

SMART GUNS/FOOLISH LEGISLATORS: FINDING THE RIGHT PUBLIC SAFETY LAWS, AND AVOIDING THE WRONG ONES

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I. INTRODUCTION

Gun misuse by unauthorized gun users is a serious problem. About one-seventh of police officers who are fatally shot are shot with their own guns. [FN1] Many guns used by criminals have been stolen from their proper owners. While gun suicide is quite rare for most young people and children, the gun suicide rate is not insubstantial for males aged fifteen to nineteen. [FN2] Although gun accidents involving children have fallen to an all-*158 time low, [FN3] any fatality involving a child is tragic. Accordingly, policy-makers have begun looking for ways to reduce or eliminate gun misuse by unauthorized users.

This Article examines the possibilities and the policy implications of current proposals to prevent gun misuse by persons who are not authorized by the gun's owner. [FN4] In other words, are there technologies that gun owners, including police officers, can use to prevent their guns from being misused by children, teenagers, or thieves? Should the government mandate the manufacture, sale, or use of such technologies?

Policy-makers considering mandates must evaluate two different kinds of gun safety. First, a functioning gun in the hands of an irresponsible child or criminal is an unsafe gun. Second, a gun that cannot be used for its intended purpose by its law-abiding owner is also an unsafe gun. For example, a built-in gun lock might make a policeman's gun safer, by preventing the policeman's small children from misusing the gun when it is stored in the home. Yet the very same gun lock might also make the gun unsafe, by preventing the policeman from using the gun quickly during an emergency while on duty.

Likewise, a homeowner might feel safer when buying a gun with a built-in palm print reader, because she knows that the teenagers who live next door will not be able to steal her gun and use it. But that same homeowner might be terrified one night when she hears the glass of her bedroom window shatter, sees a man entering, reaches for her handgun--and discovers that because the battery on the palm-print reader has run low, the gun will not function.

To focus only on one form of safety (stopping unauthorized gun use) can fatally damage another form of safety (authorized gun use). In Merced, California, a seven-year-old and a nine-year-old were murdered by a pitchfork-wielding home invader. Their teenage sister could have stopped the murderer, but she could not retrieve the family gun which was locked in a safe in compliance with California's felony gun storage law. [FN5] Are there gun storage devices, gun personalization devices, or laws about these devices that can promote both types of firearms safety?

Personalized handgun designers face the daunting challenge of merging *159 twenty-first century computer technology with firearms, whose current design is not greatly different from firearms design in the late nineteenth century. Can tiny computers function reliably when gunpowder explosions are taking place inches away, jarring the gun, producing intense bursts of heat, and sending smoke in all directions? How much reliability can be sacrificed before the gun becomes unreliable for defensive purposes?

Besides the direct effect on defensive gun use, what are the secondary consequences of gun storage and gun design mandates? For example, Canada has determined that registration of every firearm and police inspections of the homes of gun owners are necessary to enforce the nation's safe storage requirements. Given the near-certainty of evasion of gun storage laws by a substantial number of Americans, would pressure build for similar home inspections in the United States?

A different secondary consequence stems from presence of 250 million firearms in civilian hands in the United States today. [FN6] If legislators mandate new types of firearms design, will the new designs change gun safety habits? Imagine that ten years from now, there are twenty million new "smart" guns, plus the old supply of 250 million "dumb" guns. Persons used to "smart" guns

can handle them carelessly, because the "smart" guns' built-in technology prevents accidents. Will people who are used to "smart" guns act carelessly with older, "dumb" guns? Will people be able to distinguish the "smart" guns from the older guns--and then act appropriately?

Are there constitutional problems with the legislative mandates? Can laws about gun storage be enforced without routine government inspections of the home? Such inspections are standards in Great Britain and Canada in order to enforce storage laws. [\[FN7\]](#) Do laws that drastically raise the price of firearms, by mandating the use of various technologies, infringe poor people's exercise of state or federal constitutional rights?

How can policy-makers, law enforcement officers, and civilian gun owners promote gun safety? The answers to these questions are, quite literally, matters of life or death. This article provides the first in-depth examination of the technological and legal issues surrounding gun storage and gun design mandates.

Broadly speaking, government mandates fall into two broad categories. The first of these mandates, which we discuss in Part II, is a requirement that guns be locked up, using existing technology, such as trigger locks or gun safes. We examine the utility of existing technology in preventing gun misuse, as well as the degree to which existing technologies may impede *160 use of a firearm for defense in an emergency. We then examine policy issues regarding storage/locking mandates, as well as public opinion regarding the issue.

Part III examines new, high-technology devices intended to "personalize" guns--biometric, computer, and other devices--which are meant to enable a gun to recognize the authorized user, so that the gun will not fire when it is in the hands of an unauthorized user. After surveying the various technologies and their particular strengths and weaknesses, we examine broader issues regarding the reliability of all the personalization devices. The reliability discussion concludes with analyses of the Sandia Laboratories report on personalized firearms for law enforcement.

In Part IV we address the policy issues regarding legal mandates for personalized guns, including the absence of market demand for such guns, police resistance to such guns, enforcement issues arising from consumer deactivation of such guns, and particular problems with the Model Act that is used as the basis for proposed mandates.

Part V examines two very different critiques of personalized gun mandates. The Violence Policy Center, [\[FN8\]](#) a gun prohibition organization, argues that personalized gun mandates will lead to the dangerous proliferation of firearms. The other critique comes from firearms safety instructors, who worry that the proliferation of personalized guns will lead people to neglect basic rules of firearms safety--such as never pointing the gun in a dangerous direction.

We conclude that all of the proposed legislative mandates significantly impede the utility of firearms for defensive purposes, and in some cases may actually increase the risks of gun accidents or other misuse. Since the value of defensive gun possession by law enforcement officers is undisputed, we conclude that executive branch officials and legislators should not force law enforcement agencies to use the various devices discussed in this Article. We do not attempt to resolve the debate regarding the legitimacy of defensive gun ownership by civilians. We do note that, if one believes in the legitimacy (or the constitutional protection) of civilian

defensive firearms ownership, then mandates for civilians would be bad policy. Indeed, as we detail, the dangers of some civilian mandates may be even more acute than the dangers of law enforcement mandates.

This article does not address the constitutionality of the various mandates, under the Second Amendment or under the right to arms guarantees *161 that are contained in forty-four state constitutions. [\[FN9\]](#)

At the outset, we should disclose our contrasting ideological view-points on the gun control issue. One of us (Leonardatos) is a law enforcement officer who supports much stricter gun control. Another (Blackman) is Research Coordinator with the National Rifle Association (NRA), who opposes most of the controls that Leonardatos favors, but who does favor some federal gun laws, and their strict enforcement. The third of us (Kopel) works for a think tank, and is skeptical about both the Leonardatos and the Blackman proposals on federalism grounds. Thus, this article does not take any position for or against gun control in general, or for or against vigorous enforcement of the Second Amendment. Rather, we offer an analysis of the practicalities of laws which mandate the use of various technologies on firearms; whatever one thinks of the Second Amendment implications of such mandates, decision-makers ought to consider the real-world consequences of legislative tinkering with deadly weapons.

II. CHILDPROOFING GUNS: LOCKS AND GUN STORAGE REQUIREMENTS

While Part III of this article examines various cutting-edge high-tech devices, Part II concentrates on well-developed products that are currently available on the market. These devices include a wide variety of locks and safes, as well as more obscure products known as magazine disconnects and removable hammers. For each type of product, we survey the advantages and disadvantages, paying particular attention to two distinct risks: that the product could fail to stop unauthorized users, or that the product could fatally impede authorized users.

After laying the factual foundation, we turn to policy issues and social science research regarding the costs and benefits of mandated use of these products. We also look at the Fourth Amendment implications of government control of gun storage within the home.

A. Types of Locking and Storage Devices

1. Trigger Locks

Trigger locks are in many ways the simplest locks. They have been in existence since 1969 [\[FN10\]](#) and seem to be the most promoted among politicians. *162 Trigger locks vary from expensive battery-powered coded devices to cheaper mechanical locks. [\[FN11\]](#) The locks are placed on or around the trigger, and are intended to prevent the trigger from being pressed.

Gun owners and others criticize trigger locks for several reasons. Unlike padlocks, trigger locks lack a quality rating system and vary extensively in effectiveness, durability, and price. [FN12] Many trigger locks can be defeated with pliers or wire-cutters, or other workshop tools. [FN13]

Trigger locks are suitable only for unloaded guns. Indeed, when used on a loaded gun, trigger locks can cause accidental discharges. First of all, the act of placing or removing the lock may move the trigger, and thus cause the gun to fire. In addition, all firearms currently manufactured or imported into the United States can pass a "drop test." That is, if the loaded gun is accidentally dropped, it will not fire. [FN14] But when a trigger lock is placed on a loaded gun, and the gun is dropped, it may discharge. In other words, the trigger lock can cause a variety of accidents that would have been impossible but for the trigger lock.

Even with a trigger lock in place, it may be possible to fire the gun: "[w]ith trigger locks, you can still load it. Sometimes, if you drop it, [the gun] will still fire. And sometimes, you can force the lock back and still use [the gun]." [FN15]

Since the trigger lock must not be used on a loaded gun, it is unsuitable for use on a gun which must be ready for defensive use in a sudden emergency. Protective guns are typically stored or carried loaded; if a rapist is coming through the bedroom window, there may not be time to load the *163 gun. The homeowner would have to take a trigger lock off and then load the gun, all in the few seconds between the time a criminal enters the home and the time that a violent attack might begin.

On the other hand, trigger locks may be reasonable choices for gun owners who do not need their firearms ready for use. For example, a man who owns two hunting rifles that he uses a few times a year might choose to put trigger locks on the rifles.

2. Cable Locks

A trigger lock could be used on a loaded gun, but should not be. A cable lock is literally impossible to use on a ready-to-fire loaded gun. A cable lock consists of a metal cable (sometimes surrounded by rubber), which is similar to a bicycle lock, but thinner. Each end of the cable connects to an ordinary padlock. The cable either goes through the barrel or through the action [FN16] of a handgun or long gun, thus preventing a round from being chambered or fired. On a double-action revolver, the cable blocks the cylinder from closing in place. [FN17] On a semi-automatic pistol, if the cable is threaded through the barrel, the cable prevents a round of ammunition from entering the firing chamber. If the cable is threaded through the opening for the magazine (ammunition feeding device), the cable prevents insertion of a magazine. The padlock portion is most commonly operated by a key, although combination locks may also be used. [FN18]

There are two obvious disadvantages to cable locks. In order to use the gun for protection, the cable lock must be unlocked, and only then can the gun be loaded. The other disadvantage would be readily recognized by most bicyclists: cables are thin and easily cut--and the narrow diameter of gun barrels precludes the use of thick cable. [FN19] As with bicycles, cable locks are designed

more to discourage casual theft than to stop people who have the time and the determination to obtain good wire cutters.

Because trigger locks and cable locks are both rather easy to defeat, the Consumer Product Safety Commission ("CPSC") recently instituted a voluntary recall of thirty different locks, ranging in price from about six to *164 twenty-five dollars. About half were cable locks and the other half trigger locks. [\[FN20\]](#)

3. Internally Installed Combination Locks

The Saf-T-Lok is a combination lock that its manufacturer says can be used on a loaded gun. [\[FN21\]](#) The lock does not fit over the trigger, so it does not pose the risk of causing a loaded gun to fire accidentally, as trigger locks might. Almost alone among the manufacturers of gun locks, gun safes, and personalized guns, the Saf-T-Lok company has lobbied for legislation to mandate the sale and use of its products. [\[FN22\]](#)

Some gun companies which have tested the Saf-T-Lok, however, have found the locks to be defective and to malfunction. The lock also caused the ammunition to improperly feed into the firearm. [\[FN23\]](#) Even when working properly, the Saf-T-Lok may not be compatible with safe defensive use of firearms.

The Johns Hopkins Center for Gun Policy and Research--which is the main intellectual force behind the mandates discussed in this article--reports that "[t]he company claims that the gun is quick and simple to use, and can be fired in under three seconds, even in complete darkness." [\[FN24\]](#) Three seconds is longer than the typical gunfight lasts. [\[FN25\]](#) Three seconds is roughly twelve times longer than the time considered acceptable based on a United States government study of personalized guns for law enforcement. [\[FN26\]](#)

The manufacturer's three-second scenario presumes that the shooter will remember the gun's combination within those three seconds and overcome any stress that may factor into the situation. The difficulty of using a Saf-T-Lok under even minimally stressful conditions was unintentionally demonstrated by Dennis Henigan, the head attorney at Handgun Control, Inc., when Henigan was making a presentation for U.S. Conference of *165 Mayors. [\[FN27\]](#) Attempting to convince the mayors that gun companies should be sued by municipalities for not incorporating devices like the Saf-T-Lok, Henigan "fumbles and fails to unlock the gun in a well-lit room with no intruder at the door. Hair grays. Epochs wane. Finally, disengaging the safety, he apologizes, 'Most people aren't as klutzy as I am.'" [\[FN28\]](#) Asked about the incident, Henigan stated, "[e]ven if a klutz like me fumbles on the first try, the benefits of having a lock outweigh the risks." [\[FN29\]](#) Henigan was attempting to use the device in good light and during a calm demonstration, while a police officer or a homeowner might have to unlock the gun in the dark and under stressful conditions.

In early 2000, Maryland Governor Parris Glendening held a press conference to promote the gun control legislation that was the top item on his legislative agenda for the year. [\[FN30\]](#) He too attempted a Saf-T-Lok demonstration to show how easy it was to use a gun lock. After minutes of fumbling, he was still unable to remove the Saf-T-Lok. [\[FN31\]](#) The governor was finally able to remove the lock, but only with assistance. [\[FN32\]](#)

Saf-T-Lok is one of the very few companies associated with the firearms business that is publicly traded. [FN33] As a publicly traded company, it is subject to scrutiny by the Securities and Exchange Commission. In late 2000, the company's two top officers agreed to pay substantial fines (without admitting liability) for (according to the SEC) substantially misstating the company's profitability and its future business prospects, including its sales contracts. [FN34] The SEC enforcement action, which was reported in the trade magazine *Firearms Business*, may have further undermined retailer, *166 wholesaler, and consumer confidence in Saf-T-Lok.

4. Hammer Locking Devices

When a gun's trigger is pressed, the trigger releases the gun's hammer. The hammer then swings forward, and hits the firing pin, which then hits the cartridge, and ignites the gun powder. On most self-loading pistols, the hammer is concealed. On most revolvers, the hammer is exposed.

