict too much information; however, if we define the word too narrowly, for example to only include events that are clearly planetary in scope, we will not adequately address the problem at hand. Perhaps the best way to approach the problem is to consider some of the elements that might make a particular event “catastrophic” enough to pose a serious threat, even if somewhat indirect, to all of humanity.

The first such element is clear: large numbers of casualties, especially fatalities. At the risk of trivializing this first and most important index of catastrophe, I must note that one is again reminded of the movie satire, *Dr. Strangelove*. In a famous scene, a high ranking Air Force general is seated at a conference table in the Pentagon’s “War Room,” next to a binder with the notable title, “World Targets in Megadeaths.” This title is not merely the product of artistic license. The term “megadeath” is actually a word used in discussions of nuclear warfare. It is defined as one million deaths.⁸⁵ Although it is impossible to quantify the value of even a single human life with any precision, any threat that might cause one or more megadeaths would likely present the sort of danger we are trying to avoid.

Another element is equally clear, especially after the televised images of the collapse of the World Trade Center on September 11, 2001: major property damage of a type and scale to cause major economic disruption.

84. MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 179 (10th ed. 1994).

85. *Id.* at 723.

Economic disruption causes human suffering directly. It can also lead to political and military instability.

Which leads us to the last major factor to consider: whether a particular threat could directly cause political or military chaos. One obvious example is the destruction of the political or military leadership of a given country. Countries that suddenly lose their political or military leadership are ripe for invasion, revolution and civil unrest—in a word, chaos—and such chaos does not necessarily stop at national borders.

These three elements—a large number of casualties, major property damage, and destruction of a nation's political or military leadership—suggest a reasonable starting point for defining the term “catastrophic:” an event causing damage roughly equivalent to the destruction of a nation's political or financial capital. If we use this level of potential destruction as a benchmark, we will focus on only those events which pose the most serious threats while excluding those of a lesser nature.

It is similarly difficult to come up with a workable definition of what constitutes “dangerous information.” Once again, if our definition is overbroad we run the risk of restricting too much information. On the other hand, if our definition is underinclusive, then seemingly innocent scientific information which can be turned to catastrophic purposes will escape our attention and remain a significant threat. Although any definition is somewhat arbitrary, a reasonable starting point would include specific, technical plans or formulae that could be used with a reasonable effort to cause catastrophic damage. Such information would obviously include design information for what are commonly called weapons of mass destruction. However, it would also include other technical information that could cause major harm, such as formulae for nerve agents or for the genetic codes of dangerous viruses and bacteria, and other similar, highly technical, highly specific information.

It is important, at the outset, to note the sort of information that would not be included in this definition: non-technical information relating to these topics. In other words, there would be no restriction on the vast majority of information that is relevant to open, public debate regarding political, scientific or military affairs. I realize the difficulty in distinguishing between what information is, and is not, necessary for a full and robust public discussion. I also understand that there are those who insist that no restriction on any information is compatible with free political debate. Journalist Howard Morland comes to mind. Mr. Morland played a significant role in a case that will be discussed later in this paper, *United States v. Progressive*,

*Inc.*⁸⁶ In the *Progressive* case, a federal district court ordered a prior restraint on the publication of a newsmagazine article in which Morland purported to reveal the “secret” of the hydrogen bomb. It is Morland’s position that governmental secrecy regarding nuclear weapons gives the government a monopoly on credibility by cloaking in mystery the political debate about such weapons.⁸⁷ Therefore, Mr. Morland feels that there should be no nuclear secrets, and that the only way to eventually abolish nuclear weapons is to fully share nuclear weapons technology with the entire world. Only then will an informed populace insist upon banning those weapons:

If industrial civilization lasts another thousand years, during all but a few of those years the complete story of the W-88 [thermonuclear] warhead and all other such devices will be available on the Internet. Such information cannot be permanently suppressed. Whenever someone invents something that works, other people will figure out how it was done.

Nonetheless, I am confident that all nuclear weapons will have been banned from the earth, and that foolproof controls will have been imposed on the critical nuclear materials. The global public consensus for this nuclear weapons abolition will be based on widespread understanding of the technology. In my opinion, these are necessary conditions for human survival, and our generation has the responsibility to make it happen.⁸⁸

There is, however, an obvious danger to such an approach. Moreover, I do not believe it is necessary. If the reader will forgive a personal anecdote, I recall that when I studied nuclear weapons policy at Princeton twenty-five years ago, I was able to come to some very definite and, I believe, well-informed opinions regarding nuclear weapons. However, at no time did I have access to classified technical information. Nor did I need it. It was not necessary to know precisely how a hydrogen bomb works in order to know that a single such weapon is capable of destroying an entire city and of spewing radioactive poison over thousands of square miles. Reading Mr. Morland’s article (which was eventually published)⁸⁹ added nothing to my understanding or analysis. But it may well have increased the threat of nuclear proliferation by a country intent on constructing its own thermonuclear device. The fact that no country has detonated a hydrogen bomb since 1979 is cold comfort, and probably attributable more to the cost of doing so than anything else. But whenever a

86. *United States v. Progressive, Inc.*, 467 F. Supp. 990 (W.D. Wis. 1979).

87. *See id.* at 995.

88. Howard Morland, *The Holocaust Bomb: A Question of Time* (posted Nov. 15, 1999; revised Feb. 5, 2003), <http://www.fas.org/sgp/eprint/morland.html> (last visited Mar. 11, 2007).

