

## A Numerical Classification for Killings

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### ABSTRACT

Today, there is but one numerical designator for classifying killings. Title 28, Section 530C of United States Code designates three or more killings in a single incident as a “mass killing”. This paper argues that the single numerical designator is insufficient for distinguishing between “ordinary” and “catastrophic” killings, blurring the distinction between law enforcement and homeland security incidents. This paper proposes developing a broader classification system for the same reason that the FBI established the current threshold, specifically to clarify jurisdictional boundaries affecting budgets and determining agency capabilities. This paper proposes a numerical classification for killings based upon historical benchmarks that identifies seven different classes across the spectrum of killings. This paper contends that despite its seeming callousness, preparedness and response agencies can improve their efficiency and effectiveness through a numerical classification for killings.

### INTRODUCTION

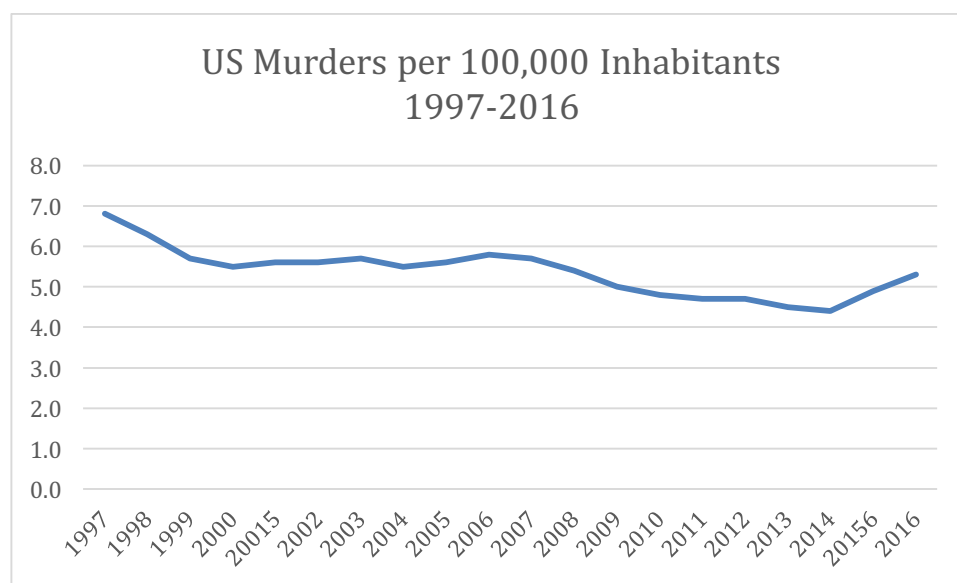
The recent spate of mass killings has blurred the distinction between ordinary criminal incidents and homeland security incidents. The confusion is due at least in part to the fact that the killings in Las Vegas, Orlando, and Virginia Tech were anything but “ordinary”, with each shooting setting a tragic new record in the number of victims killed in a single incident. But as terrible and shocking as these acts were, none rose to the level of a homeland security incident, not by any past or present definition. This is because those definitions distinguish homeland security incidents based upon the specific motive of terrorism. By definition, the incident is a homeland security concern only if the killer’s intent was to coerce government action. That was certainly not the case in any of the three incidents cited. Does this mean they should be considered homeland security incidents by some other measure? Not particularly. Despite the vagary of the official definitions, homeland security is about safeguarding the United States from domestic catastrophic destruction. As horrific as they were, the deaths inflicted in Las Vegas, Orlando, and Virginia Tech were not of the same scale as those inflicted by 9/11 or Hurricane Katrina, the two benchmarks for homeland security. The question then becomes, where do you draw the line between these two opposite ends of the spectrum? When does a mass killing cross the boundary into catastrophic destruction? This is an important question not just of academic concern. It is an important question because the answer determines jurisdictional boundaries, which affect organizational planning and preparation, which shape budget priorities, which are ultimately established by law. This paper proposes a classification for killings differentiating incidents by the number killed, and ultimately drawing a distinction between “ordinary” criminal incidents and homeland security incidents.

### BACKGROUND

For the seventeen-year period from 1997 to 2013, the United States experienced a generally decreasing rate of murder, as shown in Table 1. Experts are at a loss to explain the trend. (The Atlantic, 2016) They are equally perplexed when the trend started to reverse itself in 2014. (The New York Times, 2017) Perhaps most disturbing was the increasing incidence of mass killings perpetrated by lone gunmen. An FBI study at the time found that over the preceding seven years, the number of active shootings had increased from 6.4 to 16.4 incidents annually.