One type of hammer locking device was developed in 1999 by Saf-T-Hammer. [FN35] It features a removable firearm hammerhead, which can either be incorporated into new guns or retrofitted onto most existing handguns. [FN36] The idea is that the top of the hammer can be removed when the gun is not in use. [FN37] This device is promoted as capable of being used on loaded or unloaded guns, without sequences, codes, or combinations which an owner would have to remember. [FN38]

According to a confidential source at the Bureau of Alcohol, Tobacco & Firearms (BATF), with just a single quick motion, a BATF firearms expert was able to manipulate the gun so that it could shoot without the Saf-T-Hammer. The device is designed to be used with a loaded gun, which could lead to unsafe storage practices and accidents. [FN39]

Consumer response to the Saf-T-Hammer appears to be low. [FN40] The company trades on the Nasdaq Bulletin Board. [FN41] According to the Charles Schwab web site's research center, the company has no net earnings, and no earnings are forecast for the next five years. [FN42] The company's stock trades under a dollar a share, and has dipped as low as nine cents per share. [FN43]

A more reliable hammer lock appears to have been developed by Taurus International, a large manufacturer of revolvers, pistols, and rifles. [FN44] *167 The Taurus Security System is built into the gun by the manufacturer; it places a tiny lock underneath the hammer, at the back of the gun. [FN45] The lock is engaged or disengaged by turning a tool that is about the length of a toothpick. The tool is about the width of a micro screwdriver at the working end, and about the width of a finger at the handle end.

Taurus is a respected handgun manufacturer, so the company may not face the consumer worries about reliability that may plague some of the lock-only companies. The obvious consumer concern would be about misplacing the tiny unlocking screwdriver (especially during an emergency), or about the fine motor coordination (with shaking hands?) necessary to put the little screwdriver into the very small unlocking hole.

5. Magazine Disconnects

In a revolver, the ammunition is held in a revolving cylinder that is attached to the gun. In a self-loading pistol, the ammunition is held in a rectangular case called a magazine. Usually the magazine is inserted into a hollow space in the grip of the pistol, although some pistols have another spot to insert the magazine. A magazine disconnect prevents the pistol from firing if the magazine is not in the gun. So even though the pistol might have one round of ammunition in the firing chamber (where a round of ammunition is held ready for the trigger to be pulled and the hammer dropped), the gun would not fire.

A magazine disconnect costs very little for a manufacturer to insert- perhaps about 25 to 50 cents. An advantage of a magazine disconnect is that the gun can be stored partially loaded (with a round in the firing chamber), and quickly made usable for protection by inserting the magazine into the gun. Of course if the magazine is stored near the gun, an unauthorized user could also insert the magazine.

Magazine disconnects have been around for many years. Some handgun manufacturers put them on their guns, but most do not. Police officers who prefer guns with magazine disconnects support the idea of a magazine safety to protect them if they are in imminent danger of losing a weapon to a perpetrator. The officer could eject the magazine, which would delay or prevent his assailant from using the weapon against the officer.

Other law enforcement officials fear that an officer, armed with a self-loading pistol, might wish to switch magazines before she is actually out of ammunition, especially if she has lost count of how many rounds she has fired. Or she might drop the magazine while attempting to reload. Even though her gun would have a round in the firing chamber, she would not be able to use the gun for a shot, which might be necessary to save her life. Similar pros and cons apply to civilians concerned with defensive gun use.

Many gun safety trainers are skeptical of magazine disconnects. [\[FN46\]](#) First of all, safety instructors strongly discourage gun owners from counting on any mechanical device to work as intended. Instead, trainers insist that gun owners always follow safety rules, even if mechanical devices might make the rules unnecessary. The most important of these rules are:

1. Treat every gun as if it is loaded, until you have personally ascertained that it is not.
2. Keep your finger off the trigger until you are ready to shoot.
3. Always point the gun in a safe direction. [\[FN47\]](#)

Relying on a magazine disconnect (or a Saf-T-Lok, or most of the other devices discussed in this Article), gun owners might feel free to violate rules 2 and 3, believing that nothing could go wrong, because the gun cannot fire. But mechanical devices do fail sometimes. Alternatively, the device may not have been properly engaged in the first place.

For magazine disconnects, the danger is particularly acute. Even if a new law mandated that all new pistols have magazine disconnects, the majority of existing pistols--tens of millions--will

have not have magazine disconnects. A young gun owner who relies on the magazine disconnect from his 2004 Smith & Wesson could make a fatal error by presuming that the 1990 Beretta pistol he borrowed also has a magazine disconnect.

Also, the magazine disconnect is entirely hidden, and is not visible to the gun owner, even when the gun is disassembled for ordinary cleaning. How can the gun user be sure that a previous owner did not have the magazine disconnect removed--which can be done with just a snip of a metal-cutter?

6. Gun Lock Boxes and Gun Safes

For those gun enthusiasts who own many firearms, safes are often a preferred means of storing and securing firearms. Federal law, which requires that some sort of locking device be made available by gun dealers, defines "secure gun storage device" as "a safe, gun safe, gun case, lock box, or other device, that is designed to be or can be used to store a firearm and that is designed to be unlocked only by means of a key, a combination, *169 or other similar means." [\[FN48\]](#)

Lock boxes for guns cost from around \$50 to \$150. Most of these boxes rely upon keys or combination locks. They are generally designed to house one or two loaded handguns. [\[FN49\]](#) Lock boxes can be broken open--as one writer demonstrated when she put some candy inside a lock box, and then told her pre- adolescent children that they could have the candy if they could get it out of the lock box. Armed with little more than screwdrivers, they retrieved the candy within minutes. [\[FN50\]](#)

Gun safes range in cost from a couple hundred dollars to several thousand. Like lock boxes, gun safes are impenetrable to very small children, but can often be broken open by teenagers using ordinary household tools. [\[FN51\]](#)

One proposed federal law would require dealers to deliver a lock box, or safe with each gun purchase regardless of whether the buyer already has the means to safely store his new gun. [\[FN52\]](#) This law would not, therefore, recognize large gun safes as adequate secure storage receptacles for more than one handgun.

While the above list covers the vast majority of currently available gun lock devices, entrepreneurs are hard at work inventing new devices. For example, a police officer has a holster that is designed to lock the gun within it and that would also alert authorities to any attempt to remove the gun. [\[FN53\]](#) Since police typically carry their guns in holsters, the device may be particularly useful for law enforcement.

B. Policy Issues

In this section, we address some of the policy implications of the facts about gun locks, detailed herein.

1. Resistant to Small Children, But Not "Childproof"

If there is one thing that should be clear, it is that discussion of "childproofing" guns is dangerously misleading. A device may slow down child access, but none of the devices can really deliver "childproofing." Most of the locks could prevent a five-year-old from using the gun. Few of the *170 locks could prevent a fifteen-year-old from using the gun, especially if the fifteen-year-old had some tools and some time.

As the Violence Policy Center recognized regarding the distribution of some trigger locks, "[w]e have defeated those locks with one smash of a hammer and opened them with paper clips and everything else To pass them off as gun locks is consumer fraud." [FN54] Indeed, the Consumer Product Safety Commission has initiated a voluntary recall of hundreds of thousands of gun locks. [FN55]

Gun accidents with small children are by far the smallest part of the problem of unauthorized gun use. [FN56] Gun accidents involving reckless teenagers (mostly male), gun suicides involving older male teenagers, and gun thefts by criminals are each much larger problems than accidents with small children. Most locking devices, except very expensive safes, can slow down but not prevent gun misuse by unauthorized teenagers or adults.

Accordingly, one of the unintended dangers arising from legislative attention to gun locks may be the frequent use, especially in the media, of the word "childproofing." Most of the products discussed in connection with "childproofing" guns are not capable of stopping a determined assault from a twelve-year-old child. If parents hear about cable locks for "childproofing" guns, they may expect their cable lock to be absolutely impervious to their twelve year old; but in fact, the cable lock may only be able to resist a twelve year old with wire cutters for a few seconds. "Child-resistant" would be much more accurate term to use--and therefore a much safer term.

2. Interference with Self-Defense

As detailed above, all of the various types of locks add at least several seconds to the time it takes to use a firearm in an emergency. If the lock does not function properly, or causes the gun to malfunction, then the gun may become useless in an emergency.

Andrew McClurg, the leading scholarly advocate of gun lock mandates, argues that gun lock mandates do not interfere with self-defense:

There are at least four reasons why the "interference with self-defense" argument in the context of safe storage lacks merit. First, most gun owners lack the ability to effectively use even their negligently stored guns in self-defense. As gun experts know, simply *171 "having" a gun does not make it useful for self-defense. Effective self-defense using a firearm requires, like every other skill in life, an organized plan and practice to implement it. In an article on the use of firearms for home defense, a leading expert summed up his advice as follows: "Train yourself or, better yet, get yourself trained." However, too many gun owners simply buy a gun, load it and store it, without thinking about what to do with it if they need it. "Somewhere in the closet," one friend said, when asked where the handgun she keeps for self-defense is kept stored. Rehearsing self-

defense drills with a safely stored gun would result in much quicker response times than most gun owners could presently muster with their unsecured guns.

Second, manufacturers are developing a variety of safe storage devices made with quick access in mind. These devices are designed to be opened or released in a matter of seconds, even in total darkness.

Third, gun experts, including those writing for pro-gun audiences in pro-gun magazines, instruct that guns must be stored in a manner to prevent them from being accessed by unauthorized users. These experts presumably know of what they speak.

Fourth, and perhaps most telling, despite John Lott's dramatic claim of a "greatly increase[d]" death rate from crime resulting from safely stored guns, there is not a single recorded incident of a person suffering injury from a criminal due to an inability to gain access to a secured firearm. This is true even though fourteen states (including three of the nation's four most populous states in California, Florida and Texas) have Child Access Prevention laws If safe gun storage really interfered with self-defense, is it not reasonable to expect that there would be at least some evidence to support that claim? [\[FN57\]](#)

There are five responses to McClurg's reasoning: first, the fact that some gun owners do not have their guns readily available for self-defense tells us nothing about the needs or intentions of those gun owners who do have guns at the ready.

Second, McClurg, as a tort specialist, with substantial expertise in product liability, would presumably not deny that many consumer products do not always perform as well as manufacturers claim. As detailed herein, there is substantial reason to doubt that many of these products can be *172 "opened or released in a matter of seconds, even in total darkness."

Third, the experts who write for gun magazines stress safe storage, and they stress that the conditions for safe storage vary greatly from family to family. None of these experts support government mandates.

Fourth, governments that enact gun lock mandates sometimes specifically exempt themselves from liability for deaths or injuries that result from the locks' interference with self-defense. The New York City gun lock law contained such a liability shield, as well as a shield against liability for accidents caused by the locks. Tellingly, the lock law also exempted personal firearms owned by police officers, even in their homes and when off duty. [\[FN58\]](#)

Finally, McClurg asks us to ignore the social science evidence from John Lott [\[FN59\]](#) that shows substantial crime-producing results from gun lock mandates. McClurg does not criticize the methodology of Lott's study; so far as we know, no one has pointed to flaws in that study. Rather, McClurg makes a common-sense argument, asking for anecdotal evidence. Unfortunately, such evidence can now be supplied, as the next section details.

C. Governmental Approaches Regarding Childproofing-and the Slippery Slope to Home Inspections

1. Gun Lock Giveaways

Acquisition of gun locks by people who already have guns is widely encouraged by civic groups, church organizations, and law enforcement agencies. [FN60] For example, the National Shooting Sports Foundation, in conjunction with dozens of police departments, ran Project Homesafe to distribute gun locks for free. The program ran into controversy, however, when it was discovered how easily the locks could be destroyed and removed. [FN61]

While people are often happy to be given something for free, it is difficult to see what practical difference these give-away programs really make. Anyone can buy an inexpensive gun lock already, either at a gun store, or at large discount stores like Kmart or Walmart. Perhaps there are a few gun owners who have no familiarity with guns (maybe they inherited the gun, rather than buying it in a store), and were so ignorant that they never considered going to a gun store or a Kmart to buy a gun lock. But when they saw a newspaper article advertising the availability of free gun locks at a nearby police station, they got in line. Even so, it seems doubtful that *173 the attention given to gun lock giveaways is even remotely proportionate to their real-world effect.

2. Mandated Sales of Gun Locks

Congress has adopted legislation requiring that federally licensed firearms dealers to have gun locks available for sale. [FN62] Some states require that a gun lock be sold every time a firearm is purchased. [FN63] These state laws contain no exemption for a gun-owner who has a large safe, and thus does not need a \$6.95 trigger lock. [FN64]

In October 1997, handgun manufacturers joined President Clinton in the Rose Garden to announce that they would voluntarily supply locks of some kind with all handguns sold. [FN65] Thus, legal mandate or not, every handgun buyer gets a lock, whether she wants it or not, and whether or not the company's lock which is tied to the gun sale is the kind of lock the buyer would prefer.

So far, legislative proposals for mandatory lock purchases do not require that owners use the locks. Thus, gun owners who rely on their firearms for protection can throw away the unwanted locks that they were just forced to purchase.

There is a federal proposal to exempt persons from liability for misuse of their firearms by persons gaining access without permission if the firearm was stored as intended, using the device the gun purchaser was obligated to acquire. [FN66] One effect of this federal liability exemption would be to indirectly encourage courts to hold that failure to use the lock the buyer was forced to purchase would be presumptively or per se negligent.

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3. Mandatory Use of Gun Locks

Thus far, Washington, D.C. is one of the very few American jurisdictions that requires that all guns be locked up. In 1999, New York City voters defeated a Charter revision package which would have, inter alia, mandated that owners lock their guns. [FN67]

If laws were passed that compelled owners to keep their guns locked, the simplest way to minimize the delay in obtaining and using the firearm would be to store the key with, or even in, the handgun. New York Senator Charles Schumer, one of the strongest gun control advocates in Congress, acknowledged, "in most likelihood you'll keep the key to the trigger lock right ... where you locked the gun." [FN68] Such storage would, obviously, negate much of the lock's ability to prevent unauthorized use. Below, we discuss the fact that gun storage legislation requires follow-up legislation, including authorizing the police to inspect conditions of safe storage to ensure that they actually are safe.

For the present, however, the more common legislative approach is not to mandate that all gun owners use gun locks. Instead, fifteen states have enacted Child Access Prevention laws, generally referred to as "CAP" laws. [FN69] These laws mandate that gun owners store their guns, by whatever means they choose, in order to limit children's access to guns. [FN70]

These laws are occasionally supported by the NRA, as in Florida. In some other states, the NRA remained silent as to their passage, if the legislatures carefully drafted the statute to define the negligence and endangerment*175 restrictions. [FN71] Legislative mandates might provide for criminal as well as civil enforcement, with some specified methods of storage (such as use of a safe or a lock) immunizing the gun owner from civil liability. Additionally, CAP laws apply only to households where children (defined by a specific age, which varies from state to state) reside or where they might reasonably be expected to have lawful access to the firearms. [FN72]

Two studies of CAP laws have been conducted, although neither study measured compliance with the CAP laws, or enforcement levels of the laws. One study, published in JAMA (the Journal of the American Medical Association) found a statistically significant reduction in gun accidents following the enactment of such laws. [FN73] This study could be criticized because its statistical significance depended disproportionately on results from the single state of Florida. [FN74]

Another study compared crime, accident, and suicide trends in states with CAP laws with trends in other states, while controlling for the effect of numerous sociological factors. [FN75] The study found no statistically significant reduction in accidents involving children or teenagers. [FN76] Teenage gun suicide decreased, but not the overall teenage suicide rate. [FN77] There were also large increases in violent crime and homicide.