89. Howard Morland, *The H-Bomb Secret: How We Got It, Why We’re Telling It*, *THE PROGRESSIVE*, Nov. 1979, available at <http://www.progressive.org/images/pdf/1179.pdf>.

nation with the resources makes the decision to build a fusion bomb, the Morland article's detailed design information may well contribute to that country's success, notwithstanding recent and naïve pronouncements to the contrary.⁹⁰

To summarize, "catastrophically dangerous information," (which I will hereafter refer to as CDI) though not amenable to a precise definition, might reasonably be interpreted to mean technical information that would enable terrorists or other malevolent or incompetent people to destroy a political or economic capital city. Armed with this working definition, it is now appropriate to examine how CDI is addressed in the law as it currently stands.

C. The Current State of the Law Regarding Catastrophically Dangerous Information

There is no law dealing specifically with the issue of CDI as I have defined it, which is not surprising, given the novelty of the definition. However, there is a fair amount of relevant law dealing with the subject of secret information. For our purposes, this law can be divided into two general areas: (1) governmental information and (2) non-governmental information.

1. Governmental Information

Restrictions on information that the government wishes to keep secret is familiar territory. All governments, including the United States government, try to protect their secrets. The secrets they are most interested in protecting are, of course, secrets involving the military, diplomacy and espionage. Oft-cited dictum in *Near* strongly suggests that the government may do so: "No one would question but that a government might prevent . . . the publication of the sailing dates of transports or the number and location of troops."⁹¹ This language is the basis for the "national security" exception to the First Amendment, which permits, *inter alia*, the enactment of federal statutes which

90. As quoted in a newspaper article, one commentator notes that:

"It surely hasn't led to anyone reading his article and buying a book and then designing a hydrogen bomb. So it didn't do what people feared, giving someone who wanted to build a bomb the blueprint on how to do it," said Paul Leventhal, president of the Nuclear Control Institute, a non-profit organization based in Washington, D.C.

Sarah Wyatt, *Two Decades Later, Little Fallout from H-bomb Article*, THE MILWAUKEE J. SENTINEL, Mar. 14, 1999, at 3.

91. *Near v. Minnesota*, 283 U.S. 697, 716 (1931).

allow or even require the withholding of governmental information.⁹² These statutes include, ironically, the Freedom of Information Act (FOIA),⁹³ which specifically exempts “classified” information from public disclosure.⁹⁴ They also include the Intelligence Identities Protection Act of 1982,⁹⁵ which criminalizes the disclosure of the identity of a covert agent.⁹⁶ This particular statute has been much in the news of late, as the media has covered the political brouhaha over the Valerie Plame affair. As this article was being prepared for publication, former Vice-Presidential Chief of Staff I. Lewis “Scooter” Libby was convicted of perjuring himself to a grand jury investigating the disclosure of the identity of CIA agent Valerie Plame Wilson. Although the prosecution in the Libby case decided not to bring charges against Mr. Libby for revealing classified governmental information, its reasons for doing so were likely only evidentiary.⁹⁷ If the prosecution had managed to obtain adequate proof of Mr. Libby’s intent in disclosing this information to the press, it is fairly clear that prosecution for the disclosure would have been constitutional.⁹⁸

92. As stated by the Fourth Circuit, “[c]itizens have the right to criticize the conduct of our foreign affairs, but the Government also has the right and the duty to strive for internal secrecy about the conduct of governmental affairs in areas in which disclosure may reasonably be thought to be inconsistent with the national interest.” *United States v. Marchetti*, 466 F.2d 1309, 1315 (4th Cir. 1972).

93. 5 U.S.C. § 552 (2000 & Supp. 2006).

94. 5 U.S.C. § 552(b)(1).

95. 50 U.S.C. §§ 421-426 (2000 & Supp. 2006).

96. 50 U.S.C. § 421.

97. “[C]harges under the Intelligence Identities Protection Act, 50 U.S.C. § 421, [are] currently off the table for lack of evidence” *In re Grand Jury Subpoena*, Judith Miller, 438 F.3d 1141, 1181 (D.C. Cir. 2006) (Tatel, J., concurring) (citation omitted).

98. As Judge Tatel also noted in his concurrence:

Acting to criminalize . . . exposure of secret agents, see 50 U.S.C. § 421, Congress has identified that behavior’s “intolerable” consequences: “[t]he loss of vital human intelligence which our policymakers need, the great cost to the American taxpayer of replacing intelligence resources lost due to such disclosures, and the greatly increased risk of harm which continuing disclosures force intelligence officers and sources to endure.” S. REP. NO. 97-201, at 10-11 (1981), *reprinted in* 1982 U.S.C.C.A.N. 145, 154-55.

Id. at 1179 (citations in original).

2. *Non-governmental Information*

a. *Classified Information in the Public Domain*

While it is clear that the government may prohibit and even criminalize disclosure of classified information, a more difficult question arises once that information is, in fact, divulged. What happens when the secrets get out?

There are not many cases in this area of the law, and the few that exist offer conflicting guidance. In some situations, courts seem to be willing to allow the government to recapture information that has been inappropriately divulged, at least if that information has not been widely disseminated. In *American Library Association v. Faurer*,⁹⁹ a federal district court considered the request of a library to remove restrictions upon cryptographic information donated to the library by a former employee of the National Security Agency (NSA). The NSA had allowed public access to the information before later re-classifying it pursuant to an Executive Order allowing re-classification “if the information may reasonably be recovered.”¹⁰⁰ The court rejected the library’s claim that, once the information entered the public domain, the First Amendment barred the government from recovering it: “A close examination of the relevant case law in light of the facts of this case leads the Court to conclude that no first amendment right exists where disclosure of classified information would possibly endanger the national security, even though the information had been previously in the public domain.”¹⁰¹

More recently, in *Al-Haramain Islamic Foundation, Inc. v. Bush*,¹⁰² a federal district court ordered a plaintiff to return a classified document that the government had inadvertently disclosed, even though the government presumed that the document had been widely disseminated. *Al-Haramain* involved a challenge to the Bush Administration’s electronic surveillance program. In ordering the return of the classified document at issue, the court explained:

I accept the government’s argument that the inadvertent disclosure of the Sealed Document does not declassify it or waive the state secrets privilege

The Executive has not granted authority to plaintiffs to review classified materials, and the document remains classified. In addition, if plaintiffs were given full access to

99. *Am. Library Ass’n v. Faurer*, 631 F. Supp. 416 (D.D.C. 1986), *aff’d on other grounds sub nom.* *Am. Library Ass’n v. Odom*, 818 F.2d 81 (D.C. Cir. 1987).