(Federal Bureau of Investigation, 2014) The recent spate of mass killings seems to reinforce this conclusion: Orlando in June 2016, Las Vegas in October 2017, followed quickly by Sutherland Springs in November 2017. Certainly these incidents were a travesty, but the question arises, were they a homeland security concern? The day after the Las Vegas shooting the Department of Homeland Security announced that it was “closely monitoring the situation and working with our federal, state, and local partners in responding to and investigating this tragedy.” (US Department of Homeland Security, 2017) Similarly, following the Orlando shooting, the Secretary of Homeland Security stated “The leadership of the Department of Homeland Security and our components are dedicated to investigating this tragedy, along with the FBI and our state and local partners, and supporting the Orlando community in the tragedy’s aftermath.” (US Department of Homeland Security, 2016) Beyond lending any corroborating evidence that may have been incidentally collected regarding the perpetrators in connection with potential terrorist activities, DHS has no investigative capability or authority in what are fundamentally local law enforcement matters. Although the statements expressed the sincere desire of public officials to do everything in their power in the wake of these national tragedies, the fact of the matter is that these incidents fell outside the Department’s mission set and charter. The mission of DHS is to “ensure a homeland that is safe, secure, and resilient against terrorism and other hazards”. (US Department of Homeland Security, n.d.) This mission statement stems directly from the current definition of homeland security:

*“Homeland security is a concerted national effort to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards where American interests, aspirations, and way of life can thrive” – 2010 Quadrennial Homeland Security Review*



**Figure 1: US Murder Trend, 1997-2016 (Criminal Justice Information Services Division, n.d.)**

None of the cited incidents fit within this definition of homeland security. Terrorism, as defined in Title 18 Section 2331 of United States Code is a crime distinguished by motive, namely to commit acts intended to intimidate or coerce the US government. The motive for the Las Vegas shootings remains unknown. (CBS News, 2017) The Sutherland Springs killings were apparently motivated by a “domestic dispute”. (The Washington Post, 2017) Although the Orlando shooter professed to 911 operators that he “pledged allegiance to ISIS and wanted people to know the pain that Syrians and Iraqis felt”, his crime did not constitute a direct threat to US government. (Orlando Sentinel, 2017) Nor did any of the cited incidents constitute hazards. While the term “hazard” is ambiguously defined, the definitions seem to agree that a hazard constitutes either a natural or manmade event of disastrous proportions. (Blanchard,

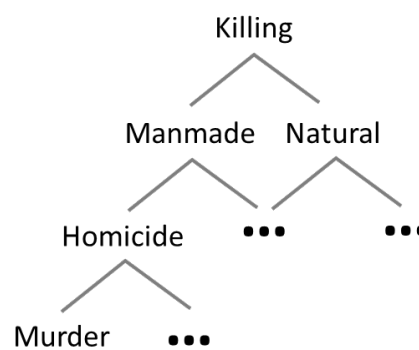
2007) What is a disaster? Again, the definitions are ambiguous, but they seem to converge on the idea that a disaster is any incident that exceeds the response capabilities of local authorities. (Blanchard, 2007) In each incident, local police were able to contain the situation and end the shootings, either directly or indirectly. (Orlando Sentinel, 2017) (Reuters, 2017) (CNN, 2017)

Although these incidents may be colloquially described as “disastrous”, none of them attained the magnitude of a “disaster” compared to the nearly 3,000 killed in 9/11 (9/11 Commission, 2004) and more than 1,300 killed by Hurricane Katrina (The White House, 2006). Under current legal definitions, the cited shootings may only be classified as “mass killings” according to Title 28, Section 530C of United States Code, which sets a numerical threshold of 3 or more killings in a single incident. This threshold only incidentally became the legal definition after it was passed into law in 2013 establishing criteria for FBI assistance when requested by state and local law enforcement (United States Congress, 2013). That such a threshold had to be codified into law was necessitated by the means in which the FBI and all federal agencies are funded by Congress. All federal agencies are funded by Congressional appropriations passed as law. Restrictions on those appropriations are also stipulated in law. Both the amount and restrictions on appropriations play a large role in determining agency programs and priorities, which, in turn, determine capabilities and boundaries. (Saturno, Heniff Jr., & Lynch, 2016) The fact of the matter is that numbers are important. Despite their seeming cold and callous purpose, they are important to determining agency capabilities and boundaries, not just at the federal level, but state and local too. Thus the one established threshold for “mass killings” seems insufficient for distinguishing the current spate of murders, and does nothing to discriminate between “ordinary” and “catastrophic” incidents. Accordingly, it seems that the efficiency and effectiveness of preparedness and response agencies might benefit from a more discriminating, numerical classification for killings.

**State of the Practice**

Before we embark on examining current classification systems, let us take a moment to iron out our terminology. Up until this point, we have used the terms “murder” and “killing” interchangeably, although one has a precise definition and the other does not.