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While the precise increase in crime was impossible to measure, it was possible, using ordinary statistical methods of estimation, to provide data at the 95% confidence level. [FN78] That is, to offer estimates which were 95% likely to be less than one standard deviation away from the result that would be obtained if every single real-world incident could be counted. [FN79] These results were:

Rapes, robberies, and burglaries ... rise by [nine], [eleven], and [six] percent, respectively, as a result of safe storage laws The fifteen states with safe storage laws would be expected to experience 168 more murders in the first full year that the law is in effect. The number of murders peaks in the fourth full year at 380 murders During the five full years after the passage of the safe storage laws, the fifteen states face an annual average increase of 309 more murders, 3,860 more rapes, 24,650 more robberies, and over 25,000 more aggravated assaults. [FN80]

The crime increase was most severe in states where CAP law violation was a felony--the only states where JAMA found the law to be effective. (Again, the results are statistical estimates. Not every state would have nine percent more rape; but on the average, rape would increase by roughly nine percent after the enactment of a CAP law.)

A real-world example of the statistical evidence found by Lott and Whitley was the incident in Merced, California, in August 2000. There, a pitchfork-wielding man cut the phone lines to a home, then broke in and began attacking the four children, while their parents were not home. [FN81] The oldest child, fourteen-year-old Jessica Carpenter was unable to retrieve her father's guns from a locked cabinet. [FN82] She ran to a neighbor's home, and begged him to use his own gun to confront the attacker. [FN83] The neighbor did not do so, but 911 was called. By the time the police arrived, Jessica Carpenter's seven-year-old brother and nine-year-old sister had been murdered. [FN84] Jessica's father's guns were locked up in accordance with the California felony CAP law. [FN85]

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Even if we rely on the JAMA findings about a reduction in gun accidents, it is not clear that CAP laws are a net gain to society. Fatal gun accidents involving children are already low and falling, so even a large reduction (say, ten percent) in the fatality rate saves relatively few lives. Suicide by gun is a by far the largest source of gun deaths, but these suicides are strongly correlated with age, being especially common among elderly white males. [FN86] Gun suicide by children is very rare, while gun suicide by older male teenagers is lower than the rate for any older group. Thus, even a large reduction in the rate saves relatively few lives. The finding that CAP laws change the method of suicide, but do not prevent suicides, should not be surprising, given that other, highly lethal means of suicide are readily available. [FN87] In contrast, violent crime perpetrated against people in their homes is far more common than gun accidents and suicides involving children and teenagers. Thus, even a small increase in rate of violent crime results in a large increase in deaths and other victimization. Accordingly, even if the benefits of CAP laws (reducing accidents with children and teenagers) are ten times more powerful (a ten percent reduction) than the harms (increased victimization because guns are less available for protection) of CAP laws (a one percent increase in crime), the net effect is a large increase in the number of deaths of innocents, as well as even larger increases in rape, burglary, and other harms.

But there is an important caveat to this last conclusion. If one presumes that guns should only be used for sporting purposes, and not for defense, then the reduction in lawful defensive gun use can be viewed as socially neutral, or even beneficial. Since reducing defensive gun use is not a harm, then CAP laws would be beneficial, even if the decrease in accidents or suicides were so

slight as not to be statistically noticeable. *178 Mrs. Sarah Brady, the head of the most powerful lobby that pushes for CAP laws, states, "To me, the only reason for guns in civilian hands is for sporting purposes." [FN88] Likewise, her husband Jim Brady was asked if handgun ownership should be permissible. Mr. Brady replied, "For target shooting, that's okay. Get a license and go to the range. For defense of the home, that's why we have police departments." [FN89] Under this paradigm, CAP laws are clearly a net gain to society. Besides accomplishing the formal goal of slowing down or stopping unauthorized users, the gun storage laws may sometimes prevent defensive gun use by authorized users.

As Part III details, the legitimacy of defensive gun use is also at the heart of the debate over whether legislatures should mandate personalization technology on firearms.\

4. Gun Owner Resistance and Government Reaction

For a moment, let us put aside the issue of whether gun lock mandates actually interfere with self-defense. Likewise, set aside the question of whether impeding armed self-defense is a good idea or a bad idea. Regardless of the answers to these questions, there can be no dispute that many gun owners think that such mandates will impede self-defense. The long-term consequence of gun owner resistance to gun lock mandates may be police home inspections, as are currently the rule in Canada and Great Britain.

In response to a law mandating the purchase and use of gun locks, some gun owners would simply comply, even if they thought that the law was harmful. There are apparently a large number of gun owners who are punctilious about obeying the law. That is one reason why so many people apply for permits to carry concealed handguns in the thirty-three states that grant such permits to all adults who meet certain standards. [FN90]

Carrying a concealed gun is, after all, a rather easy offense to commit with low fear of being caught, as long as one stays away from metal detectors. Nevertheless, millions of people fill out paperwork, pay fees, submit fingerprints, and undergo training--all in exchange for a little card that authorizes the person to do what he could easily get away with doing anyway. Jessica *179 Carpenter's father was obviously the type of gun owner who was careful to obey all gun laws, even when the risks of being caught are close to nil.

Further raising the rate of compliance with gun lock laws is the fact that firearms training organizations, such as the NRA, and gun safety instructors typically encourage gun owners to keep guns locked when not in use. For people who own guns only for sport, the storage issues are easily settled. The gun is "in use" when being taken to or from a hunting trip, or when being cleaned. Other times, when the gun is not "in use," it should be locked.

But when the gun is kept for home defense, it is "in use" almost all the time. And that is why many gun owners will refuse to comply with gun lock mandates. They may consider the words of Mafia turncoat Sammy "the Bull" Gravano, whose testimony helped jail the likes of John Gotti: "If I'm a bad guy, I'm always gonna have a gun. Safety locks? You pull the trigger with a lock on, and I'll pull the trigger. We'll see who wins." [FN91] His views are consistent with those of former San Jose Police Chief Joseph McNamara: "You can't have it two ways. If you really safeguard your gun so that innocent people in your house--your children or visitors or someone else--can't get hurt with it, then they won't be able to get that gun for the kind of emergency that

they bought it for in the first place." We are not as pessimistic as Chief McNamara--it is possible to keep a gun in a home in a way that is useful for protection and safe for the occupants. But our point here is that many gun owners are not going to lock up their guns, no matter what the government says, because they agree with McNamara that locks are absolutely incompatible with defensive ownership. Indeed, Gun Owners of America disseminates the McNamara quote in its legislative alerts. [\[FN92\]](#) Will this defiance provoke a legal escalation by the government?

In Canada, legislation in the 1980s mandated that guns in the home be stored safely. In the 1990s, the Canadian government enacted legislation allowing the government to inspect all homes containing firearms, to verify *180 the conditions of storage. [\[FN93\]](#) Canadian police have the authority to enter homes with "reasonable" notice based on either an administrative warrant or the consent of the owner in order to inspect storage conditions. [\[FN94\]](#) Universal gun registration was imposed as a means to ensure that the government would know which homes to inspect. The presence of a registered gun in the home is all that was necessary for the police to obtain an administrative warrant to inspect the home.

In Great Britain, gun owners are required to keep their guns in high-quality safes, and the police routinely conduct home inspections before issuing or renewing a gun license. [\[FN95\]](#) Less frequently, they also conduct unannounced spot checks on homes to ensure that gun storage requirements are being obeyed. [\[FN96\]](#)

In the United States, gun storage laws have not yet led to home inspection laws. But Handgun Control, Inc., the largest anti-gun lobby, [\[FN97\]](#) in its flagship "Brady II" bill, proposes universal gun registration, along with a requirement that people who own more than a certain number of guns or gun parts consent to thrice-yearly inspections of their homes. [\[FN98\]](#) If it is legitimate to have thrice-yearly inspections of people who own a certain number of guns, it is not particularly difficult to justify inspections of the homes of people who own a smaller number of guns.

One cannot be certain whether American courts would uphold such searches. We do know the "reasonable search" doctrine was created in order to allow unconsented safety inspections of housing. [\[FN99\]](#) The Supreme Court has also held that welfare recipients may be required to allow warrantless home visits by caseworkers. [\[FN100\]](#) For people who find the idea of home inspections by the police repellent, it might be prudent to work against the enactment of laws that give rise to the need for home inspections *181 rather than to expect that courts will definitely rule such inspections unconstitutional. [\[FN101\]](#)

III. THE PERSONALIZATION OF FIREARMS

Part II discussed ordinary items (such as locks and safes) that may be used to restrict usage of a firearm. We now turn to more futuristic devices--those built into the gun itself. These devices may be mechanical, radio-based, or computer-based. Collectively, these devices are called

"personalization technologies." One reason for avoiding the term "smart gun," aside from questions as to whether it is accurate, is that the O.F. Mossberg shotgun company has trademarked something it calls a "Smart-Gun." [FN102] So whatever products are introduced by other companies, they will not be called "smart guns" (in order to avoid trademark infringement)-just as carbonated sodas are not called "cokes" unless they are made by the Coca-Cola company. In this Part, we first survey the different personalization technologies. Next, we discuss the results of Sandia Laboratories' testing of personalization technologies; we also discuss Sandia's conclusion that none of the personalization technologies appear to be acceptable for law enforcement needs. This leads to analysis of reliability problems from the viewpoint of law enforcement and civilians. Finally, we look at how reliability-focused police officers or civilians may attempt to bypass their guns' safety features.*182

A. Personalization Devices

1. Radio Frequency Identification Device (RFID)

One type of personalization is the Radio Frequency Identification Device, which equips a gun with radio waves and an antenna to receive those waves. The waves are transmitted from a ring or wristband worn by the shooter. [FN103] The gun would be capable of accepting several memory codes; this would be helpful for families that have more than one authorized user. It would also satisfy law enforcement's need to have several officers capable of firing the same weapon (so that, for example, if one officer is killed in a firefight, another officer can use his gun). The waves would easily pass through an officer's gloves.

Although this invention has been promoted by Colt, it is still, like many similar technologies, in the prototype phase. When Steven Sliwa of Colt's Manufacturing Company slipped his wristlet in place and pulled the trigger of a gun, nothing happened. Sliwa sheepishly explained, "[f]or a while it worked fine." [FN104] A November 1998 position paper by Colt foresaw the development of a personalized gun for police within 2 to 3 years, and a gun for civilians 2 to 3 years after that. [FN105] Two-and-a-half years later, nothing on the Colt web site reports any progress since November 1998, or suggests that a RFID gun will be available anytime. [FN106]

Some potential purchasers of the RFID may have some concerns about the effectiveness of this mechanism. For example, considering that a power source would be required, the absence or destruction of this source would be an issue for someone seeking to use a failure-proof weapon. Additionally, an officer may have some questions about the interaction of his weapon's radio waves with his car radio, walkie-talkie, or another officer's firearm or equipment. [FN107] Officers would also be concerned about dead *183 spots for their antenna reception, and the distance at which their reception would fail. Civilians would have similar concerns about interference from nearby radio sources, such as wireless Internet devices.

Another risk with RFID technology is that it would be dependent upon "an item such as a ring, or a watchband, that they could forget." [FN108] While officers could probably be trained to include this new gadget as part of their daily equipment checks, civilians may have a more difficult time remembering to grab their gun-watchband/ring as they chase burglars from their homes. [FN109] As a practical matter, some persons keeping a loaded gun in the home would

also keep the unlocking device similarly close to the firearm. While this would decrease the time necessary to make the gun operable, it would also substantially undermine the goals of personalization since everything necessary to use the gun would be in one place.

Moreover, depending upon the strength of the radio wave, children playing with the gun near the unlocking jewelry would still be endangered. If they play with the gun while it is five feet from the radio ring, the gun might still fire. Burglars and adolescents familiar with RFID devices would simply take the device with the gun before attempting to shoot.

Another issue is that the RFID ring would make it easy for third persons to identify its wearer as a gun owner. Even if the gun were kept at home, the owner would presumably keep the ring on at all time (the better to prevent unauthorized use). Los Angeles City Councilman Michael Feuer proposes banning the sale of all handguns that do not use radio technology. [\[FN110\]](#) Would forcing gun owners to identify themselves in public be *184 as constitutionally objectionable as forcing everyone who has had an abortion to wear a scarlet "A"? Does the answer depend on whether gun ownership is a constitutional right? (California is one of six states without a right to keep and bear arms in its state constitution.) Is forcing someone to wear a ring in exchange for exercising a government-granted privilege an infringement of the First Amendment--akin to forcing someone to wear (or not wear) an armband or other item of adornment? [\[FN111\]](#)

2. Remote Control

Another idea is a remote-control device in which a small hand-held transmitter would enable or disable a firearm. [\[FN112\]](#) While the device would require positive human action for its operation, it would be transferable to other persons. As with the RFID technology, there would be the constant threat of battery failure and interference with other radio waves.

The battery failure issue is more acute for civilians than for police. Police carry their firearms every day, and therefore can easily check them for battery conditions. For many civilians, however, guns are stored a long time between uses. A gun might be put in a particular place, and then left there for months. Of course there are people who handle their guns more often--especially target shooters who compete and practice frequently. But it is not at all abnormal for a home defense gun not to be touched for weeks, months, or even years.

Because the remote control device would require affirmative action, its utility to prevent unauthorized use could be minimal. Officers would be tempted to simply enable their service weapons at the beginning of a shift. Many civilians would engage their weapons when they arrived home from work or when they decided to stay in for the weekend.

The temptation for any gun owner, civilian or law enforcement, would be to keep the remote control device even closer to the gun than most television owners keep their remotes to the TV set. All the burglar has to do is make sure he steals both the gun and the remote.

3. Bar Codes or Magnetic Strips

A gun with a bar code is similar in operation to a grocery store's check-out machine, which scans the bar codes on the products. The magnetic strip is similar to the strip in access cards that are now used as hotel or office building keys. [\[FN113\]](#) As with other technologies, these keys could

be transferred, thereby satisfying the needs of law enforcement and civilians who may wish that another person have access to their firearm.

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Problems would appear to outnumber any possible advantages regarding the use of bar codes or magnetic strips. Anyone who has had to wait in a grocery store check-out line while his food is repeatedly scanned over the bar code reader, or who had to swipe his hotel key-card several times through the door lock, can appreciate the reason why these inventions would not be appropriate for firearms--at least for firearms which are meant to be used for emergency protection.

In order to unlock the firearm, the card-key would have to be placed in a precise position with relation to the gun, which could be difficult to accomplish in a stressful situation. Additionally, if the owner is wearing gloves or is using the weapon in inclement weather, he may also be unable to unlock the gun.

A power source would be required to operate the codes, which naturally leads to the same problems of dead or purposefully defeated batteries that were discussed for RFID and Remote Control devices. As with other inventions, officers and civilians would be inclined to keep the key in close proximity to their gun for emergency situations--thus weakening the device's utility in stopping unauthorized access.