100. *Faurer*, 631 F. Supp. at 422 (quoting Exec. Order No. 12,356, 3 C.F.R. 166 (1982)).

101. *Id.* at 421.

102. *Al-Haramain Islamic Found., Inc. v. Bush*, 451 F. Supp. 2d 1215 (D. Or. 2006).

the document, plaintiffs may refer back to it and reflect on what it does or does not disclose. For example, they may confirm which modes of communication were vulnerable to interception and avoid those modes. The government has raised sufficient grounds for concern and I grant the government's motion.¹⁰³

Thus, the *Al-Haramain* court recognized the value of allowing the government to re-capture classified information. It specifically recognized that, even if the plaintiffs had seen the document once, more harm to national security might occur if the plaintiffs were allowed to see it again.

However, other courts, and other individual federal judges, have made statements that seem to run counter to the approach taken in *Faurer* and *Al-Haramain*. In a case regarding senatorial privilege related to the infamous Pentagon Papers case,¹⁰⁴ Justice Douglas remarked in a dissenting opinion: "Aside from the question of the extent to which publishers can be penalized for printing classified documents, surely the First Amendment protects against all inquiry into the dissemination of information which, although once classified, has become part of the public domain."¹⁰⁵ Similarly, in *Marchetti*, in which the Fourth Circuit affirmed a district court's order that a former CIA employee return classified information to the agency, the court also noted that, "[i]nformation, though classified, may have been publicly disclosed. If it has been, Marchetti should have as much right as anyone else to re-publish it."¹⁰⁶ On the other hand, the *Marchetti* court was not eager to find that classified information had, in fact, been publicly disclosed: "Rumor and speculation are not the equivalent of prior disclosure, however, and the presence of that kind of surmise should be no reason for avoidance of restraints upon confirmation from one in a position to know officially."¹⁰⁷

In *Snepp v. United States*,¹⁰⁸ the U.S. Supreme Court considered the case of a former CIA employee who, like Marchetti, had published a book about his experiences. In *Snepp*, the Court upheld a contract between the former employee and the CIA requiring prior review of any publications based upon the former employment. It did so despite the fact that the book at issue contained no classified information. Nonetheless, the Court also noted that,

103. *Id.* at 1229.

104. *N.Y. Times Co. v. United States*, 403 U.S. 713 (1971).

105. *Gravel v. United States*, 408 U.S. 606, 646 (1972) (Douglas, J., dissenting).

106. *United States v. Marchetti*, 466 F.2d 1309, 1318 (4th Cir. 1972).

107. *Id.*

108. *Snepp v. United States*, 444 U.S. 507 (1980).

“[i]f in fact information is unclassified or in the public domain, neither the CIA nor foreign agencies would be concerned.”¹⁰⁹

In *United States v. Rosen*,¹¹⁰ a federal district court recently emphasized the extent of the government’s power to control classified information as established and illustrated by *Marchetti* and *Snepp*:

Taken together, *Marchetti* and *Snepp* stand for the proposition that government employees’ speech can be subjected to prior restraints where the government is seeking to protect its legitimate national security interests. Because prior restraints on speech are the most constitutionally suspect form of a government restriction, it follows from this proposition that Congress may constitutionally subject to criminal prosecution anyone who exploits a position of trust to obtain and disclose NDI [information relating to the national defense] to one not entitled to receive it.¹¹¹

Rosen involved the Espionage Act prosecution of lobbyists who had allegedly obtained and transmitted NDI to Israel. Among other things, the defendants argued that the First Amendment prevented their prosecution because they held no position of trust with the U.S. Government:

[D]efendants here contend that the First Amendment bars Congress from punishing those persons, like defendants, without a special relationship to the government for the disclosure of NDI. In essence, their position is that once a government secret has been leaked to the general public and the first line of defense thereby breached, the government has no recourse but to sit back and watch as the threat to the national security caused by the first disclosure multiplies with every subsequent disclosure. This position cannot be sustained. Although the question whether the government’s interest in preserving its national defense secrets is sufficient to trump the First Amendment rights of those not in a position of trust with the government is a . . . difficult question, and although the authority addressing this issue is sparse, both common sense and the relevant precedent point persuasively to the conclusion that the government can punish those outside of the government for the unauthorized receipt and deliberate retransmission of information relating to the national defense.¹¹²

On the other hand, the *Rosen* court would not have extended the government’s power into the public domain generally, at least not under the Espionage Act:

As construed herein, 18 U.S.C. §§ 793(d) and (e) punish only those people who transmit information related to the national defense, in tangible or intangible form, to one not entitled to receive it. To prove that the information is related to the national defense, the government must prove: (1) that the information relates to the nation’s military activities,

109. *Id.* at 513 n.8.

110. *United States v. Rosen*, 445 F. Supp. 2d 602 (E.D. Va. 2006).

111. *Id.* at 636 (citation omitted).