Murder is defined in Title 18, Section 1111 US code as the unlawful killing of a human being with malice aforethought. By contrast, Manslaughter is defined under Title 18 Section 1112 as the unlawful killing of a human being without malice. Both murder and manslaughter are subcategories of homicide, which also includes the lawful taking of human life by government. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 94) Killing, on the other hand, is not a legal term. It has multiple definitions according to the Merriam-Webster dictionary. The definition most pertinent to this discussion is “to deprive of life, or cause the death of”. (Merriam-Webster Dictionary, n.d.) Whereas “murder” is a subcategory of “homicide”, “homicide” may be considered a subcategory of “killing”. Although both include the taking of human life, “homicide” is restricted to the taking of human life by another human, while “killing” encompasses all means of inflicted death, both natural and manmade. Moreover, as applied in this paper, the term “killing” is not tempered by time or space; it does not differentiate between a mass murder, murder spree, or serial murder which are otherwise distinguished by an intervening period or location. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 13) Thus, for the purpose of this paper, killing includes all manner



**Figure 2: Killing, Homicide, & Murder**

of induced human death whether caused intentionally or accidentally by people, government, or technological and natural disaster. Now let us return to the problem of classifying killings.

The earliest system for classifying homicide is the Uniform Crime Reports (UCR). Recognizing a need for national crime statistics, the International Association of Chiefs of Police formed the Committee on Uniform Crime Records in the 1920s to develop a system of uniform police statistics. Seven offenses were chosen to serve as an index for gauging fluctuations in the overall volume and rate of crime. Known collectively as the crime index, these offenses were the violent crimes of murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault, and the property crimes of burglary, larceny theft, and motor vehicle theft. By congressional mandate, arson was added as the eighth index offense in 1979. (Douglas, Burgess, Burgess, & Ressler, 2006, pp. 94-95) The UCR is compiled from reports voluntarily submitted by more than 18,000 city, university and college, county, state, tribal, and federal law enforcement agencies. Since 1930, the FBI has administered the UCR Program and has continued to assess and monitor the nature and type of crime in the nation. The program's primary objective is to generate reliable information for use in law enforcement administration, operation, and management. (Criminal Justice Information Services Division, n.d.)

Currently, the UCR Program is comprised of four subprograms: The Summary Reporting System (SRS), National Incident-Based Reporting System (NIBRS), the Law Enforcement Officers Killed and Assaulted (LEOKA) Program, and the Hate Crime Statistics Program. In addition to annual reports for these data collections, the UCR Program publishes a preliminary semiannual report of summary data each winter, as well as special compilations of data as available, e.g., cargo theft, human trafficking, and NIBRS topical studies. (Criminal Justice Information Services Division, n.d.)

**Table 4: FBI Crime Classifications (Criminal Justice Information Services Division, 2013)  
(Criminal Justice Information Services Division, n.d.)**

FBI SRS Classifications			FBI NIBRS Classifications	
Part I Offenses		Part II Offenses	Group A Offenses	Group B Offenses
1.	Arson	Abuse	Arson	Bad Checks
2.	Assault	Counterfeiting	Assault	Curfew/Loitering/Vagrancy
3.	Burglary/Breaking & Entering	Curfew/Loitering/Vagrancy	Bribery	Disorderly Conduct
4.	Commercial Sex Acts	Disorderly Conduct	Burglary/Breaking & Entering	Driving Under the Influence
5.	Criminal Homicide	Driving Under the Influence	Counterfeiting/Forgery	Drunkenness
6.	Human Trafficking	Drug Abuse	Destruction/Damage/Vandalism of Property	Family Offenses, Nonviolent
7.	Human Trafficking	Drunkenness	Drug/Narcotic Offenses	Liquor Law Violations
8.	Involuntary Servitude	Embezzlement	Embezzlement	Other Offenses
9.	Larceny-Theft	Family Offenses, Nonviolent	Extortion/Blackmail	Peeping Tom
10.	Motor Vehicle Theft	Forgery &	Fraud Offenses	Runaway
11.	Rape	Fraud	Gambling Offenses	Trespass of Real Property
12.	Robbery	Gambling	Homicide Offenses	
13.		Influence	Kidnapping/Abduction	
14.		Other Assaults	Larceny/Theft Offenses	
15.		Other Offenses	Motor Vehicle Theft	
16.		Prostitution	Pornography/Obscene Material	
17.		Runaway	Prostitution	
18.		Sex Offenses	Robbery	
19.		Stolen Property	Sex Offenses, Forcible	
20.		Suspicion	Sex Offenses, Nonforcible	