The most important problem, however, is that so far, no-one has been able even to conceive of a practical way to implement this technology in a personalized gun. [\[FN114\]](#)

4. Touch Memory

Similar to the radio frequency device, the Touch Memory device involves a ring or some other item that is capable of being read by the gun. [\[FN115\]](#) The gun will work only if a particular spot on the gun is touched by a particular spot on the ring. The advantage of this invention is that when it works properly, the reading is fast enough to satisfy most police or other defense needs. The touch memory does require an electronic connection, making it dependent upon a power source with all of the accompanying complications. In addition to the problem of a power supply, the reading could be impaired not only by a user's gloves, but also by dirt, blood, sweat, and oil. (Oil is used to clean guns, and a clean gun may have some residual oil.)

Like the bar code scanner, the touch memory device suffers from the requirement that precise alignment be present for the memory to be read. Thus, a ring that had rotated around its user's hand during the day would render the gun temporarily inoperable.

Touch Memory might decrease the chances that a child or burglar would gain successful access to the weapon, but it would also prove a problem for the homeowner or user who needs the device and the weapon *186 to align correctly for instant operation. Sometimes a person knows about self-defense needs far in advance--as when an ex-husband telephones and says "I'm coming over to kill you." Other times, though, attacks occur with no warning.

5. Biometric Technologies

Guns equipped with biometric technologies would fire after reading a voice, a fingerprint, a handshape, or some other personal characteristic of the user. [FN116] Unfortunately, this most personalized of approaches has too many inherent flaws at this time to be promising. At best, these devices operate like magnetic cards with the same accompanying problems. The obvious disadvantages of this mechanism would include failure of the power source, slow operation of the device, and the impact of environmental factors, such as gloves or contaminants on the hand or change in a tone of voice due to stress, or the incorporation of outside noises. [FN117] To enhance the speed of the biometric technology, promoters of these devices envision imprecise readings which would not require identical fingerprints or voice exemplars, but which would limit false negatives while allowing false positives. [FN118]

6. Magnetic Coding

Magnetic devices on firearms, such as the Magna-Trigger, have been on the market for several years. The Magna-Trigger is an after-market product which can be installed on most Smith & Wesson revolvers, and on the Ruger Security Six revolver. [FN119] Available only through Tarnhelm Supply Co., Inc., the Magna-Trigger must be installed by a gunsmith at the company. [FN120] Once the Magna-Trigger is installed, the revolver can only be fired by someone wearing a special magnetic ring. [FN121] The device costs *187 \$250, including installation, plus \$40 per ring. [FN122] Any ring will operate every gun with a Magna-Trigger. [FN123]

Efforts to develop personalized guns include efforts to install devices similar to the Magna-Trigger on a wider variety of guns. The advantages of magnetic ring locks are that a power source would not be required and the firearm would be easily transferable to other users. Unfortunately, if an owner is looking for a personalized firearm, a magnetic gun would not suffice-- because simple magnetism is the key. Any powerful magnet would unlock the gun's trigger. If a manufacturer designed a more complex magnet based on the magnet's orientation, this development would increase the necessity for precise placement of the magnet. This in turn could slow the operation of the weapon. Of course if the user misplaces the magnetic lock and key, the gun is inoperable.

7. Mechanical Locks

A mechanical lock, is as its name implies, a lock with a key or a combination that usually safeguards the trigger. In contrast to the locks discussed in Part II, the locks discussed here are built in to the gun. [FN124] While these devices are not really "personalized" or "smart," they are often included in such debates. [FN125] When the Maryland Legislature rejected Governor Glendening's call to ban the sale of all handguns that do not have personalization technology in a few years, the Legislature instead enacted a requirement that all new handguns must have integral locks, starting in 2003. [FN126]

These locks vary in cost, they require no power source for their operation, and they can be transferred to anyone with the key. [FN127] These devices are relatively effective as a means of storage because they are difficult to remove without the key or combination, and most people would find it troublesome to shoot the gun with the lock in place.

There are several drawbacks, however, associated with the mechanical locks. The process of unlocking the gun slows its operation. A police officer or other defensive user would have to go through the required mental and physical steps before being able to unlock her weapon during a life-threatening situation. [FN128] Once the gun was unlocked, it would stay unlocked--*188 which would benefit the officer who is searching a house for a burglar, and the burglar who subsequently steals the gun to shoot the unsuspecting officer. [FN129]

Civilians also may experience problems with mechanical locks if they need their guns in an emergency. Not only would they have to find their keys or recall their combinations, but they would also have to quickly load their weapon.

As we have discussed herein regarding other locks, many owners of guns with such locks would be inclined to store the gun with the key nearby, or even with the key in the gun. [FN130]

8. Electronic Locks

Swiss Industrial Company ("SIG") is a well-established, highly reputable handgun manufacturer, based in Switzerland. [FN131] SIG sells to both law enforcement and civilians. In 1999, SIG announced plans to begin building into some of its handguns a device that is somewhat similar to the mechanical lock, but which is electronically controlled by a personalized PIN code to lock or unlock the gun. While the mechanism does not engage automatically, it does allow the owner to unlock the firearm for either a one-hour or eight-hour period of time, after which the gun would automatically lock. [FN132]

Because of SIG's reputation in the firearm industry, buyers would be unlikely to have quality concerns about the SIG lock. Yet as with other electronic gadgetry, owners may have concerns about what would happen to the firearm when the battery dies.

There would also be the usual concerns about unlocking any type of combination lock in an emergency. For law enforcement officers, the eight-hour delay lock mode could cause problems for the officer if he or she is involved in an incident occurring at the end of a shift or on overtime. [FN133]

As of late 2001, the SIG electronic lock is not available on the market, and SIG's website gives no indication that it will be anytime soon. [FN134]

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B. The Scientific Evaluation of "Smart Gun" Technologies

1. The Purpose of the Sandia National Laboratory Study

While much of the "gun safety" rhetoric has focused on children, the initial idea for a "smart" or "personalized" gun was prompted by concern for the safety of law enforcement officers. [FN135] A significant fraction of police officers who are killed in the line of duty are shot with their own weapons or with weapons taken from fellow officers. [FN136] By personalizing the guns that officers use, the U.S. Department of Justice's National Institute of Justice sought a solution. [FN137]

With the idea that law enforcement officers would benefit from technology that would prevent unauthorized individuals from firing an officer's gun, the National Institute of Justice asked the U.S. Defense Department's Sandia National Laboratories to evaluate "Smart Gun Technologies." Sandia's task was to determine the desirability, acceptability, and feasibility of developing handguns that are designed to decrease or prevent the chance that the gun could be used against the officer or an innocent bystander. [FN138]

There was also the idea that "smart gun technology may also help eliminate the value in stealing officers' weapons." [FN139] That anti-theft goal was quite clearly secondary. For the most part, the goal of a "smart gun," as envisioned by Sandia Labs, was to prevent immediate use of a gun quickly taken from an officer so that the officer had the chance to escape from the threat of a newly-armed criminal. [FN140] The goal was not to permanently prevent the gun from being fired; it was understood that the technology could be overcome given sufficient time and tools. Instead, the aim was to provide enough time for the officer to pursue other options, such as regaining control of the gun, running away, or calling for and receiving assistance. [FN141] Sandia Labs set this time at over one minute. [FN142]

One additional issue noted by law enforcement officers was that many persons could be authorized to use a single firearm, and a single user could *190 be authorized on multiple firearms. [FN143] Another salient point for the officers was their need for the gun to be capable of being fired without any special operation by the officer. [FN144]

2. Implications of the Sandia Laboratories Study

Perhaps Sandia Labs' most significant conclusion was that reliability was the officers' main concern. [FN145] In the limited conditions under which a gun may be used, "the firearm must work because the officer's or another person's life is at stake." [FN146]

Sandia thought it important to demand of a "smart" gun that it still be capable of firing three full magazines ten hours after the first low-power alert is given. [FN147] This would assure that an officer would have sufficient power to use a gun for an entire or extended shift after being alerted to the need for a battery replacement. [FN148] Also, officers were concerned about the maintenance requirements for their firearms which they would handle and depend upon every day on the job. [FN149]

The attention drawn by Sandia to the battery issue has important implications for civilian personalized guns. While police would inspect their guns before the beginning of each shift, and thus discover a battery that was about to wear out, most civilians do not handle their guns daily. Many guns maintained for home protection would not normally be checked often enough to be confident that the battery still had life. It would be ironic if policymakers who believe that all firearm handling is risky mandated that civilian firearms be redesigned so that frequent handling became necessary in order to inspect the battery so as to guarantee reliability in time of unexpected emergencies. Since many gun owners never actually face an emergency which requires use of a firearm, these owners might be better off without a technological mandate that forces them to handle their guns much more frequently than they would if there were not a mandate. Whether new gun designs, if required by law, would actually increase accidents cannot be predicted.

The handgun manufacturer, Beretta U.S.A., has noted a potential conflict in the desire for reliability and safety: should the gun be designed so that if the battery fails, the gun will work, or the gun will not work?

If the batteries fail and the gun cannot be activated, the homeowner who depends upon the weapon to save his or her life, may find that *191 the gun does not work. If, on the other hand, the failure mode of the batteries leaves the gun unlocked, a homeowner might be relying on the batteries to keep the gun locked and safe, only to discover that a child can now use the gun without impediment. [\[FN150\]](#)

For police officers concerned primarily about reliability, they want to ensure that their sidearms will operate regardless of personalization devices. They overwhelmingly "desire a smart gun that will still fire if the smart technology fails The term officers often use is 'fail-safe' meaning guaranteed not to 'fail to fire.'" [\[FN151\]](#) Thus, officers desire that if the batteries fail, that the firearm not be rendered useless. The firearm should default to armed if batteries fail. [\[FN152\]](#)

If the manufacturers of "smart" gun technology comply with the officers' demands, two obvious inferences can be drawn regarding imposing the "fail to fire" rule on civilian handguns. First, civilians who want a reliable handgun need only kill the batteries, remove them, or allow them to die, to assure a reliable handgun.

Second, "smart gun" inventions will only minimally impair criminal access to guns. If a dead battery restores a gun's effectiveness, the only deterrent from theft would be if the criminal needs the weapon for immediate use. For later use, the thief could simply exercise patience, refrigeration, or minimal mechanical ability, and the gun would be ready for the next crime. Police officers did not want a device that was so secure that the safety features delayed the gun's intended use--either because extra steps were required to be taken by the officer, or because the device was slow to determine whether or not the authorized user was at hand. [\[FN153\]](#) Regarding the first point, officers were concerned that during a stressful and heated confrontation, they may forget how to enable their firearms. [\[FN154\]](#) Addressing this issue, Sandia Labs found that it would be unacceptable for the unlocking device to require particular alignment or a special movement in order to operate. [\[FN155\]](#)

This requirement would render unacceptable some of the devices such as remote control, some magnetic coding, voice recognition, and combination locks that are slow to operate. Other mechanisms like fingerprint or other biological recognition systems would have to be developed in a way *192 to insure speed. [\[FN156\]](#) Considering that Sandia Labs placed a quarter-second time limit for the device to recognize the shooter, it seems doubtful that any perceptible delay would be acceptable by a police officer who is convinced she needs immediate access to her weapon. [\[FN157\]](#)

Defensive civilian users would have generally similar issues. For guns that are kept on a closet shelf or a drawer, rather than worn in a holster, the need for fast activation might be even greater--since it would take a second or two, at least, to retrieve the gun from its storage place.

The second most significant concern for officers, which would also be relevant for civilians with protective guns, was environment and circumstances. Specifically, the gun would have to be capable of firing regardless of weather--including heat, rain, fog, mud, sand, salt, snow, and ice (as well as perspiration). [FN158] After the firearm was exposed to cleaning fluids *193 and oil, the user would also have to be confident that the gun would function properly. [FN159]

Police officers expressed other views regarding "smart" gun technology. They provided contradictory responses regarding the appearance of these new weapons. On the one hand, the officer hopes that the "smart" guns would look like ordinary guns to preserve their intimidating appearance; also, if the officer's gun were readily identifiable as a "smart" gun, some criminals might be tempted to target the officer on the assumption that the officer would be inexperienced with his new sidearm. [FN160] On the other hand, the officers indicated that personalized weapons should be easily recognized so that at a distance, an officer could identify such a gun. [FN161]

Many officers believed that civilians should not be permitted to own personalized weapons. Officers wanted to prevent the criminal element from studying these devices in order to discover ways to defeat their operation. [FN162] Of course the police desire for a monopoly on "smart" guns cannot be reconciled with proposed mandates (such as the proposals in Maryland and New Jersey) that such guns be the only types of guns that are sold to civilians. [FN163] Sandia Laboratories doubted that the judicial system would allow the firearm industry to withhold such an innovation from the civilian market.

Sandia Laboratories concluded that law enforcement officers thought that personalization technology, whether in the form of radio frequency identification, remote control, bar codes or magnetic strips, touch memory, biometric devices, magnetic coding, or mechanical locks, were good ideas, but only if the technology could be advanced and improved so as not to decrease the reliability of the firearm. [FN164] Sandia Labs did not dismiss the idea of efficient "smart" guns, but simply noted that it "may take a generation of smart gun systems to come and go before a smart gun is not only *194 common but is favored over a non-smart gun." [FN165] Thus far, none of the technologies envisioned or reviewed by Sandia Labs shows any signs of working quickly and reliably or would be accepted by both law enforcement officers and civilians.

3. The Cost of Personalized Guns

A concern for police departments is the cost of the technology. The goal for police as set by Sandia Labs was that the invention should add no more than \$60 to the cost of a gun and no more than \$5 to the annual maintenance costs. [FN166] Manufacturers, however, who have developed or who are in the process of developing personalization technology, claim that the costs for their products would be between \$100-\$400. [FN167] As the Wall Street Journal noted, "the cost and reliability of smart guns are very much in doubt." [FN168] The additional cost could negatively impact the budget of a small police department.

If personalized guns became mandatory, the extra cost could also make guns unaffordable for people near the poverty level. Currently, the least expensive new guns cost around \$125. Used guns may be available for much less. The Johns Hopkins model bill, versions of which have been

pushed (unsuccessfully) in Maryland and New Jersey, would ban the sale of all non-personalized handguns. [FN169] Even if manufacturers add no extra mark-up for the personalization technology, and even if we assume that personalization is actually feasible at the very lowest point on the cost scale, the price of firearms would greatly increase--especially the cost for formerly-inexpensive firearms.