112. *Id.* at 637.

intelligence gathering or foreign policy, (2) *that the information is closely held by the government, in that it does not exist in the public domain*; and (3) that the information is such that its disclosure could cause injury to the nation's security.¹¹³

The most relevant case involving the release of classified information into the public domain is, of course, *United States v. Progressive, Inc.*, mentioned above. The procedural history of the *Progressive* case is truly remarkable. Twenty-eight years ago, in the spring of 1979, U.S. District Judge Robert W. Warren of the Western District of Wisconsin faced an extraordinary request. He was asked to do something that was, or should be, anathema to any American judge, in almost any imaginable situation: the United States government wanted him to order the prior, and permanent, restraint of an article slated for imminent publication in a political magazine. As extraordinary as the request was, its justification was even more remarkable. According to the government, the article in question included detailed, technical descriptions, including meticulous drawings, of the inner workings of a thermonuclear weapon—in common parlance, it allegedly contained the blueprints for a hydrogen bomb.

Faced with this extraordinary request in this remarkable situation, Judge Warren did an equally-extraordinary thing. For only the second time in the history of the federal judiciary, he ordered the prior restraint of an article the press wanted to publish. His reasons were compelling:

The Court is faced with the difficult task of weighing and resolving these divergent views.

A mistake in ruling against *The Progressive* will seriously infringe cherished First Amendment rights. If a preliminary injunction is issued, it will constitute the first instance of prior restraint against a publication in this fashion in the history of this country, to this Court's knowledge. Such notoriety is not to be sought. It will curtail defendants' First Amendment rights in a drastic and substantial fashion. It will infringe upon our right to know and to be informed as well.

A mistake in ruling against the United States could pave the way for thermonuclear annihilation for us all. In that event, our right to life is extinguished and the right to publish becomes moot.¹¹⁴

Judge Warren distinguished, on both factual and statutory grounds, the Pentagon Papers case, *New York Times Co. v. United States*. First, *New York Times* involved only historical data; second, disclosure of the historical data

113. *Id.* at 643 (emphasis added).

114. *United States v. Progressive, Inc.*, 467 F. Supp. 990, 996 (W.D. Wis. 1979).

caused no more harm to the government than embarrassment; finally, a specific statute authorized prior restraint:

This case is different in several important respects. In the first place, the study involved in the *New York Times* case contained historical data relating to events that occurred some three to twenty years previously. Secondly, the Supreme Court agreed with the lower court that no cogent reasons were advanced by the government as to why the article affected national security except that publication might cause some embarrassment to the United States.

A final and most vital difference between these two cases is the fact that a specific statute is involved here. Section 2274 of The Atomic Energy Act prohibits anyone from communicating, transmitting or disclosing any restricted data to any person "with reason to believe such data will be utilized to injure the United States or to secure an advantage to any foreign nation."

Section 2014 of the Act defines restricted data. "'Restricted Data' means all data concerning 1) design, manufacture, or utilization of atomic weapons; 2) the production of special nuclear material; or 3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 2162 of this title."¹¹⁵

In reaching his decision, Judge Warren considered arguments by journalist Howard Morland and *The Progressive, Inc.* that the government was inappropriately seeking to restrain publication of information that Morland had lawfully located through several months of research in the public domain:

Defendants contend that the projected article merely contains data already in the public domain and readily available to any diligent seeker. They say other nations already have the same information or the opportunity to obtain it. How then, they argue, can they be in violation of 42 U.S.C. §§ 2274(b) and 2280 which purport to authorize injunctive relief against one who would disclose restricted data "with reason to believe such data will be utilized to injure the United States or to secure an advantage to any foreign nation . . .?"

Although the government states that some of the information is in the public domain, it contends that much of the data is not, and that the Morland article contains a core of information that has never before been published.

Furthermore, the government's position is that whether or not specific information is "in the public domain" or has been "declassified" at some point is not determinative. The government states that a court must look at the nature and context of prior disclosures and analyze what the practical impact of the prior disclosures are as contrasted to that of the present revelation.¹¹⁶

Judge Warren ultimately agreed with the government's theory that Morland's own synthesis of ideas that were arguably in the public domain constituted

115. *Id.* at 994.

116. *Id.* at 993.

“restricted data” which the government could statutorily (and constitutionally) suppress:

Even if some of the information is in the public domain, due recognition must be given to the human skills and expertise involved in writing this article. The author needed sufficient expertise to recognize relevant, as opposed to irrelevant, information and to assimilate the information obtained. The right questions had to be asked or the correct educated guesses had to be made.¹¹⁷

Judge Warren issued his preliminary injunction on March 26, 1979. On June 15, Judge Warren denied a motion for reconsideration which was again premised upon assertions that the information at issue had been released into the public domain.¹¹⁸ Judge Warren made a factual finding that not all of the information had been released, and more significantly for our purposes, rejected an argument that inadvertent disclosure of some classified information prevented the government from recapturing the classified information:

In this case, UCRL 4725 and UCRL 5280 were inadvertently declassified in toto. They were available to the public at the Los Alamos Scientific Library. However, as soon as the declassification error was discovered, the documents were removed from the public shelves.

Whether or not the secret was compromised by this error can only be a matter of conjecture. The Court has reviewed the affidavits regarding access and is unable to conclude one way or another whether the vital data was obtained by scientists or intelligence agents from other nations.

Prior release of classified information should not be binding on the government if, at a later time, it is determined that further release would jeopardize national security.