Under the SRS and NIBRS reporting programs, crimes may be classified by type, style, and number of victims. For example, a single homicide is one victim and one homicidal event. A double homicide is two victims, one event, and in one location. A triple homicide has three victims in one location during one event. And of course, anything more than three victims is classified as a mass murder. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 13)

The FBI recognizes three different types of mass murder: classic mass murder, family mass murder, and murder-suicide. A classic mass murder involves one person operating in one location at one period of time, which could be minutes or hours or even days. If the victims are related, then it is classified as a family mass murder. If the culprit kills themselves, then it is considered a murder-suicide. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 96)

Under the FBI classification system, mass murder is contained over space and time. If the victims are separated by space, over two or more locations, then the FBI terms the killings a "murder spree". If the victims are separated by both space and time, over three or more locations with an "emotional cooling-off" period between homicides, then the FBI terms the killings a "serial murder". (Douglas, Burgess, Burgess, & Ressler, 2006, pp. 96-97)

Other differences distinguish the mass, spree, and serial murderers. In addition to the number of events and locations and the presence or absence of a cooling-off period, the classic mass murderer and the spree murderer are not concerned with who their victims are; they will kill anyone who comes in contact with them. In contrast, the serial murderer usually selects a type of victim. A serial murderer carefully monitors their behavior to avoid detection, whereas a spree murderer is usually unable to control the course of events. The serial killer, by contrast, plans and chooses their victim and location. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 97) Apart from these qualitative differences, there are no quantitative differences in classifying between mass, spree, and serial murderers. The only other numerical distinction in US law is that for genocide.

In 1948, the United States signed the United Nations Convention on the Prevention and Punishment of the Crime of Genocide. Article II of the convention defines genocide as follows:

*"...any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: (a) Killing members of the group; (b) Causing serious bodily or mental harm to members of the group; (c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; (d) Imposing measures intended to prevent births within the group; (e) Forcibly transferring children of the group to another group."* – 1948 UN Convention on Genocide

The numerical qualifier implied by this definition is "all", historically a very large number. Motivated as the treaty was by the Holocaust, we may assume 5-6 million deaths as a benchmark. (Wikipedia Contributors, 2017) Alternatively, we may choose as a benchmark the estimated 500,000 to 1,000,000 killed in Rwanda in 1994, the first cited violation of the UN convention. (Wikipedia Contributors, 2017) Although genocide implies killing on a horribly large scale, the classification is not about numbers. The classification is about motive. Presumably, there is a relationship between the group identifier and the reason they are targeted. Irrational as that reason may be, it provides the justification for targeting the group. Genocide is not the only classification based on motive.

By far the most common and significant attempts to classify crime have been based on motive. The reason is easily understandable. If common motives can be identified, then perhaps their

underlying causes can be treated to prevent crime. In practice, though, it has been very difficult to classify criminals into discrete categories based on motive because they exhibit such a broad range of antisocial behavior. This problem has been especially pronounced in homicide research. Consequently, there are a number of different classification systems each offering a different number of classifications depending on what authority one chooses to read. (Vaughn, DeLisi, Beaver, & Howard, 2009)

Holmes and DeBurger developed one of the most popular classification systems for serial killers. The typology centers on the motives for killing of four distinct types. Visionary murderers are believed to be actively psychotic at the time of their killing and are motivated by either good or evil hallucinatory voices or visions. Mission-oriented killers are motivated to remove certain groups of people from society, such as prostitutes. Power/control-oriented killers are motivated by the desire to experience the feeling of life-or-death control over their victims. Hedonistic killers are theorized to derive psychological satisfaction or thrill from the act of killing. (Vaughn, DeLisi, Beaver, & Howard, 2009)

Holmes and Holmes developed a multiple category typology for classic mass murderers. This typology was driven by the apparent motivation and targeted victims of the killer. The major types of mass murderers are the pseudo-commando (a weapons obsessed person who slaughters random victims), the disciple (the follower of a charismatic leader), the family annihilator (one who destroys his or her family), the religious/ideological killer (a killer driven by their value or belief system), the disgruntled citizen (one who targets people with whom he or she perceives a grievance, usually at work), the set-and-run killer (time bombings or anonymous poisoning of medicine or other public products), the psychotic mass killer, and youthful school shooter. (Vaughn, DeLisi, Beaver, & Howard, 2009)

Undoubtedly, the most comprehensive typology of both single and multiple homicide offending is the Crime Classification Manual developed by the FBI's National Center for the Analysis of Violent Crime (NCAVC). The Crime Classification Manual classifies homicide by motive. The motive categories are criminal enterprise, personal cause, sexual intent, and group cause. Douglas et al. defined 42 types and subtypes of homicide, including contract killing, gang-gang-motivated murder, product tampering homicide, felony murder, erotomania-motivated murder, domestic homicide, cult murder, extremist murder, and dozens more. Each type of murder is classified according to its defining characteristics, victimology, crime scene indicators frequently noted, staging, and common forensic findings. The typological approach of the Crime Classification Manual was developed from actual case files of the FBI and was intended to serve investigative and profiling functions. (Vaughn, DeLisi, Beaver, & Howard, 2009)