A current issue in the gun control debate is whether bans of inexpensive handguns amount to a denial of equal protection for poor people. [FN170] Suppose that, in the name of consumer safety, a legislative body required abortion providers to use a very expensive kind of new equipment that *195 doubled the cost of abortion. Or suppose that a legislature banned the sale of all conventional contraceptives, allowing the sale only of new high- tech (and somewhat less reliable) contraceptives that were very expensive? What if the proponents of these abortion or contraception restrictions could point to important benefits from these expensive restrictions--such as reduced injury from abortion accidents or from contraceptive side-effects? In this hypothetical, it seems very likely that many reproductive rights advocates would sue on equal protection grounds. And they would argue that, as a matter of policy, the government has no business interfering with a woman's right to control her body by forcing her to use contraceptives that are even slightly less reliable. Are these hypothetical arguments of reproductive rights advocates really greatly different from the arguments that would be raised by gun rights advocates, in the event of a ban on non-personalized firearms? Nicholas Johnson observes the general similarities of abortion rights and gun rights arguments, even though the enthusiasts for each right are sometimes reluctant to recognize the other right. [FN171]

It is true that, over time, technological advances might reduce the cost of personalized gun devices, or of high-tech abortion or contraceptive devices. But the prospect of a future decline in costs does not erase the present effect of making it nearly impossible for poor people to exercise constitutional rights. It is also true that many people question the morality of gun ownership, contraception, or abortion, and question whether they should be constitutional rights. We will not attempt to resolve those issues, but we will point out that, even if one takes the Second Amendment, [FN172] *Griswold v. Connecticut*, [FN173] and *Roe v. Wade* [FN174] out of the picture, there are forty-four state constitutions which explicitly protect a right to arms, and many state constitutions have been interpreted to protect reproductive choice. [FN175]

C. Reliability as The Key

Many gun owners are cautious of restrictive gun control measures because of their fear that the "gun safety" laws will adversely impact their ability to quickly obtain and use their firearms during an emergency. This fear is particularly real for law enforcement officers and for civilians who own and carry guns for protection. The reliability issue is not so pertinent *196 for hunters or target shooters who own their firearms for purposes of sport or recreation.

The great importance of reliability for defensive gun users is illustrated by the decades-long police debate about whether to replace revolvers with self-loading (semi-automatic) pistols. The main advantage--in fact, the only advantage--of the revolver was slightly better reliability, and this advantage was sufficient to keep the revolver the police weapon of choice for many years. [FN176]

In the debate over which gun was better for officers, the self-loading pistol had a clear edge on most issues. They were more accurate, had more firepower, were more dependable in inclement weather (as evidenced by the use of these weapons by the military), and they were more compact. [FN177] While switching experienced revolver shooters to self-loaders may be a problem if the shooter is comfortable with her weapon, the training for the new officers was easy. In short, self-loaders were better for almost everything, and much better for firepower. For most law enforcement officers, the choice was between the slightly greater reliability of the revolver and the significantly greater firepower of the self-loading pistol. [FN178] Revolvers were preferred, however, because the self-loaders had a tendency to malfunction occasionally. [FN179]

Therefore, in order for the self-loader to be accepted by law enforcement officers, the officers would have to be shown that these guns were just as reliable as revolvers. [FN180] The FBI encouraged the shift by issuing a report stating that the semi-automatic "pistol functions more reliably in the training situation," and concluding that, "[t]he modern double action pistol is more reliable and more durable than the revolver." [FN181]

An important breakthrough for police switching to semi-automatics came in the late 1980s, when the Glock self-loading pistol was introduced. The Glock used plastic polymers for most of the frame and was therefore *197 much lighter and more comfortable to carry. [FN182] The Glock was also an extremely simple and dependable gun. [FN183] Tests showed that it could fire tens of thousands of rounds without a cleaning, and still function very reliably. [FN184]

If a gun owner (police or civilian) perceives her gun as being too complex, she will believe that the gun's complexity negatively impacts its reliability. That was one of the advantages of the Glock; it was a very simple gun. Notably, the Glock (like most revolvers, but unlike most self-loading pistols) does not have a manual safety that the shooter must disengage in order to use the gun.

Almost every form of personalization makes the gun appear more complex to the user. The user must wear a ring, use a card, turn a key, press a code, etc. This extra complexity may contribute to a perception that the gun is less reliable. As the Law Enforcement Alliance of America noted:

U.S. police agencies were slow to give up their revolvers for semi-autos. If officers were justifiably concerned about reliability and complexity then, where does that leave smart guns? Instead of a simpler, more reliable mechanism (as we've seen with the trend for Glockes, Sigmas, USP's and Walther's P99), it appears that we're building complexity back into firearms. [FN185]

While endorsing personalized guns in theory, Daniel Rosenblatt, Executive Director of the Association of International Chiefs of Police remarked, "You're asking cops to take a reliable product and give them a gun that will be, by definition, less reliable." [FN186]

The reliability and the functional complexity of a firearm is also a key issue for civilians also who wish to own guns for protection. Whether the restriction is labeled as "childproofing," with accompanying locks or storage requirements, or couched in terms of "personalization," the

constraint will be seen as decreasing the reliability of the weapon in a time of emergency. Both law enforcement officers and ordinary citizens are concerned about the dependability of their weapons when the protection of their lives or the lives of others is at stake.

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D. Chip Twiggies

Some advocates of restrictive gun laws frequently make analogies to other products that are subject to similar regulations. One such product is the automobile, where legislators imposed safety features that increased the cost and inconvenience of the product but that were ultimately accepted by the public. [FN187] In terms of reliability, there was only one automobile safety device that adversely affected the reliability of cars in the same way that personalization would affect firearms. Approximately thirty years ago, government regulations mandated that car manufacturers include an interlock device that would allow the automobile to operate only after the seat belts in the occupied seats had been fastened. [FN188] Although the government envisioned that this requirement would encourage seat belt use, the public opposed the restriction after they hypothesized emergency situations where lives might be threatened by an inability to quickly drive away from a scene. Whether the hypothetical involved a woman fleeing a rapist, or a police officer in hot pursuit, the public rejected this invention because it would render their automobiles unreliable in a life or death situation.

It might be argued that the public was wrong to oppose ignition interlocks. Automobile accidents were the leading non-natural cause of death in 1970, as they are today. [FN189] It is very possible that the number of lives saved by greater seat belt usage might have far exceeded the number of lives lost because people needed an extra three seconds to start a car. Whether personalized guns have a similar cost-benefit calculus is unclear. Gun accidents are much more rare than auto accidents, and defensive gun use is much more common than defensive automobile use. [FN191]

The threat of making protective handguns unreliable during a crisis is similarly unacceptable to gun owners (regardless of the net social benefits). If forced by law to purchase guns with unwanted features, owners may react the same way that motorists did who were faced with the interlock on their seat belts: they would find ways to defeat the dangerous device. In *199 the gun industry, such efforts by an owner to defeat personalization are called "chip twiggies." Among the obvious methods, depending upon the particular personalization device, are: removing the personalization equipment; removing the battery; allowing the battery to die; destroying the magnetic images; cooking the gadget to expose it to extreme heat; and gluing the button to maintain the unlock position. Most of these evasion techniques could also be accomplished by criminals intending to use a stolen gun later.

Another approach would be, not to destroy the personalization device, but simply to leave it enabled all the time. This method is similar to the actions taken by some individuals to defeat "childproof" medicine bottles. They never close the bottles tightly. [FN192] With sophisticated gun personalization devices, the owner could store the magnetic or radio-frequency ring or bracelet with the loaded gun. With conventional mechanical locks, the owner could simply keep the combination set to the proper code, or keep the key inside the lock. The intended safety

benefits would obviously be lost.

IV. POLICY ISSUES

Now that we have a foundation of knowledge about the practicalities of personalized guns, we turn to the policy issues--first business policy issues, then government policy issues. Despite the reliability problems discussed in Part III, many gun companies believe, probably correctly, that companies that invent personalized guns will have the opportunity to sell firearms to a large market of the public that does not currently own guns, and to sell more guns to current gun-owners. That said, reliability concerns mean that personalized guns will not displace conventional guns from the market (the way that compact discs displaced vinyl music recordings but not audio cassettes). Personalized guns will tend to mean additional gun sales, rather than the replacement of the sale of conventional guns. Accordingly, advocates who want personalized guns to be the only kinds of guns available for purchase are pursuing various executive branch and legislative branch efforts to eliminate the choice to buy a conventional gun. After analyzing those mandates, we conclude by looking at law enforcement and consumer resistance to those mandates and some of their unintended consequences.

A. Some Consumers Are Ready to Buy Personalized Guns

There are some firearms companies that do not believe that investments in personalized guns will ever pay off. For example, Glock, whose handguns have an especially simple and reliable design, is not working on *200 a personalized gun project. On the other hand, Colt is heavily invested in personalized guns, and has received Department of Justice research grants. Likewise, the O.F. Mossberg shotgun company is hard at work on personalized guns, and has trademarked "SmartGun." [\[FN193\]](#)

On the Colt firearms web site, one can find what appears to be some of the best news ever for investors in firearms companies: a report of a survey claiming that "thirty percent of those who don't currently own a firearm would be in favor of gun ownership for personal safety or for sport if an electronic personalization technology existed." [\[FN194\]](#)

Since about fifty percent of American homes have no guns in them, [\[FN195\]](#) the potential that up to thirty percent of non-owners living in those homes would be interested in buying a personalized gun represents up to fifteen million households of potential new customers for firearms manufacturers. Let us present a profile of the intended audience. In this profile, we paint in some broad strokes, and we simplify in order to make our point. The profile is similar to describing the typical customer of a Volvo station wagon as an affluent, safety-conscious, well-educated suburban family with two or more young children. The profile is accurate as a general description, but of course does not fit every Volvo customer.

For personalized guns, the prime target market is upscale suburbanites, typically a married couple with children. He wants a gun, but she is afraid of accidents, and does not know enough

about guns to be reassured by adherence to safety training, nor is she reassured by ordinary locks or a safe. [FN196] But she will let him buy a high-tech gun with a built-in safety computer. And he may be willing to pay several hundred dollars extra to acquire such a gun, thus preserving domestic harmony. At least that is the scenario for the companies that hope to make a fortune with "smart" guns.

If the consumer just wants the shotgun for skeet shooting on the weekend, then the computer gun might be perfect. If he misses a shot once in a while because the computer does not activate, no harm is done, except that he might lose a few points in a shooting contest. On the other hand, if the consumer wants a gun for home protection, then the manufacturer has two possibilities for success. First, the manufacturer solves all the technical reliability problems discussed in Part III, herein. Second, the would-be consumer decides that a gun which works most of the time, and which his wife will let him buy, is better than a gun which works all the time, and which his wife will not let him buy.

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Besides expanding the market by selling guns to families that would not buy ordinary guns, the personalized gun offers another important marketing tool for firearms manufacturers. Gun-makers have a disadvantage faced by hardly any other consumer product makers: the product never gets used up, and never becomes obsolete. Except perhaps in the hands of a target shooter who fires many thousands of rounds per year, a firearm will, for all practical purposes, never wear out. Even for the competitive target shooter, it is easy to buy a new barrel, or to replace a worn-out spring; there is no need to buy a brand-new gun. There are millions of shooters today who are using guns that belonged to their fathers or grandfathers.

Unlike computers or automobiles, firearms do not become obsolete. Firearm designs from the 1930s (e.g., the Luger pistol), or from the turn of the previous century (e.g., the Colt 1911 pistol) are still in common use.

When an automobile company sells a consumer a car, the company can feel reasonably confident that--several years hence--the consumer will need a replacement car. The company that sells a computer today can feel confident that five years from now, the consumer will need a faster, more powerful computer. But the company that sells a handgun today has no confidence that the consumer will need to buy a second handgun five, ten, or fifty years from now.

The personalized gun is, arguably, the first dramatically new gun that the firearms industry has seen for many decades. Many consumers who already own one or more guns might be amenable to buying a new-fangled "smart" gun.

Thus it seems likely that Mossberg or other companies that can bring a high-quality personalized firearm to the market will make a lot of money--especially because they can sell expensive guns to people who do not currently buy them. As one manufacturer noted, the first person to invent "an affordable and reliable smart gun" would make a fortune. [FN197]

B. Many Consumers Will Never Be Ready

But it also seems likely that, as long as consumers can choose, personalized guns are not going to take over the firearms market, and may not even displace many sales of conventional guns.

The only detailed polling on personalized guns was conducted for the Johns Hopkins firearms research center. The Center, headed by Stephen Teret, is the leading scholarly advocate of personalized gun mandates. The Teret survey provided respondents with a favorable description of personalized guns, and also noted: "But personalized guns will cost more than other guns, and the chances that the gun will not fire when you want it to *202 may be increased slightly." [FN198] Teret then found that fifty-nine percent of gun owners would not oppose a personalized gun mandate. [FN199] Since the remainder of gun owners would still oppose the mandate, one may infer that they would not want such a gun for themselves. Among gun-owners who did not mind personalized guns, support fell dramatically if there were significant added costs, [FN200] as there almost certainly would be for at least the foreseeable future.

One securities underwriter concluded that the "smart" gun would sell only if the law commanded it. [FN201] While this conclusion might be too pessimistic, in light of the potential new markets for personalized guns, it seems very doubtful that personalized guns would, on their own, conquer the entire firearms market. That is one reason why some government officials are attempting to force manufacturers to include the product with their guns-- because many consumers choose not to buy those products. [FN202] As with more mandates for the sale of conventional locks, mandates for the sale of personalized guns involve government officials deciding that a very large number of consumers should not be allowed to make their own choices in the market. We now turn to the various forms of personalized gun mandates--and then to issues arising from police or consumer resistance to those mandates.

C. Executive Branch Mandates

Under the coordination of America's leading gun prohibition organization, the Center to Prevent Handgun Violence (CPHV), [FN203] over two dozen cities and New York State have sued firearms manufacturers. [FN204] While the allegations vary in each suit, most of the suits complain that firearms manufacturers have failed to build into their guns some of the currently available devices described in Part II herein, such as magazine disconnects. [FN205] Many of the lawsuits also complain that firearms manufacturers *203 have not yet invented personalization technology and incorporated it into all their guns. [FN206]

Regarding the issues relating to currently available devices, the lawsuits really amount to a complaint that firearms manufacturers have been too responsive to consumer preferences. Almost all of the currently available devices are available on the aftermarket, and consumers who want them can buy them. For devices that require manufacturer installation, such as magazine disconnects, some buyers prefer guns with magazine disconnects, and others prefer guns without. Basically, the two groups of buyers have different preferences for the safety and reliability issues raised by magazine disconnects.

Just as the free market supplies the devices discussed in Part II above, to consumers who want them, the market will supply personalized guns to consumers who want them. As detailed herein,

many firearms companies believe that substantial profits can be reaped from personalized guns. [\[FN207\]](#)

The question for the lawsuits, then, is whether gun companies should be penalized for not forcing customers to buy accessories or integrated devices that the consumers do not want. All of the devices in question involve trade-offs between reliability and the prevention of unauthorized access. Only if one accepts the premise of the CPHV's leaders, Mr. and Mrs. Brady, that defensive gun use by civilians is per se illegitimate, do the product design claims in the lawsuits appear legitimate. [\[FN208\]](#) If civilian guns are only for sport, and not for defense, then gun companies might, arguably, be at fault for not making consumers accept products that degrade defensive use while preventing some unauthorized use.

While many of these suits have been dismissed, and no suit has yet proceeded to trial, the suits have led to the most significant personalization mandate thus far. In exchange for being dropped from some of the suits, Smith & Wesson agreed to begin selling only personalized guns, starting in 2003. [\[FN209\]](#) The Smith & Wesson guns will incorporate an internal mechanical combination lock. Smith & Wesson was, as of early 2000, the largest American handgun manufacturer.