The Court is compelled to the conclusion that, from a legal point of view, the government’s error in inadvertently declassifying UCRL 4725 and UCRL 5280 did not move these documents into “the public domain” and further, that there is no showing that the injunction became ineffectual.¹¹⁹

Several more months of intense litigation followed, litigation that reached, on a procedural issue at least, all the way to the United States Supreme Court.¹²⁰ Then, as the United States Court of Appeals for the Seventh Circuit prepared to decide the case on its merits, it all suddenly ended. On September 17, 1979, faced with the sobering fact that all of the

117. *Id.*

118. *United States v. Progressive, Inc.*, 486 F. Supp. 5, 7 (W.D. Wis. 1979).

119. *Id.* at 8 (citations omitted).

120. *See Morland v. Sprecher*, 443 U.S. 709 (1979) (denying the petitioners leave to file a petition for writ of mandamus to the court of appeals ordering it to expedite their appeal).

information it was seeking to protect had been released over the preceding several weeks into the public domain, the government dropped its case.¹²¹ On October 1, 1979, the Seventh Circuit dismissed the appeal without a published decision.¹²²

Was the government right to drop its case? Commentators generally seem to think so. In an extensive analysis of the legislative history of the Atomic Energy Act, Professor Mary M. Cheh criticizes Judge Warren's opinions and laments the *Progressive* case's inconclusive conclusion as a missed opportunity to narrow the reach of the Act to only governmental information.¹²³ The participants in the *Progressive* case, notably Howard Morland and *The Progressive's* editor, Erwin Knoll,¹²⁴ continue to object to the government's initial position and Judge Warren's decisions. Although generalizations are risky, it is probably safe to say that, at a minimum, most of those who have commented on the *Progressive* case, whether lawyers, journalists or others, believe that once governmental information is released into the public domain, the government loses whatever authority it may have had to regulate it.¹²⁵ That is, once the cat is out of the bag, most commentators believe that it should stay there. Indeed, in a different context, I have myself acknowledged that "once information is out there in cyberspace, it is out there forever."¹²⁶

There are, of course, a few voices on the other side of the issue. Although no one from the legal academy seems to have come to Judge Warren's defense, a number of commentators have expressed concern over the wide availability of various kinds of dangerous information, especially since the advent of the Internet, and have argued for restrictions upon that information.¹²⁷ At least one former public official has made a similar

121. See generally Ian M. Dumain, *No Secret, No Defense: United States v. Progressive*, 26 CARDOZO L. REV. 1323, 1330-32 (2005) (discussing the sequence of appellate events).

122. *United States v. Progressive, Inc.*, 610 F.2d 819 (7th Cir. 1979) (unpublished table decision).

123. Mary M. Cheh, *The Progressive Case and the Atomic Energy Act: Waking to the Dangers of Government Information Controls*, 48 GEO. WASH. L. REV. 163 (1980).

124. Erwin Knoll, *The H-Bomb and the First Amendment*, 3 WM. & MARY BILL RTS. J. 705 (1994); Erwin Knoll, *National Security: The Ultimate Threat to the First Amendment*, 66 MINN. L. REV. 161 (1982).

125. See generally Cynthia Bolbach, *Born Classified: The Lessons of the Progressive Case*, 96 THE CHRISTIAN CENTURY 1033 (1979); Robert Friedman, *The United States v. The Progressive*, COLUMBIA JOURNALISM REV., July-Aug. 1979, at 27.

126. Stewart Harris, *A Tale of Two Sites and a Lawsuit: Injunction Against Web Site Owner Was the Legal Issue in Suit over Salacious Story*, NAT'L LAW J., July 28, 2003, at 19.

127. See, e.g., Eric E. Ballou & Kyle E. McSarrow, *Plugging the Leak: The Case for a Legislative Resolution of the Conflict Between the Demands of Secrecy and the Need for an Open Government*, 71 VA.

argument. James R. Schlesinger gave a presentation at a 2004 symposium at the Cardozo School of Law marking the 25th anniversary of the *Progressive* case. Mr. Schlesinger had been Secretary of Energy during the *Progressive* case and played a prominent role in the initiation of the litigation.¹²⁸ Alone among the symposium participants, Mr. Schlesinger defended Judge Warren, albeit with disturbing resignation: “In conclusion, I suggest that though Judge Warren was right in his logic, in the law and in his order, time has passed this issue by, and that the possibilities of suppressing information through prior restraint, for better or worse, have largely evaporated.”¹²⁹ Despite his resignation, however, Mr. Schlesinger also suggested that, at least in an earlier time, release of classified information into the public domain did not necessarily thwart governmental attempts to maintain secrecy. He specifically cited

the episode during World War II in which the *Chicago Tribune* had published the fact that the United States had broken the Japanese code. If the Japanese had known that, they would not have lost the battle of Midway—which was the turning point not only of the war of the Pacific, but also of the Second World War. Happily, the Japanese did not read the *Chicago Tribune* on that particular day. Similarly, there may be momentary access to information that should not be released. That does not mean that because the protective mechanism has broken down on one occasion that one throws the restraints aside.¹³⁰

It is notable that even Schlesinger, who defended Judge Warren, seems to think that modern technology, notably the Internet, now renders control of public domain information futile. This attitude is also reflected in the materials distributed at the Cardozo conference. After questioning whether “there are any meaningful nuclear secrets left to reveal,” the conference materials propose no solution, but piously note that “the answer today turns

L. REV. 801 (1985) (proposing an independent agency to determine when disclosure of classified information warrants criminal prosecution); Roger Funk, *National Security Controls on the Dissemination of Privately Generated Scientific Information*, 30 UCLA L. REV. 405 (1982) (advocating legislative restrictions on design and manufacturing knowledge possessed exclusively by U.S. scientists); S. Elizabeth Wilborn Malloy, *Taming Terrorists But Not “Natural Born Killers,”* 27 N. KY. L. REV. 81 (2000) (advocating tort liability for speech instructing readers on how to perform criminal acts); Avital T. Zer-Ilan, *The First Amendment and Murder Manuals*, 106 YALE L.J. 2697 (1997).