The basic difficulty in applying any of these classification systems is that of discerning motive. Using crime scene data to empirically test the serial killer typology developed by Holmes and DeBurger, Canter and Wentink found the task frustrating because it was impossible to make inferences about the motivation of the offender. (Vaughn, DeLisi, Beaver, & Howard, 2009) In the case of murder-suicides, the killers may take their motives with them to their graves. Such is the case with the San Bernardino killings in December 2015, (The Los Angeles Times, 2016) and also remains the case with the Las Vegas killings in October 2017. (CBS News, 2017)

In summary, the current state of the practice for classifying killings is primarily based on motive from which there are many typologies to choose, but none practical to apply. Meanwhile, there exists only one numerical designation for classifying murder, but it sets only

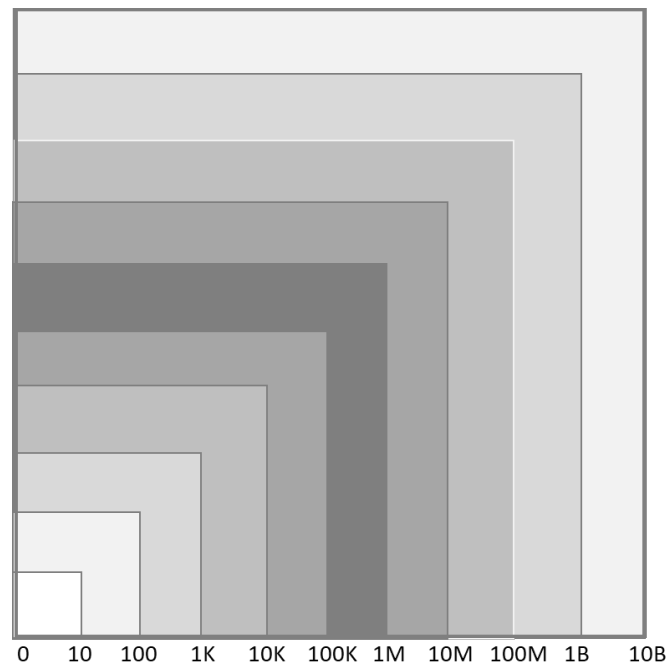
a single threshold that is insufficient for discriminating between crimes across a spectrum of killing.

### **A Numerical Classification for Killing**

Words are important, especially within the halls of justice; they can make the difference between life and death. For the survivors, it is only human to describe incidents as “heinous”, “atrocious”, and “cruel” to express the magnitude of their personal impact. Such terms, though, are called “aggravators”, and criminal justice systems are sensitive to their use less they introduce some form of bias, prejudice, privilege, or other unintended inequality that influences sentencing. (Douglas, Burgess, Burgess, & Ressler, 2006, p. 56) State and federal criminal sentencing guidelines enumerate a host of aggravators and how they may be used with respect to the specifics of a crime. Unfortunately, due to the ambiguity of the English language, different aggravators mean different things to different people. Inconsistent understanding can consequently lead to unequal treatment resulting in appeal. The Supreme Court in *Godfrey v. Georgia* (1980), for example, reversed a capital sentence, stating, any sensible person could “fairly characterize almost every murder as outrageously or wantonly vile, horrible and inhuman.” Jury instructions, ruled the Court, gave no guidance or explanation concerning the meaning of these aggravating factors, leading to what the Court called “the standardless and unchanneled imposition of the death sentences” (Douglas, Burgess, Burgess, & Ressler, 2006, pp. 57-60)

Concern about maintaining equality before the law suggests that a classification for killings should be terminologically neutral. That is to say, the classification system should avoid any emotional terms that might unfairly tilt the scales of justice. For this reason, it is proposed to establish a classification for killing which simply classifies incidents based on the number killed as “classes”. At the lowest end of the spectrum is a “Class 1” killing. Next in severity is a “Class 2” killing, and so on up the scale.

Also for the sake of law, the classification system should be both comprehensive and explicit. Let us address comprehensiveness by considering all numbers across the spectrum of killings from one to all; in other words, from one killing to the extinction of mankind. Explicitly, the spectrum extends from the lowest number of potential killings, one, to the highest number of potential killings, seven billion, the equivalent of the human population. For graphing purposes, using a logarithmic scale, let us extend the highest number of potential killings to ten billion as shown in Figure 3.