No one can say with certainty whether the police officers or other consumers will find the Smith & Wesson guns attractive. The "Smith & Wesson Sellout" (as it was described by Second Amendment activists) led to a consumer boycott that has sent the already-troubled company into even deeper financial trouble, necessitating lay-offs and the temporary shutdown *204 of some manufacturing. [\[FN210\]](#) It is not at all clear that there will even be a Smith & Wesson company making handguns in 2003. Should Smith & Wesson survive, consumer resistance to the company's personalized guns might have more to do with resistance to perceived anti-Second Amendment stance of the company's owner than the merits of the guns themselves.

Since even Smith & Wesson's public relations spokesperson admits that the lawsuit agreement created difficulties for the company, it is extremely unlikely that any other firearms manufacturer will enter into a similar agreement. [\[FN211\]](#) Many of the municipal lawsuits are not surviving motions to dismiss. [\[FN212\]](#) Yet even if one of the plaintiffs should eventually win a verdict, it would be very unusual for court-ordered relief to include a mandate that a company invent and market a new product. Accordingly, executive branch lawsuits are unlikely to lead to the proliferation of personalized guns, other than whatever guns Smith & Wesson begins to make in 2003, assuming the company survives that long.

D. Legislative Mandates

Most proposals to "childproof" or personalize guns originated with individuals who support virtually any gun control measures including federal, state, and local bans on all or some types of firearms or who appear to see little value in defensive gun ownership. [\[FN213\]](#) Maryland Attorney General Joseph Curran, for example, endorsed Governor Parris Glendening's call for personalized-gun legislation as a "beginning" to the public policy goal "to rid our communities of handguns." [\[FN214\]](#) Similarly, the Washington Post, when endorsing personalized guns, responded to complaints that the technology for such guns did not exist, by assuming that

engineers could develop such a gun, and, "if they can't, that's all the more reason for stronger *205 action in the name of public safety: a ban on concealable weapons altogether." [FN215] According to the Los Angeles Times, the L.A. City Council is pushing toward the ultimate goal of personalized weapons that actually recognize their user. The Los Angeles Times, which supports complete gun prohibition, endorsed a City Councilman's proposal to ban the sale of all guns not using RFID. [FN216] And, of course, the most powerful lobby behind the personalized gun mandates is Handgun Control, Inc. (the lobbying/political arm of the CPHV), whose leadership opposes defensive gun ownership, and that has lobbied, sometimes successfully, for a wide variety of firearms prohibition bills. [FN217]

"Smart-gun" proposals should not necessarily be rejected because of the advocates' ulterior motives. These motivations, however, suggest that the promoters of such legislative ideas have minimal interest as to whether their proposals may adversely affect the interests of persons who own guns for protection. Such concerns include the reliability of their firearms, and whether the proposals will inevitably lead to further restrictions, regardless of whether the initial restrictions are effective.

On the legislative front, proposals to prohibit the sale of all existing handguns, allowing only the sale of personalized handguns, were a major issue in the New Jersey legislature in 2000, and have been introduced in dozens of legislative bodies in 2001. In Maryland, gun prohibition advocates and Governor Parris Glendening pushed hard for legislation in 2000 to outlaw the sales of any guns in Maryland except "smart guns." [FN218] The Maryland proposal closely followed the model law developed by Stephen Teret and his Johns Hopkins colleagues. The sale or transfer (even gifts between family members) of all non-personalized guns would be prohibited. [FN219] An administrative body would be authorized to create new standards; thus, a gun that might have met the standards for sale in 2003 might become illegal to sell in 2006, based on updated standards. That legislative effort did not succeed, but the legislature did pass a bill requiring that, in a few years, new handguns sold in Maryland must have internal locks (similar to the locks being developed by SIG and by Smith & Wesson). [FN220]

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1. Law Enforcement Resistance

Ironically, while the idea of personalized handguns was originally proposed for law enforcement officers based on data that their handguns are sometimes taken away and used against them, proponents of legislation requiring personalized handguns would exempt the law enforcement community from any such legislation. The purported reason for this exemption is that law enforcement "may require guns with slightly different technology than [civilians who own] guns for domestic use." [FN221]

This statement is plainly untrue if defensive gun use by civilians is legitimate. If we assume that police guns are for protection, whereas civilian guns are only for sport (and not for protection), then police guns need entirely different--not "slightly" different technology. The police need absolute reliability, whereas civilians do not need reliability.

On the other hand, if civilian and police guns are both legitimate for protection, then there are no great differences between the two groups, except for the fact that officers are inclined to handle their sidearms more often than civilians. The environmental conditions which officers and civilians may encounter, such as darkness and rain, would be the same.

Civilians may be expected to be more affected by stress, which could manifest itself in perspiration and loss of a strong grip on the weapon. As detailed in Part III herein, whatever slight differences there are between police and civilian defensive needs militate against a civilian-only mandate. For example, because police handle their guns daily, they are likely to discover a weak or dead battery promptly, so that they do not face a life-or-death situation with a dead or dying battery.

When bans on non-personalized guns are introduced, civilian gun owners ask why they should be forced to accept firearms which the police consider absolutely unacceptable because of insufficient reliability. It is not necessarily easy to see why civilians should be forced to use a product, in the name of "safety," which police consider to be dangerously unsafe.

2. The Absence of Actual Products

Personalization is certainly not a novel idea. Over one hundred patents have been issued for various types of "smart gun" technology, [\[FN222\]](#) and some magnetic devices have been built into some guns for decades. The problem, as one manufacturer noted, is developing it:

Essentially, a smart gun is a meshing of a complicated 19 superth century mechanical device, the gun, with delicate and sophisticated computer engineering. With the footprint of an existing gun--with *207 controlled explosions, heavy percussions and vibrations, dirty residues and high temperatures--electronics that would have to withstand this high stress would be imbedded. It is like putting a laptop computer into a gun and then having that computer decide when the gun will work, and when it will not. [\[FN223\]](#)

Inherent in the dilemma is whether this combination of old and new technology could function together effectively to enable gun owners to allow the "computer" to decide when the gun should fire. Generally, gun owners do not favor personalization because, as a Ruger representative indicated, "a gun is going to be used in conditions of great stress. A gun has to work when you want it to," and any internal locks "complicate the gun," and "compromise its reliability." [\[FN224\]](#)

Colt, a manufacturer which has been the recipient of government research grants, has spent the past several years anticipating the imminent production and marketing of a "smart" gun, [\[FN225\]](#) but has thus far failed to create a marketable product. Glock, the company which did more than any other to convince police to switch from revolvers to self-loaders, is convinced that reliable personalized guns are a chimera, and is not attempting to create such products. [\[FN226\]](#)

Supporters of mandates do not worry about the lack of available products because either they view the mandate as sufficient to spur development within specific (two to three years) or

general (when two companies are manufacturing such guns) legislative time limits. But neither legislatures nor gun companies are magic genies who can make something happen just by insisting that it happen. The Maryland legislature might require that gun companies make guns which will automatically shoot the target's arm or leg, but never hit the target's heart--just like the guns that cowboys or detectives use on television. But a legislative mandate does not mean that inventions can be perfected on a legislative timetable. The research resources of the American firearms industry are not particularly great; if every gun manufacturer in the United States were combined into a single company, the company would still not have a place on the Fortune 500.

Intensifying manufacturers' caution about bringing products to market before they are developed is the threat of product liability suits. Colt is understandably concerned that legislation that would speed the development of such products, by forcing unperfected and untested guns on to the *208 market, would increase the company's potential liability and endanger consumers.

3. Can Consumer Resistance Be "Readily Deactivated"?

The Teret survey asked, "if a new law were to require all new handguns to be personalized, how strongly would you favor or oppose it?" [\[FN227\]](#) This question may be a useful gauge of political resistance, but it does not address the more important resistance issue. If consumers are forced to buy a personalized gun because the sale of all other guns is prohibited, what will they do with the personalized gun when they get it home?

As detailed herein, [\[FN228\]](#) many consumers who are forced to buy unreliable personalized guns will attempt to defeat the personalization. We expect that the Internet will be a rich source of advice for how consumers can implement Chip Twiggies.

The pro-mandate response to this eventuality is another mandate: "personalized handguns shall not be manufactured so as to permit the personalized characteristics to be readily deactivated." [\[FN229\]](#) But addressing the problems of resistance to one mandate (sell only personalized guns) by adding a second mandate (make the personalization impervious to Chip Twiggies) does not mean that the second mandate is actually feasible. [\[FN230\]](#)

Does the outlawing of guns that can be "readily deactivated" ban the sale of personalized guns that use magnetic rings (since an unauthorized user can just use another magnet), or ban guns that have batteries that can be removed or guns whose internal computer could be destroyed by baking in a oven for 15 minutes? Notably, Sandia Laboratories presumed that for all guns, the personalization could eventually be defeated; so the issue for any manufacturer is not whether the technology could be defeated, but how long it would take to do so. [\[FN231\]](#)

Current federal law prohibits production of a firearm which can "readily" be converted to full automatic fire. The Bureau of Alcohol, Tobacco and Firearms has brought prosecutions claiming that a gun is "readily" convertible if it could be converted in eight hours by a high-skilled machinist using a well- equipped machine shop. [\[FN232\]](#) A competent gunsmith, with adequate equipment, can defeat almost any restriction. An employee of *209 Action Arms, then an importer of Uzis, used to joke that given proper equipment, he could convert a '54 Buick to fire full-auto.

Could any firearms manufacturer ever comply with the "readily deactivated" mandate? If the device could survive an hour, would that be enough? Eight hours? Twenty-four hours? Given the litigiousness of American society--and given aggressiveness with which gun prohibition groups promote lawsuits against gun manufacturers--could any gun manufacturer doubt that it would one day be sued or prosecuted for violating the "readily deactivated" standard?

Whatever "readily" means, it is clear that some consumers will be able to "eventually" deactivate the personalization. Will consumer resistance to government "safety" legislation (which consumers perceive as harming safety) lead to more intrusions in the name of safety?

Without mandatory home inspections, "smart" gun mandates raise the same enforceability problems as mandatory storage laws. What will prevent consumers who do not want the devices from deactivating the devices as soon as they get the gun home? Maybe it will take a few hours, or a few days, but deactivation is inevitable by some consumers. If a mandate statute created criminal or civil liability for those gun owners whose weapons are taken and misused, would those proceedings discourage other owners from reporting stolen or missing firearms? Would such statutes encourage keeping unlicensed or unregistered firearms, which could not be checked for deactivated personalization devices?

4. Unintended Consequences

Safety laws often have unintended consequences. For example, it is indisputable that seat-belts make the belted person safer in case of an accident. Laws to mandate the use of seat-belts, then, ought to produce a clear gain for public safety. And if laws had only first-order effects (e.g., more people use seat-belts, for fear of getting a traffic ticket), seat-belt mandates would save lives. But it turns out that most drivers who are careful already, use seat-belts voluntarily. [FN233] The kinds of drivers who can be coerced into using seat-belts by fear of punishment, are more risk-prone. [FN234] They perceive, correctly, that wearing the seat-belt makes them safer. [FN235] But because they have high tolerance for risk, they compensate for their increased safety (from seat-belts) by driving more aggressively. [FN236] Thus, *210 dangers are increased for other motorists, and for pedestrians. [FN237] Even with the more aggressive driving, the belted driver may be better off, but innocent third parties are exposed to greater risks of injury or death. [FN238]

Gun laws, too, can have unintended consequences. For example, the Firearms Owners' Protection Act of 1986 allowed federal firearms licensees to sell guns at gun shows, not just at their stores. The influx of licensed dealers made gun shows much more popular, which led to more people who are not licensed dealers (e.g., private collectors disposing of their collection) selling guns at gun shows, to take advantage of the foot traffic generated by the licensed dealers.

"Gun safety" laws are not immune from the rule of unintended consequences. Minnesota passed a law requiring gunshops to thoroughly secure their firearms from burglary. [FN239] Gunstore owners complained that criminals would simply obtain the guns by way of a robbery instead of a burglary. As the owners predicted, shortly after the statute was enacted, robbers murdered a gunshop owner and his employee in the course of attempting to steal the guns prior to store closing when the guns would be more secured. [FN240] Gun ownership may deter crime,

including crime aimed at victims (like gun store employees) who are likely to be armed; but gun ownership is no guarantee that the owner will never be attacked by a desperate criminal. Otherwise, no one would ever attack police officers. [FN241]

Criminologist Alfred Blumstein suggests increased carjackings were an unintended consequence of forfeiture laws; drug dealers were concerned that their own cars would be seized if drugs were found in them. [FN242] The drug dealers simply hijacked occupied cars whose forfeiture would be of little concern to them. [FN243]

If criminals wish to steal guns that have been personalized or whose storage has been mandated, they may decide that the personal approach would enable them to obtain the firearm along with whatever activation *211 device, depersonalization, or instructions were needed. In other words, some robbers might do to police officers and other gun owners just what they did to the Minnesota gun store owners.

V. SURVEYS AND PUBLIC OPINION

Some researchers argued that laws that require childproofing and personalization of guns have strong public support. [FN244] The actual questions in surveys do not, however, necessarily support the types of legislation that are being promoted currently. For example, Teret's survey tells respondents that handguns "can be made so that they cannot be fired by a young child's small hands"; the survey then asks about support for legislation requiring that new handguns be childproof. [FN245] Does this survey prove that there is public support for any device intended to make it more difficult for children to fire guns, or only for those designed for children or others with small or weak hands? The survey does not test what happens to public opinion when the public is warned that a gun that is difficult for a child to fire might also be difficult for an adult with weak hands to fire (just as "child-proof" caps on medicine bottles are difficult for certain adults to use). [FN246]

Nor do any of the survey questions consider what gun owners might do with legislatively redesigned firearms. If the gun had a built-in lock, would the gun owner keep the key in the lock all the time? If the gun were supposedly impossible for children to use, would the gun owner leave the loaded gun in plain sight where children could pick it up? The surveys have not adequately measured support for the proposals, once secondary consequences are considered. [FN247]

Another type of survey that is used to promote gun lock mandates and personalized gun mandates involves polling about current gun storage practices. Childproofing and personalization laws are introduced because surveys show that there are guns in homes with children, [FN248] and some of the guns are stored in ways that some public health researchers deem unsafe. [FN249] *212 One small survey indicated that there were guns in the homes of some latchkey children. [FN250] This study's conclusion called for altering guns and changing the owners' storage practices based on the presence of guns in the homes of a projected 1.2 million latchkey

children, despite the fact that the survey did not indicate if the guns were stored in an unsafe manner or if the children had access to the guns. [\[FN251\]](#)

One survey found that regardless of training, fourteen percent of adult gun owners with children keep at least one gun unlocked and loaded compared to twenty-one percent of gun owners overall. [\[FN252\]](#) The percentage of gun owners storing their firearms decreased in households with children under the age of eighteen, but apparently the decrease was not detailed by the Harvard researchers who analyzed the survey. They only reported data for households with children under the age of eighteen, even though data had been collected regarding children aged six or younger and children aged seven to twelve. [\[FN253\]](#) Thus, the conclusion may have exaggerated the portion of households with guns theoretically subject to use by small children.