128. He had previously served as Secretary of Defense, the Director of Central Intelligence, and Chair of the Atomic Energy Commission. Symposium, *Transcript of Weapons of Mass Destruction, National Security, and a Free Press: Seminal Issues as Viewed Through the Lens of The Progressive Case*, 26 CARDOZO L. REV. 1337, 1342 (2005) [hereinafter *Transcript*].

129. *Transcript*, supra note 128, at 1347.

130. *Id.* at 1350.

as it did then on whether we believe that an informed global citizenry will act for life and not for death—and whether that will be enough.”¹³¹

b. Information Originating in the Public Domain

While cases involving the unauthorized release of classified information are difficult, an even tougher question is presented when the government seeks to regulate information that did not originate as governmental information, that is, when the information was generated in the public domain. That was, of course, one of the issues in the *Progressive* case. Other than *Progressive*, such cases are rare. However, they do occasionally arise in the context of overseas technology sales. In *United States v. Edler Industries*,¹³² the Ninth Circuit considered the convictions of two defendants for “exporting, without a license, technical data relating to articles on the United States Munitions List.”¹³³ Although the court overruled the convictions on other grounds, it affirmed the constitutionality of the Mutual Security Act of 1954, the predecessor statute to the Arms Export Control Act (AECA).¹³⁴ Like the AECA, the Mutual Security Act of 1954 required licensure prior to exporting items designated as part of a Munitions List. After narrowing the construction of some broad legislative and regulatory language, the *Edler* court held that:

As construed, [the statute] and the regulations do not interfere with constitutionally protected speech. Rather, they control the conduct of assisting foreign enterprises to obtain military equipment and related technical expertise. So confined, the statute and regulations are not overbroad. For the same reasons the licensing provisions of the Act are not an unconstitutional prior restraint on speech.¹³⁵

The *Edler* court then considered the fact that some of the technical information at issue was widely available within the public domain:

One additional First Amendment argument is presented. This is that the Government may not constitutionally prohibit the exportation of Edler’s technology because that technology is widely distributed in the United States. The District Court properly rejected Edler’s position. Given the unquestionable legitimacy of the national interest

131. Dumain, *supra* note 121, at 1335-36.

132. *United States v. Edler Indus.*, 579 F.2d 516 (9th Cir. 1978).

133. *Id.* at 518.

134. Arms Export Control Act of 1968 (AECA) (Foreign Military Sales Act) Pub. L. No. 90-629, 82 Stat. 1320 (codified as amended in scattered sections of 22 U.S.C.).

135. *Edler*, 579 F.2d at 521.

in restricting the dissemination of military information, the claim of public availability in the United States is not a defense recognized by the Constitution.¹³⁶

It is important to note that this public domain analysis was, in a sense, superfluous, since no allegation in *Edler* was made that any of the technical information at issue was classified. Presumably, therefore, it had all originated in the public domain.

A few years later, the Ninth Circuit considered a similar situation in *United States v. Posey*.¹³⁷ In *Posey*, the defendant was convicted of, *inter alia*, conspiring to transfer non-classified technical information to South Africa in violation of the AECA. The Ninth Circuit confirmed the conviction and rejected the defendant's argument that, because he had obtained the non-classified information through a FOIA request, and because it was widely available within the U.S., the Government could not regulate its export. In doing so, the *Posey* court relied upon *Edler*, in which, the court noted:

We held that the government's power to issue such restrictions was not affected by the domestic availability of the regulated data: Given the unquestionable legitimacy of the national interest in restricting the dissemination of military information, the claim of public availability in the United States is not a defense recognized by the Constitution.¹³⁸

I should note that the information at issue in *Posey* was obtained from the government through a FOIA request, but its ultimate origin may have been in the public domain. In any event, it was not classified information.¹³⁹

136. *Id.* at 521-22.

137. *United States v. Posey*, 864 F.2d 1487 (9th Cir. 1989).

138. *Id.* at 1496.

139. *Id.* at 1493. The court also affirmed Posey's conviction for violating the Comprehensive Anti-Apartheid Act (CAAA), 22 U.S.C. § 5067 (Supp. IV 1986) (repealed 1993) which prohibited exportation of items on United States Munitions List to South Africa by transferring the technology at issue. In doing so, it rejected both the First Amendment challenge described *supra* and the argument that Congress did not intend to restrict the information's export, given its wide availability pursuant to FOIA:

The dubious premise of this argument seems to be that Congress could not have rationally wanted to encourage domestic disclosure yet discourage foreign export of certain categories of munitions information. In fact, such a distinction seems quite plausible, and in any case, the language of the CAAA (which was enacted after FOIA) makes no exception for FOIA-released materials. A similar analysis applies to appellant's contention that the exported items should be exempt from the CAAA and AECA because they are unclassified.

864 F.2d at 1493.

3. *Summary*

In sum, then, the law most relevant to regulation of CDI currently allows regulation of governmental secrets, to a point. Once those secrets are out, some courts have allowed the government to recapture the secret information in some circumstances, though other courts, and individual judges, seem to have questioned that practice. Governmental regulation of information originating in the public domain is also constitutional under the First Amendment, at least in the limited arena of arms exports.

Unfortunately, federal statutes in this area are a patchwork. While some individual statutes, such as the Atomic Energy Act, impose some regulatory restrictions on some forms of CDI, no single, comprehensive federal statute exists that addresses the dangers of CDI generally.