**Figure 3: Spectrum of Killing**

Let us now compile some benchmarks based on past killing incidents. The 2017 Las Vegas shooting surpassed the number of people killed in 2007 at Virginia Tech, (Wikipedia Contributors, 2017) setting a new benchmark for killings by a single assailant employing automatic weapons. In these cases, casualties can be limited by swift response from law enforcement. Unfortunately, no response time was afforded to law enforcement in the 1995 Oklahoma City Bombing which killed nearly three times as many people who died in Las Vegas. (Wikipedia Contributors, 2017) Even that death toll was nearly doubled by the 2017 Egypt Mosque Bombing, (Wikipedia Contributors, 2017) setting the benchmark for the use of chemical explosives. A similar number of people were killed in the 2008 Mumbai Attacks perpetrated by multiple assailants employing automatic weapons. (Wikipedia Contributors, 2017) As already mentioned, both 9/11 and Hurricane Katrina set the benchmark for homeland security incidents. However, it was the singular events surrounding 9/11 resulting in the establishment of the Department of Homeland Security that give it primacy. But as an example of the casualties that may be inflicted by subverting critical infrastructure, 9/11 only takes second place. For lack of air conditioning, nearly five times more people died in a 2003 heatwave across France than were killed in 9/11. (Wikipedia Contributors, 2017) This is but one example that fuels concerns about a potential cyber-attack shutting down the North American Electric Grid. (Idaho National Laboratory, 2016) Even more people, 35,000 are killed on US roads every year. (Insurance Institute for Highway Safety, Highway Loss Data Institute, 2016) Although these may also be considered an infrastructure risk, they are unusually accepted as “the cost of doing business” because shutting down the roadway system to save lives would bring the US economy to an unacceptable standstill. Among other potential means for inflicting domestic catastrophic damage, weapons of mass destruction wielded by non-state actors are a serious homeland security concern. Among the 15 agents of destruction listed in the 2004 National Planning Scenarios, 10 are weapons of mass destruction. Perhaps the most destructive agent listed among the scenarios is an improvised nuclear device. The given scenario doesn’t specify the number of potential casualties, however, the death toll may be gauged from the 1945 atomic bombing of Hiroshima. (Wikipedia Contributors, 2017) While ranked among the deadliest single incidents in history, the death toll from Hiroshima rates a distant second to the 2004 Indian Ocean Tsunami for the number killed in a single day. (Gonzalez, 2013) (Wikipedia Contributors, 2017) Man’s inhumanity to man, though, has