Studies such as these are cited as reasons for mandating that locks be sold with guns, or for requiring that guns be locked and stored, or that guns be redesigned and personalized. [\[FN254\]](#) A different interpretation of the surveys, however, would suggest that firearms training experts had different views on safe storage from public health professors. [\[FN255\]](#) The study did ask respondents whether they had received firearms training, but did not ask about the content of the training. [\[FN256\]](#) Were gun owners trained to keep their firearms loaded and unlocked, or unloaded and unlocked? Did the gun owners have the means of locking up their guns, and chose not to use those *213 means? The survey asked no questions about whether legislation would alter adult behavior, or about whether legislation might interfere with respondents' desires to own and use guns for protection. [\[FN257\]](#)

Some studies may show that triggerlocks, other locking mechanisms, and forms of personalization are favored by the public. The public is much more inclined to support restrictions when they are prefaced by comments about children and safety than if drawbacks like cost, reliability, and the fact that the devices can be defeated, are noted. [\[FN258\]](#) Another survey, however, shows that the right to use guns for home protection is supported by roughly seven-eighths of American voters, which suggests that the premise of the mandate (civilian defensive gun use is illegitimate) is not widely shared. [\[FN259\]](#)

The most significant problem associated with questionnaires on the proposed gun technologies is that they briefly comment on the proposal and then they ask for support or opposition to the question. As explained by political analyst Michael Barone:

[T]he responses to bottom-line questions were misleading. That's why political pollsters also test subsidiary arguments and try to pose questions that give clues about how people will react when they have fuller information and when they have focused on an issue. [\[FN260\]](#)

Teret and his colleagues, when reporting their survey results, acknowledge that in regard to gun mandates, the public "has not yet reflected on them extensively." [\[FN261\]](#) The lack of reflection, and the lack of subsidiary questions, may be the most critical features of the Teret surveys. [\[FN262\]](#)

One conclusion to be drawn from an earlier Teret survey is that while gun owners support childproofing or personalization, they would not install either in their own guns as aftermarket accessories. [\[FN263\]](#) It is unclear whether owners are more concerned about the necessity of

having a reliable gun, or that they just trust themselves and their children more than they trust other gun owners and their families.

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VI. MORE "SMART" GUNS, LESS GUN SAFETY?

In this final Part, we examine two diverse critiques of "smart guns." The Violence Policy Center (VPC), a gun prohibition group, worries that the availability of personalized guns will encourage untrained people to acquire guns. [FN264] The VPC also worries that personalized guns will yield few of their promised benefits. Firearms safety instructors raise a related concern: encouraging people to rely on technology (simple locks, or sophisticated personalization) will degrade adherence to gun safety rules. If people ignore gun safety rules, the consequences could be particularly dangerous when people handle the existing stock of about 250 million conventional guns.

A. The Violence Policy Center Critique

Interestingly, the various proposals touted as "gun safety" measures have split the gun control community. The VPC, a group that advocates banning handguns and many long guns, is concerned that some locking devices like the Saf-T-Lok will lull owners into thinking that they can leave their locked guns within a child's reach. [FN265] Another concern of the VPC is that personalized guns would create a new market for handguns among persons who otherwise would not bring a gun into the home. [FN266] Indeed, the strongest evidence for VPC's fear is Teret's survey finding that a sizeable number of non-owners would be interested in buying a personalized gun. [FN267] Thus, the VPC worries that "[t]he guns will help the industry boost lagging handgun sales by opening new markets. For instance, some women who in the past feared handguns might now think that they are safe." [FN268] Furthermore, because it is "[p]ackaged with a slick sales pitch, new technology will create a false sense of security among consumers and boost stagnant handgun sales." [FN269] In addition to the fear that the number of households with handguns would increase, the VPC fears that gun manufacturers would use personalization as a gimmick to sell more products to *215 repeat customers in a saturated market. [FN270] A University of Maryland political scientist expressed concern that, besides creating new markets, "safe guns" would give legitimacy to guns. [FN271]

Groups such as the VPC emphasize the sharp limitations in the goals of childproofing laws. [FN272] These laws were not aimed at the 700,000 gun-related violent crimes committed each year, [FN273] nor at the more than 30,000 annual gun-related deaths, [FN274] nor the 100,000 gunshot injuries, [FN275] nor the roughly 120 children killed in gun accidents. Rather, these legislative proposals are directed at the twenty small children killed and the approximately 500 persons who are injured in non-fatal firearm accidents. [FN276] Personalization would not prevent suicides, which account for a majority of gun-related deaths, nor would it prevent crimes involving lawfully- owned guns or guns acquired from organized traffickers. [FN277] As the

VPC points out, most gun-related accidents [\[FN278\]](#) and suicides involve persons who would have access to guns regardless of childproofing or personalization laws.

B. The Safety Training Critique

Let us put aside all of the concerns raised in the previous pages. Presume that gun lock mandates and gun design mandates do not make guns less reliable, less affordable, or less useful for defense. Hypothesize that the police enthusiastically accept personalized guns for themselves. Now imagine that Teret's model law goes into effect everywhere in the United States tomorrow, and the day after tomorrow, gun stores are filled with "smart guns." Regardless of whether this scenario is realistic, is it a happy scenario? Many firearms safety trainers would say "no," and would warn that the next step in this scenario is a dramatic increase in gun accidents.

Even if we assume that personalized guns become 100% of the retail gun market tomorrow, they will not be 100% of the gun supply. As of 1998, there were about 254 million guns in civilian hands in the United *216 States--about 94 guns for every 100 people. [\[FN279\]](#) In a typical year, about 4 to 7 million new guns are added to the American gun stock; handguns make up a third to half of those additions. [\[FN280\]](#) So if, starting tomorrow, every new gun sold is a personalized gun, ten years from now we will have a firearms stock of about 300 million guns--50 million of them personalized, and 250 million of them non-personalized.

If one owns a gun that really can only be used by the authorized user(s), then the gun owner could do all sorts of things that would horrify firearms safety instructors. One can leave a loaded gun on a bedside table, knowing that a six-year-old is playing near the table without adult supervision. One can allow thirteen-year-olds to play with the gun, point it at each other, and pull the trigger. One can get staggering drunk with a bunch of friends, and let the friends play with the gun by pretending to shoot each other.

This is what can be done when guns are "childproofed." On the other hand, firearms safety instructors abhor the idea that any mechanical device can "childproof" a gun, or can be unquestioningly relied on by a gun owner. In contrast, firearms safety instructors focus on "gun-proofing" a child. They use programs such as Eddie Eagle to teach children that if they find a gun, "Stop! Don't touch. Leave the area. Tell an adult." [\[FN281\]](#) Likewise, adults (or young people learning to becoming responsible gun users) are taught the rules of gun safety:

1. Treat every gun as if it is loaded, until you have personally verified that it is unloaded. In practice, this means if you see someone check a gun, and tell you that it is unloaded, when he hands you the gun, the first thing you must do is verify for yourself that the gun is unloaded. The rule also forbids reliance on mechanical devices (such as "loaded indicators," which some pistols have) as a substitute for a personal visual inspection of the gun and its firing chamber.
2. Regardless of whether the gun is unloaded, always point it in a safe direction. As the gun is handled, or handed from one person to another, the gun's muzzle must always point in a safe direction, and never at a person.

3. Keep your finger off the trigger until you are ready to *217 shoot. This means the moment before you shoot. [[FN282](#)]

Many firearms safety instructors question legislative proposals that have the appearance of enhancing gun safety but which reverse lessons learned in gun safety courses. For example, how will gun owners or instructors act if a legislative body or a gun manufacturer has assured them that they may rely upon a "loaded chamber" indicator to tell them whether the gun is loaded? Or, if the handguns have been "childproofed," does that undermine the necessity of indoctrinating children into safe gun handling on the assumption that careless handling is now nonetheless safe? Would children who were allowed to play with the personalized guns in their own households assume that all guns were similarly safe to play with? What about adults who learn careless practices because they rely on the technology from one kind of gun, but who then encounter one of the 250 million guns without the technology?

The problem gets even worse if the gun mandates apply only to handguns, rather than long guns. [[FN283](#)] How does an instructor teach the rule that rifles and shotguns must be presumed loaded, and handled accordingly, but that handguns have new safety features which mean such caution is no longer needed? Would bifurcated education eventually increase the number of accidents by encouraging less cautious handling for long guns?

As advocates of personalization mandates point out, mandatory personalization of firearms can be analogized to the federal mandate of "childproof" medicine caps. [[FN284](#)] This is a very good analogy, but it undermines the case for mandates. Federal laws requiring "childproof" safety caps appear to have led to a documented increase in child poisonings. [[FN285](#)] Lulled by the presence of the federally-required safety device on medicine bottles, many adults have been leaving dangerous medicines within easy reach of children. And the caps may be "childproof" to some three-year olds--but they can never be completely childproof. For example, the cap may be put on improperly by the consumer, or the child can simply break open the bottle or cut through a plastic bottle with a knife.

As detailed above, guns may have child-resistant locks or technology, but they are not "childproof" and it would be dangerous to leave them lying around under the mistaken impression that an accessory on a gun can *218 be a substitute for high standards of safety on the part of the gun owner.

VII. CONCLUSION

The Nobel Laureate Friedrich Hayek once described "the fatal conceit" of central economic planning: the conceited notion that one planner or a group of planners can know more and can allocate resources more wisely than can society as a whole, using a free market. [[FN286](#)] To central planners, Hayek's notion is counter-intuitive, for no one buyer or seller in the free market understands everything; perhaps none of the participants in a free market understands as much as a single planner does. Yet Hayek's insight is that collectively, the aggregation of all the buying

and selling in the free market provides vastly more information about efficient allocation of resources than a planning committee could ever accumulate.

All of the firearms devices discussed in this article offer potential advantages, and potential disadvantages. Each of them involves different trade-offs of protection against unauthorized use, quality, affordability, reliability, ease of access, and non-interference with defensive use. Law enforcement officers, families, and other gun owners have diverse needs, based on their own particular circumstances. It is arrogant for a legislative body consisting of several dozen persons to presume that it can decide better for everyone than families and individuals can decide for themselves.

Misguided central planners who try to control the production of steel engage in a fatal conceit that will harm a country's prosperity. Misguided central planners who try to control the production or storage of firearms engage in a fatal conceit that can literally kill people.

Law enforcement officers own guns for the protection of themselves and others, and have very intense concerns about firearms reliability and about quick access in an emergency. Tens of millions of civilians also own firearms for protection, and have the same kinds of reliability and quick access concerns that police officers do. Whether or not defensive gun ownership by civilians is a good idea, or should be outlawed, every American state recognizes personal defense as a legitimate reason for owning a gun, and authorizes the use of deadly force, with a firearm, against certain felonies. Legislative proposals ought to take account of this reality, even if the legislator wishes that reality were different.

Both law enforcement officers and civilians who own defensive guns have many varied opinions regarding which devices, mechanical or electronic, original or aftermarket, are best for their individual and family needs. Some owners choose special devices for locking or for personalizing firearms, while others do not.

*219 It seems likely that most police and civilians who want their guns available for protection will continue to want them to be highly reliable. Many owners will not sacrifice reliability in exchange for locks on their firearms.

For police or civilians who own defensive guns, efforts to render their guns less reliable are offensive and likely to be avoided or uninstalled. Gun owner non-compliance could set the stage for more intrusive measures, such as penalties on gun owners, gun registration, and home inspections--as have been implemented in Canada and Great Britain. Legislative mandates for gun locks encourage gun owners to leave loaded guns within easy reach of children. Legislative mandates for personalization could encourage people to ignore safe gun handling practices, and to become lax about secure storage.

Legislative mandates for gun storage, and legislative mandates for gun personalization initially seem attractive because they promise to reduce gun misuse by unauthorized persons. But when these mandates are closely examined, their practical ability to reduce unauthorized use seems rather small, and is outweighed by the increased dangers that result from interference with lawful defensive uses, and by the widespread resistance that will be encountered, from both police and civilians.

[FNa1]. Special Agent, Federal Bureau of Investigation (FBI); LL.M. 1999, New York University School of Law; L.L.M. 1994, George Washington University National Law Center; J.D. 1992, New England School of Law; B.A. 1989, The Ohio State University. All information related to the FBI was adopted from outside sources noted in the following footnotes. The author did not use any sources or materials from the Bureau, unless expressly noted, nor did the author use any information learned as a result of her position as a Special Agent.

[FNaa1]. Research Coordinator, National Rifle Association (NRA); Ph.D. 1970, University of Virginia; M.A. 1966, The Johns Hopkins University; B.A. 1964, University of California at Riverside.

[FNaaa1]. Research Director, [Independence Institute](http://i2i.org), Golden, Colorado, <http://i2i.org>; Associate Policy Analyst, Cato Institute, Washington, D.C.; Adjunct Professor of Law, New York University School of Law 1998-99; J.D. 1985, University of Michigan Law School; B.A. 1982, Brown University; NRA-Certified Instructor for Pistol and for Personal Protection (firearms safety) classes.

The views expressed in this article are the authors' alone, and do not necessarily reflect the position of any organization, including the NRA or the FBI.

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Endnotes

[FN1]. See discussion infra note [134](#) and accompanying text.

[FN2]. NAT'L SAFETY COUNCIL, ACCIDENT FACTS 36 (1997); Donna L. Hoyert et al., Deaths: Final Data for 1997, 47 NAT'L VITAL STATS. REP. 1, 68 (1999); see also Melissa Healy, "Smart" Weapon Shoots Holes in Gun Rift, L.A. TIMES, Oct. 22, 1998, LEXIS News Library, Lat File.

[FN3]. Id.

[FN4]. We do not address proposals to prevent improper persons from obtaining guns by purchasing them--such as background checks--which are meant to prevent persons with felony convictions from buying guns in stores. As to the efficacy of background checks, see Jens Ludwig & Philip J. Cook, [Homicide and Suicide Rates Associated with Implementation of the Brady Handgun Violence Prevention Act](#), 284 JAMA 585, 585 (2000) (noting that the Brady Act reduced firearm suicide in certain age groups but did not reduce homicide rates or overall suicide rates). See also JOHN R. LOTT, JR., [MORE GUNS, LESS CRIME: UNDERSTANDING CRIME AND GUN-CONTROL LAWS](#) 163 (2d ed. 2000) (noting that the Brady Act had no statistically discernible effect except for increases in rape and assaults against women).

[FN5]. See discussion infra notes [81-85](#) and accompanying text.

[FN6]. DAVID B. KOPEL ET AL., [GUN CONTROL AND GUN RIGHTS: A COURSEBOOK ch. 1](#) (forthcoming 2002) (manuscript on file with the Connecticut Law Review).