D. A Reasonable Extension of the National Security Exception

The current state of the law is unacceptable. Clearly, under *Near* and its progeny, the federal government may constitutionally restrict access to information that threatens national security. Though various federal courts have allowed regulation of such information when it has been released into, or even originated in, the public domain, Congress has not adequately used its constitutional authority to protect society against CDI. It is therefore time for Congress to enact reasonable restrictions upon possession and dissemination of catastrophically dangerous information, even when that information originates in the public domain. Such restrictions can be implemented in a way that is not only consistent with the First Amendment, but which also incorporates adequate protections for other civil liberties.

This is evident from the rationale cited in *Near* and all of its progeny. Each of these cases is based upon a concern for the national interests of the United States. But if it is in our national interest to restrict information on troop deployments, or the identities of secret agents, or cryptographic methodologies, it is far more in our interest to prevent destruction of one or more of our major cities, or perhaps of the entire country.

On the other hand, we must give Howard Morland his due. We must recognize that restrictions on information in the public domain raise serious civil liberties issues that must be addressed. Fortunately, courts have already developed mechanisms for restraining intrusive government actions, most notably in Fourth Amendment jurisprudence. Congress, too, has addressed similar issues in a different context by enacting the Foreign Intelligence

Surveillance Act of 1978 (FISA),¹⁴⁰ which establishes federal tribunals designed to control government surveillance while still protecting government secrets.

The FISA statute and the well-developed jurisprudence of the Fourth Amendment both demonstrate that our legal system is capable of appropriately balancing civil liberties with legitimate governmental regulatory needs. Therefore, I propose a statutory solution to the problem presented by CDI. Such a federal statute would prohibit possession of such information, whether obtained from governmental sources or generated in the public domain, but, borrowing from FISA, would also require a judicial warrant to be issued prior to any seizure of such information, except in emergencies. In those cases, a brief exception for exigent circumstances would be provided, along with expedited post-seizure judicial review. In considering such a warrant request, a federal court would consider a number of factors, including, first, the inherent dangerousness of the information as measured by the extent of the potential catastrophe the information could cause, as well as the probability of the misuse of that information. On the other side of the scale, the court would consider legitimate technical uses of such information as well as the possibility of reasonable restrictions on access to it. Finally, the court would evaluate the importance of that information to the political process, to ensure that the electorate has the information necessary to making a reasoned political judgment, but not enough information to destroy our entire political system.

Ideally, such a federal statute would serve as a precursor to, and a model for, an international treaty that would extend the protections of the statute throughout the globe. Such a treaty could be based upon, or even made an adjunct to, the Nuclear Nonproliferation Treaty of 1968 (NPT), which created what has been, at least until quite recently, a highly-effective international regime designed to limit the proliferation of nuclear weapons.¹⁴¹

I realize that many people will take no comfort in these proposals. They will, much as the government ultimately did in the *Progressive* case, dismiss as futile all efforts to control information in the public domain. They will make arguments about cats being out of bags, toothpaste out of the tube, and genies out of the bottle, or, perhaps they will describe, as one of my relatives is fond of doing, horses “that done left the barn.” Whatever the metaphor, it

140. 50 U.S.C. §§ 1801-11, 1821-29, 1841-46, 1861-62 (2000 & Supp. 2006).

141. Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161, available at <http://www.fas.org/nuke/control/npt/text/index.html>.

all boils down to a futility argument. Other people will lack confidence that Congress and the courts are capable of drawing the proper balance between the free exchange of ideas and information on the one hand, and international security on the other. Neither position is persuasive.

First, with regard to futility, I admit that no system for controlling CDI will be perfect. But perfection is not the standard. Fortunately for all of us, there are relatively few terrorists in the world, and our goal is to keep CDI away from them, not necessarily from everyone. Recall the Japanese code and the *Chicago Tribune*: At the end of the day, it did not matter that people in Chicago knew that the code had been broken; it only mattered that the Japanese did not. Similarly, while it is not desirable for, say, some teenager in Wichita to download a formula for nerve gas, his doing so ultimately does no harm so long he leaves the formula unused on his hard drive. We are concerned only with people who will actually use CDI.

Can we keep CDI away from such people? We can certainly try. Armed with appropriate statutory authority, we can shut down websites, or block access to them. New ones will spring up; we can block them as well. We can set up sting operations with fake CDI and pre-empt would-be attackers. We can, in other words, investigate people who visit websites containing CDI at least as aggressively as we investigate people who download child pornography.

We will be aided in our endeavors by the fact that the information we seek to control is generally complex. As the *Al-Haramain* court recognized, even those who have seen a document once can benefit from seeing it again; conversely, those who are denied the opportunity to keep and review information lose much of that information's value.¹⁴² So, for example, if a terrorist organization gets its hands on workable blueprints for a nuclear weapon, and the FBI manages to seize the information, the terrorist organization will not be able to reconstruct the information from memory. It will have to go looking again, and may be thwarted the second time. And even if the terrorist organization manages to obtain nuclear blueprints a second time, or a third, it is better done later, rather than sooner.

Any home security specialist will testify that, if a burglar wants to get into a house, no alarm system will stop him. Yet we buy alarm systems every day. And while it may be true that no secret is ever really safe, we still try to protect them. Coca-Cola has safeguarded its secret formula for the past century. It is a safe bet that, if the secret formula were stolen, Coca Cola

142. See *supra* notes 102-03 and accompanying text.

would seek an injunction forbidding its use or dissemination. I propose that we treat CDI at least as seriously as soda pop.