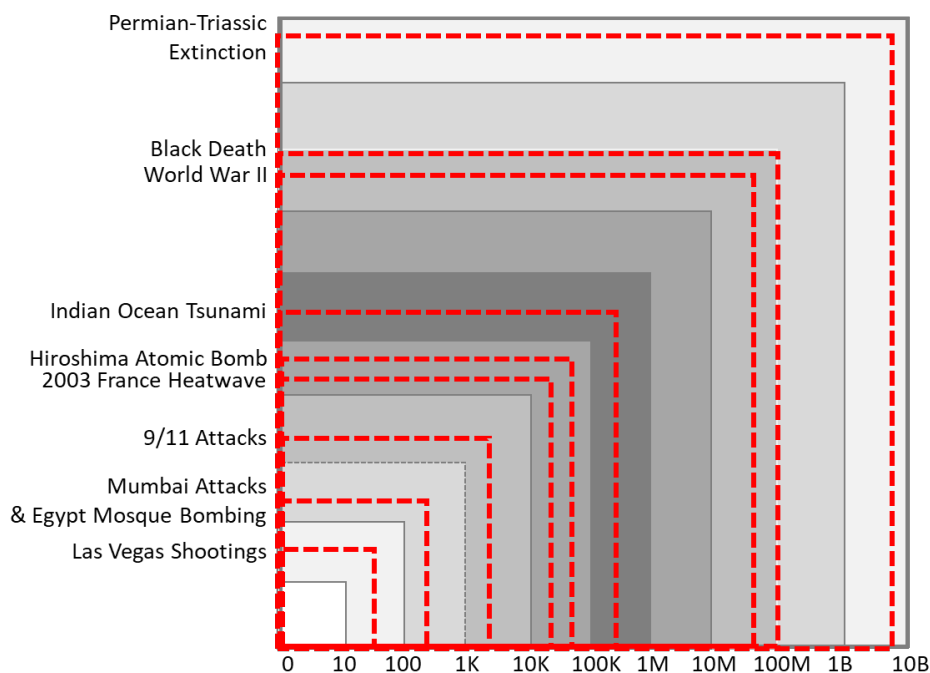


pushed death tolls into the millions. Millions died in the Holocaust (Wikipedia Contributors, 2017), the Soviet Union (Wikipedia Contributors, 2017), and the People’s Republic of China (Wikipedia Contributors, 2017) due to the willful actions of governments, but none so many as the number killed in World War II. (Wikipedia Contributors, 2017) Warfare sets the highest benchmark for humans killing humans. Otherwise, nature holds the record. Pandemic disease, in particular the 1343 Black Death holds the title for killing the most humans without wiping out the entire species. (Wikipedia Contributors, 2017) Outside pandemic, heart disease and cancer are the leading cause of death killing 1.2 million Americans annually. (CDC National Center for Health Statistics, n.d.) As for wiping out entire species, the Permian-Triassic Extinction 252 million years ago holds the record among the five identified mass extinction events since life first appeared on earth about 500 million years ago. (Wikipedia Contributors, 2017) Some say that a sixth mass extinction event is currently underway as a result of mankind’s overpopulation and over consumption. (Ceballos, Ehrlich, & Dirzo, 2017) Although mankind is responsible for causing many species to go extinct, it has not yet endured its own extinction-threatening event. Given the fossil record of life on earth, most experts believe that is only a matter of time; and some believe it will happen sooner rather than later.

**Table 5: Killing Benchmarks**

#	Timeframe	Incident	Cause	Killings
1	1-Oct-2017	Las Vegas Shootings	Single Assailant	58
2	26-Nov-2008	Mumbai Attacks	Multiple Assailants	308
3	25 Nov 2017	Egypt Mosque Bombing	Explosives	305
4	11-Sep-2001	9/11 Attacks	Critical Infrastructure	3,000
5	August 2003	2003 France Heatwave	Critical Infrastructure	14,802
6	6-Aug-1945	Hiroshima Atomic Attack	Weapon of Mass Destruction	80,000
7	26 Dec 2004	Indian Ocean Tsunami	Natural Disaster	280,000
8	1939-1945	World War II	Warfare	80,000,000
9	1343	Black Death	Pandemic	100,000,000
10	252 MYA	Permian-Triassic Extinction	Mega-Volcanos	96% All Life

Let us now map the Killing Benchmarks from Table 2 onto the Spectrum of Killing in Figure 3. The result is the graph shown in Figure 4.



**Figure 4: Killing Benchmarks Overlaid on the Spectrum of Killing**

The question now is how to divide the Spectrum of Killing into different Killing Classes in some systematic manner? We propose using the Killing Benchmarks to help differentiate between different Killing Classes. We propose using the Killing Benchmarks as a basis for Killing Classes because they are anchored in historical events, and thus provide the solidity of the probable, not just the possible. But we cannot necessarily use the Killing Benchmarks themselves, as they provide only guideposts not boundaries. In other words, the benchmarks are dynamic and may change due to future events. The classes need to account for this potential variability and accommodate a higher range of values beyond the current benchmarks. Accordingly, the boundaries for the Killing Classes will be set by an estimated upper bound for the various benchmarks. The upper bounds may be based on one or more benchmarks. Even so, the choice of upper range values will still entail some arbitrary selection. It is therefore expected that the boundaries between Killing Classes may be adjusted as more precise systematic means are developed. For now, we will set our demarcations as proposed.