Finally, with regard to futility, I note that even Howard Morland believes that restricting access to some types of information is necessary. When a reporter posed the question, “[i]s there anything today Morland would balk at publishing?” Morland replied, “The thing that pops in my mind is if I knew how to combine the lethality of the AIDS virus with the transmissibility of the common cold, I would not tell anybody that.”¹⁴³ Morland did not explain why such information is more dangerous than nuclear weapons designs, nor how protecting one type of information, but not the other, would be futile.¹⁴⁴

With regard to those who fear that efforts to control CDI will lead to establishment of a police state, I reply that a statute or a treaty such as I propose, drawn up in the relatively calm environment of 2008, will be far more protective of civil liberties in the long run than the constitutionally comfortable alternative of doing nothing. Consider, for example, the effect on our civil liberties of a nuclear detonation in our nation’s capital. A properly placed fission weapon could simultaneously destroy the buildings housing all three branches of the national government—the White House, the Capitol, and the Supreme Court. Such a detonation, or perhaps a second or third one, could also destroy most executive agencies, including the Pentagon, in less than one thousandth of one second. If the parties responsible for this attack timed it well, they would kill not only the President and the Vice President, but most members of Congress, as well as all nine Justices of the Supreme Court. The heads of the various executive agencies and the armed forces would all be killed as well, along with all of their senior staffs, except, of course, those who happened to be traveling on the day in question. Many of the records of these agencies would be destroyed.

Within minutes of such an attack, one or more of the national television networks would begin broadcasting pictures of the devastation. The fear and confusion our nation experienced on September 11, 2001, would pale in comparison to the terror and uncertainty of such a moment: Who did this terrible thing? How many died? Who survived? And even more importantly, who is in charge now? Within hours, that question would likely be answered when some high-ranking military officer, perhaps with only the best of intentions, appeared on television screens throughout the nation, declaring that he was in charge, and that from that moment forward, martial law was in

143. Wyatt, *supra* note 90.

144. *Id.*

effect throughout the country. Immediately, the search for additional explosive devices would occur. No warrants would be issued. The FBI and the military would begin quarantining foreign visitors, Muslims, and perhaps Arab-Americans generally. Political dissent would be forbidden. So much for civil liberties. So much, perhaps, for the Constitution itself.

Benjamin Franklin once said that, “[t]hey that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.”¹⁴⁵ I note that Franklin narrowed the coverage of his maxim to only “essential” liberty on the one hand, and “temporary” safety on the other. But even if we read Franklin’s aphorism as broadly as possible, we must remember that, despite his extraordinary scientific vision, Franklin never foresaw the advent of the hydrogen bomb.

IV. CONCLUSION

Reasonable statutory and treaty restrictions upon the possession and dissemination of catastrophically dangerous information—even when that information is in the public domain—should be implemented, and can be implemented in a way that is consistent with the First Amendment.

The national security exception to the First Amendment, embodied in *Near* and its progeny, covers more than just military and other government secrets. It applies equally to catastrophically dangerous information, no matter where it originated or how widely it has been disseminated. Existing Fourth Amendment protections, along with, ideally, statutory warrant requirements, can adequately preserve our civil liberties. Courts and prosecutors should reject the notion that wide dissemination of information, or even its generation in the public domain, somehow renders the government powerless to restrict that information, because the danger posed by catastrophically dangerous information becomes greater with dissemination, rather than less. The argument that it is futile to attempt to restrict such information is a practical, not a legal, argument, and is, in either case, fundamentally flawed.

The stakes could not be higher. The renowned theoretical physicist Stephen Hawking recently posted a question on the popular website Yahoo.com: “In a world that is in chaos politically, socially and

145. BENJAMIN FRANKLIN, HISTORICAL REVIEW OF PENNSYLVANIA (1759) *quoted in* JOHN BARTLETT, FAMILIAR QUOTATIONS 348 (Emily Morison Beck ed., 15th ed. 1980).

environmentally, how can the human race sustain another 100 years?”¹⁴⁶ Hawking’s question is profound, but, as we have seen, not particularly original. The question, and specifically its hundred-year horizon, echoes Carl Sagan’s concerns about humanity’s “technological adolescence.”¹⁴⁷ Indeed, in a recorded commentary posted as a follow-up to his question,¹⁴⁸ Hawking makes an oblique reference to Fermi’s Paradox and suggests that perhaps in another hundred years, colonization of other planets may increase our chances of survival. He also suggests that genetic engineering might make humanity wiser and less aggressive enough to survive its own technological advances. One can always hope.¹⁴⁹

In the meantime, while they may state the issue in slightly different ways, the consensus of those who know the most about the subject is clear: humanity has entered a critical phase in its history, during which its survival is very much an open question. During the next few decades—if indeed, we have that much time—humanity must take reasonable steps to control the technology which threatens its existence. Controlling access to catastrophically dangerous information is an important, and constitutional, element of such an effort.

146. Stephen Hawking, *How Can the Human Race Survive the Next Hundred Years?*, Yahoo! Answers, <http://answers.yahoo.com/question/index?qid=20060704195516AAAnrOD> (last visited Mar. 11, 2007).

147. Franklin O’Donnell, SETI News, Fourth Quarter, 1992, Goldstone Scans the Sky, <http://www.seti.org/site/pp.asp?c=ktJ2J9MMIsE&b=179144>.

148. See Stephen Hawking, Yahoo! Video, <http://video.yahoo.com/video/play?vid=178f89d3d9987efabcf31c6fb8364fd6.654968> (last visited Mar. 11, 2007).

149. Personally, I believe that nature has already provided all of the genetic engineering we need: A more immediate and practical solution to many, perhaps most, of humanity’s woes is simply to increase the political and economic power of those whose genetic makeup includes no Y chromosome, i.e., women.