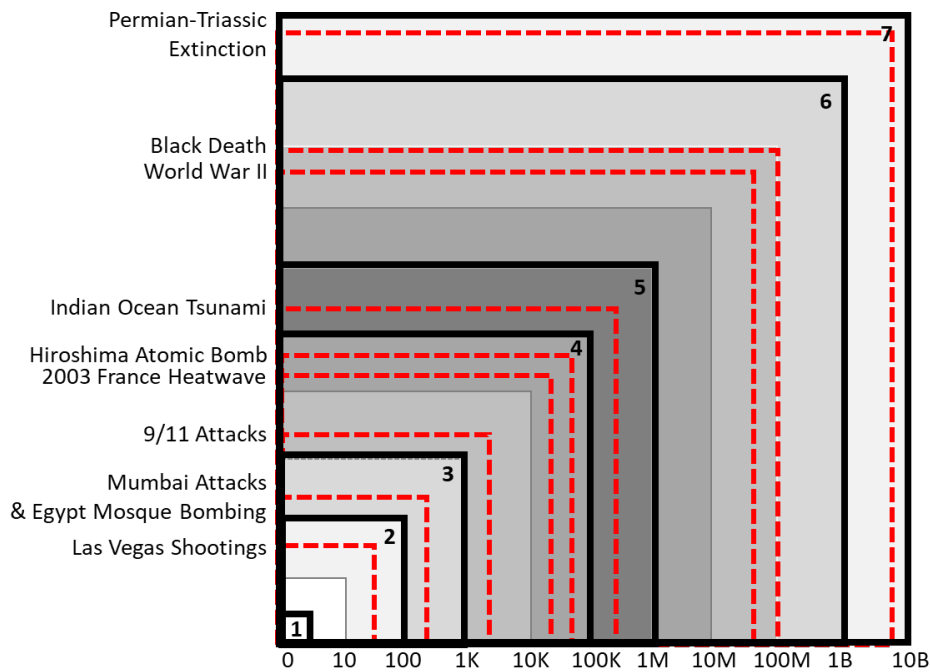


Figure 5: Proposed Killing Classes

We propose subdividing the Spectrum of Killing into the seven Killing Classes shown in Figure 5. The upper bound for Class 1 killings is set by the FBI definition of mass killing, three or more killings in a single incident. The upper bound for Class 2 killings includes the benchmark set by a single assailant employing automatic weapons. The upper bound for Class 3 killings includes the benchmarks set by multiple assailants employing automatic weapons and the use of chemical explosives. The upper bound for Class 4 killings includes the benchmarks set by actual and potential infrastructure subversion and weapons of mass destruction employed by non-state actors. The upper bound for Class 5 killings includes the benchmark set by natural disaster. The upper bound for Class 6 killings includes the benchmarks set by pandemic disease and warfare. And finally, the upper bound for Class 7 killings includes the benchmark set by the largest extinction event in the history of life on earth. The specific boundaries demarking each Killing Class are listed in Table 3.

**Table 6: Killing Class Boundaries**

Class	Killings	Possible Cause
1	1 - 2	Anything
2	3 - 100	Single Assailant
3	101 - 1,000	Multiple Assailants/Explosives
4	1,001 - 100,000	Critical Infrastructure/WMD
5	100,001 - 1,000,000	Natural Disaster
6	1,000,001 - 1,000,000,000	Warfare/Pandemic
7	1,000,000,001 - 10,000,000,000	Extinction Event

**Implications**

What we’ve done here is develop a classification system that distinguishes incidents based on the number of killings. Although the seven classes were developed using benchmarks based on different means of killing, the system of classification is strictly based on numbers, independent of means or motive. The system preserves the present definition of mass killing in making its first demarcation between Class 1 and Class 2 killings. The system, however, further differentiates between mass killings based on the number killed. Thus the incidents in Las Vegas, Orlando, and Virginia Tech, with which this paper began, are distinguishable from Oklahoma City, Hurricane Katrina, and 9/11 as Class 2, Class 3, and Class 4 incidents respectively. Because these incidents fall within different classifications, the system allows a clear distinction to be drawn between incidents which do and don’t constitute homeland security, even though they share a common label of “mass killing”. As noted in the introduction, the distinction is not just an academic concern. The classification system provides a tool for helping establish jurisdictional boundaries, which affect organizational planning and preparation, which shape budget priorities, which are ultimately established by law. By creating a numerical classification for killings, this system makes it easier to distinguish between “ordinary” and “catastrophic” incidents, and can therefore help preparedness and response agencies become more efficient and effective.

**Table 7: Crossreference between Killing Benchmarks and Killing Classes**

#	Timeframe	Incident	Cause	Killings	Class
1	1-Oct-2017	Las Vegas Shootings	Single Assailant	58	2
2	26-Nov-2008	Mumbai Attacks	Multiple Assailants	308	3
3	25 Nov 2017	Egypt Mosque Bombing	Explosives	305	3
4	11-Sep-2001	9/11 Attacks	Critical Infrastructure	3,000	4
5	August 2003	2003 France Heatwave	Critical Infrastructure	14,802	4
6	6-Aug-1945	Hiroshima Atomic Attack	Weapon of Mass Destruction	80,000	4
7	26 Dec 2004	Indian Ocean Tsunami	Natural Disaster	280,000	5
8	1939-1945	World War II	Warfare	80,000,000	5
9	1343	Black Plague	Disease	100,000,000	6
10	251 MYA	Permian-Triassic Extinction	Mega-Volcanos	96% All Life	7

**CONCLUSION**

Many, no doubt, will decry a numerical classification for killings as callous and arbitrary. I contend it is no more callous nor arbitrary than those already in use today. On the contrary, a numerical classification system can serve agencies in clarifying roles and preparing capabilities in the same manner current classifications already do, but with less confusion and more refinement. Moreover, I do not expect that the boundaries set forth in this proposal will be final. Alternative methods may be proposed for establishing different classes or setting different boundaries. Indeed, I don’t see this as the end of a proposal so much as the beginning of a debate. However that debate unfolds, I think it will show the inherent benefit and advantages of a numerical classification for killings.

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