[FN7]. [Firearms Act, R.S.C., ch. 39, § 104](#) (2001) (Can.); Joseph E. Olson & David B. Kopel, [All the Way Down the Slippery Slope: Gun Prohibition in England and Some Lessons for Civil Liberties in America](#), 22 HAMLIN L. REV. 399, 423-24 (1999).

[FN8]. The Violence Policy Center, based in Washington, D.C., favors prohibition of all handguns and of many, but not all, rifles and shotguns. See THE VIOLENCE POL'Y CTR., [ABOUT THE VIOLENCE POLICY CENTER](#), at

[http:// www.vpc.org/aboutrpc.htm](http://www.vpc.org/aboutrpc.htm) (last visited Aug. 23, 2001) (on file with the Connecticut Law Review). We call them a "gun prohibition organization" for the same reason that we would describe a group which wanted to ban many, but not all, books as "a book-ban organization."

[FN9]. See David B. Kopel et al., [A Tale of Three Cities: The Right to Bear Arms in State Supreme Courts](#), 68 TEMPLE L. REV. 1177, 1180-83 (1995) (providing a list of state constitutional provisions). The most recent state to add a constitutional right to arms was Wisconsin in 1998. This constitutional provision states that "[t]he people have the right to keep and bear arms for security, defense, hunting, recreation or any other lawful purpose." [Wis. Const. art. 1, § 25](#) (amended 1998).

[FN10]. Eric Slater, Hype Over Trigger Locks Provokes Fear of Firearm Accidents, L.A. TIMES, Feb. 16, 1999, at A5, LEXIS, News Library, Lat File.

[FN11]. Paul McHugh, Gun Locks Offer Easy Way to Keep Triggers Off Limits, S.F. CHRON., Apr. 29, 1999, at D10, LEXIS, News Library, Sfchrn File.

[FN12]. Slater, *supra* note 10, at A5.

[FN13]. Michael Greenwald, Revamped Gunlocks Offered, MIAMI HER., Feb. 27, 2001, at B3.

Thousands of South Florida gun owners who received defective cable gunlocks from local law enforcement agencies in September and October will get improved and better-tested locks This is not the first time defective gunlocks have led to a national recall. Last summer, Master Lock recalled 752,000 of its trigger locks after the company learned the two halves of the lock could be separated without a key. The current recall applies to a type of gunlock that looks like a bicycle cable lock. According to Brassard, the lock can release when it is struck with significant force The new locks, which will begin arriving at area police departments within the next few weeks, are made from a thicker braided steel cable and the locking mechanism has been corrected, he said.

Id.

[FN14]. Guns that would not pass the drop test were sued into oblivion in products liability cases. Although two of the authors of this paper (Kopel and Blackman) have criticized lawsuits against gun companies for non-defective guns, we do not criticize lawsuits against genuinely defective firearms, based on traditional product liability theories.

[FN15]. Phyllis Jacobs Griekspoor, Former Wichita, Kansas Police Officer Develops Gun Lock, WICHITA EAGLE, Aug. 12, 1999, LEXIS Market Library, Prompt File. In some jurisdictions, the use of a trigger lock may preclude criminal liability for an accidental shooting. For example, it was reported that no charges would be brought regarding an accidental shooting in Liverpool, Nova Scotia, where two teenage girls played with a shotgun with a trigger lock. "Mounties demonstrated that with less than one pound of pressure, the trigger lock failed to prevent the gun from going off." No Charges in Accidental Teen Shooting, ASSOCIATED PRESS, Jan. 21, 1998.

[FN16]. The "action" is the "mechanism by which the gun is loaded, fired, and unloaded." R.A. STEINDLER, [THE FIREARMS DICTIONARY](#) 14 (1970).

[FN17]. A revolver's ammunition is held in a revolving cylinder. In a double-action revolver (the kind most suitable for defensive use), the cylinder swings out from the main body of the gun for loading.

[FN18]. A good example is the O.F. Mossberg & Sons, Inc. Cablelock, advertised and widely distributed by a leading shotgun manufacturer, which sells at a modest price. E.g., WASH. POST, Sept. 16, 1990, at A35 (advertising a retail price of about seven dollars or, for bulk sales to non-profit organizations to distribute, at the manufacturer's cost of less than three dollars). At a press conference, June 25, 1990, company president Alan I. Mossberg estimated that its cable lock could be installed on eighty to ninety percent of the nation's firearms. Single-

action revolvers, which are disfavored as protective guns, would be one of the types on which a cable lock would not work. See Gun Lock to be Sold at Cost, COURIER-JOURNAL (Louisville, KY), June 26, 1990, LEXIS, Market Library, Prompt File.

[FN19]. The best types of bike locks, such as kryptonite models, are much too thick for use in a gun.

[FN20]. See Caroline E. Mayer, Safety Standards Sought After Gun Locks Fail Test, WASH. POST, Feb. 7, 2001, at A1, A6.

[FN21]. Paul M. Barrett, There's a Catch: A Simple Invention Points Up Complexity of Gun Control Suits, WALL ST. J., Apr. 23, 1999, at A1. See generally [SAF-T-LOCK, SAF-T-LOCK GUN LOCKS](http://www.saf-t-lok.com/home.html), at <http://www.saf-t-lok.com/home.html> (last visited Sept. 28, 2001) (on file with the Connecticut Law Review).

[FN22]. Oxford Micro Devices, which says that it is developing a computer chip for personalized guns, also testified in favor of legislation to ban the sale of conventional guns. See [OXFORD MICRO DEVICES, OMDI IMAGING TECHNOLOGY THAT CAN HELP US ALL](http://www.oxfordmicrodevices.com/safergun.html), at <http://www.oxfordmicrodevices.com/safergun.html> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review).

[FN23]. Barrett, *supra* note 21, at A1.

[FN24]. KRISTA D. ROBINSON, ET AL., JOHNS HOPKINS CTR. FOR GUN POL'Y. AND RES., PERSONALIZED GUNS: REDUCING GUN DEATHS THROUGH DESIGN CHANGES 6 (1996).

[FN25]. B. Clede, Thinking of Making The Big Switch, POLICE MARKSMAN 26-27 (Feb. 1997).

[FN26]. D.R. WEISS, SANDIA NAT'L LABORATORIES, SMART GUN TECHNOLOGY PROJECT: FINAL REPORT 69 (1996).

[FN27]. See Matt Labash, Lawyers, Guns, and Money, THE WEEKLY STANDARD 25- 29 (Feb. 1, 1999), LEXIS, News Library, Wklyst File.

[FN28]. *Id.*

[FN29]. Barrett, *supra* note 21, at A1.

[FN30]. Thomas W. Waldron, Show of Support for Smart Guns; Demonstration: Displaying the Latest in Gun Safety Technology, the Governor Offers "Proof" Gun Locks Work, BALT. SUN, Mar. 28, 2000, at 2B.

[FN31]. *Id.*

[FN32]. *Id.*

[FN33]. Being on the Nasdaq appears to have been a mixed blessing for Saf-T- Lok. Saf-T-Lok was trading on the Nasdaq Small Cap market under the symbol "LOCKD." The company received notice from Nasdaq that it did not comply with Nasdaq's net tangible assets requirement set forth in Nasdaq Marketplace Rule 4310(c)(2)(B). The company submitted a plan to Nasdaq by which it proposed to meet this requirement, but the Nasdaq Hearing Panel determined, on May 14, 2001, not to grant the company a temporary exception from this listing criterion or to provide the Company an opportunity to gain compliance. SAF-T- LOK, [SAF T LOK'S COMMON STOCK TO TRADE ON THE OTC BULLETIN BOARD](http://www.saf-t-lok.com/news/051701.html), at [http:// www.saf-t-lok.com/news/051701.html](http://www.saf-t-lok.com/news/051701.html) (last visited Oct. 21 2001) (on file with the Connecticut Law Review). As of May 14, 2001 the company's shares commenced trading on the Over-The-Counter (OTC) Bulletin Board under the symbol "LOCKD" (subsequently changed to "LOCK"). See *id.*

[FN34]. Complaint Filed Against Current and Former Officials of Saf-T- Lok, Inc., 2000-243 SEC NEWS DIGEST, at *1-*2, 2000 SEC News LEXIS 2573.

[FN35]. New Gun Safety Line Unveiled As Mayors, Nation Seek Safer Gun Products, BUSINESS WIRE, Feb. 2, 1999, LEXIS, News Library, Bwire File.

[FN36]. Id.

[FN37]. Id.

[FN38]. Id. The company also makes other types of gun locks. See Saf-T- Hammer Responds to Child Safety Lock Legislation, BUSINESS WIRE, Mar. 9, 2001, LEXIS, News Library, Bwire File.

[FN39]. See discussion supra Part II.

[FN40]. S & W Parent Posts Large First Quarter Loss, 10 FIREARMS BUSINESS: ELECTRONIC EDITION 5 (Oct. 1, 2001).

[FN41]. [CHARLES SCHWAB, PUBLIC-PERFORMANCE SNAPSHOT](#), at http://fast.quote.com/fq/public2/perf_snapshot (last visited Sept. 17, 2001) (on file with the Connecticut Law Review).

[FN42]. Id.

[FN43]. [CHARLES SCHWAB, PERFORMANCE SNAPSHOT](#), at [http://www.schwab.com/SchwabNOW/navigation/mainFrameSet/0,4528,529\\$3283,00.html](http://www.schwab.com/SchwabNOW/navigation/mainFrameSet/0,4528,529$3283,00.html) (last visited Aug. 28, 2001) (on file with the Connecticut Law Review).

[FN44]. See [VIOLENCE POLY CENTER](#), FACT SHEET ON TAURUS INTERNATIONAL MANUFACTURING COMPANY AND ITS "WONDER-NINE" HIGH-CAPACITY SEMIAUTOMATIC PISTOLS, at <http://www.vpc.org/press/9912taur.htm> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review). Taurus's home is in Brazil; the company has substantial manufacturing and sales facilities in Florida.

[FN45]. Bob Lesmeister, [Taurus High Tech Manufacturing](#) in US and That's No Bull!, at <http://www.taurususa.com/keylock.html> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review).

[FN46]. Based on the author's own knowledge as a NRA-certified firearms safety instructor.

[FN47]. Based on the author's own knowledge as a NRA-certified firearms safety instructor. If a person is being attacked, pointing the gun at the attacker counts as "pointing the gun in a safe direction." In fact, not pointing the gun at the attacker would be unsafe.

[FN48]. 18 U.S.C. § [921\(a\)\(34\)\(C\)](#) (Supp. IV 1999).

[FN49]. Ron Dorman, Rapid Access Gun Boxes, AM. GUARDIAN, Sept. 1999, at 28- 29, 51-53.

[FN50]. Lyn Bates, Keeping the Piece, WOMEN & GUNS 12, 16 (June 1993).

[FN51]. See Wood v. Groh, 7 P.3d 1163, 1166-67 (Kan. 2000); Butch Huston et al., Three Cases of Fatal Firearm Use Following External Hinge Removal from Locked Gun Cabinets, 42 J. FORENSIC SCI. 956, 956-57 (1997).

[FN52]. Violent and Repeat Juvenile Offender Accountability and Rehabilitation Act of 1999, S. 254, 106th Cong. § 1003(a)(1) (1999). It is unclear from the language of this bill whether the law would be satisfied if someone purchasing two handguns at a time were allowed to purchase a safe which could hold more than one gun, or if a second "secure gun storage device" would still be needed.

[FN53]. Officer Designs Gun Safety Device, CRIME CONTROL DIG., June 11, 1999, at 12.

[FN54]. Brian T. Murray, Experts Blast Gun-Safety Program: Plastic Firearm- Trigger Locks Are Easily Defeated by Kids, [NEWARK STAR LEDGER](#), Mar. 18, 1999, <http://search.starledger.com> (last visited Aug. 22, 2001) (on

file with the Connecticut Law Review).

[FN55]. Mayer, *supra* note [20](#), at A1, A10.

[FN56]. According to the National Safety Council, in 1998, there were 900 accidental firearms deaths. The age breakouts were: age 0-4, 30 accidental deaths; age 5-14, 80 deaths; age 15-24, 310 deaths; age 25-44, 260 deaths; age 45-64, 130 deaths; age 65-74, 40 deaths; age 75+, 50 deaths. NATIONAL SAFETY COUNCIL, INJURY FACTS 1999 EDITION 9 (2000).

[FN57]. Andrew J. McClurg, [Armed and Dangerous: Tort Liability for the Negligent Storage of Firearms](#), 32 CONN. L. REV. 1189, 1212-14 (2000) (citations omitted).

[FN58]. N.Y. City Admin. Code § 10-312(c) (2001), LEXIS NY Library, NY Code File.

[FN59]. See discussion *supra* note 57 and accompanying text.

[FN60]. Sometimes drug asset forfeiture funds are used to financially support the program. Police Distribute Gun Locks, CRIME CONTROL DIG., July 23, 1996, at 16.

[FN61]. Mayer, *supra* note [20](#), at A10.

[FN62]. See 18 U.S.C. § [923](#) (1995) (requiring all persons who are engaged in the business of selling firearms to have a federal license); 18 U.S.C. § [923](#)(d)(1)(G) (Supp. IV 1999) (requiring all license applicants to certify that secure gun storage or safety devices will be available at any place in which firearms are sold under the license).

[FN63]. For an example, see Connecticut General Statutes § 29-33(d), which states in relevant part: "No person, firm or corporation shall send, deliver, or otherwise transfer any pistol or revolver, other than at wholesale, unless such pistol or revolver is equipped with a reusable trigger lock, gun lock, or gun locking device appropriate for such pistol or revolver" Conn. Gen. Stat. § 29-33(d) (2001).

[FN64]. See *id.*

[FN65]. James Bennet, Gun Makers Agree on Safety Locks, N.Y. TIMES, Oct. 9, 1997, at A1, A28. Some manufacturers had already been doing so for years. Whether manufacturers supply the gun locks for free or not could have important consequences. A company's insistence that customers purchase an additional product they might not want could be considered "tying agreement"--a violation of the antitrust laws. The Sherman Act has been interpreted to forbid a company to require a consumer who wishes to buy one product (e.g., a handgun) to also purchase a separate product (e.g., a lock). See *Virtual Maintenance, Inc. v. Prime Computer, Inc.*, 735 F. Supp. 231, 233 (E.D. Mich. 1990) (defining tying agreement and when such an agreement would violate the Sherman Act). An industry-wide agreement to force consumers to buy tied products would normally be viewed as a conspiracy in restraint of trade.

[FN66]. Violent and Repeat Juvenile Offender Accountability and Rehabilitation Act of 1999, S. 254, 106th Cong. § 1003(a)(3) (1999).

[FN67]. See Elisabeth Bumiller, New York Voters Strongly Reject Charter Revision, N.Y. TIMES, Nov. 3, 1999, at A1, B8; David M. Herszenhorn, With an Eye on Charter, Mayor Refuses to Sign a Gun Bill, N.Y. TIMES, Nov. 2, 1999, at B6.

[FN68]. Senator Schumer Holds News Conference Regarding Gun Safety, FDCH Political Transcripts, Mar. 6, 2001, LEXIS, Nexis Library, New Group File.

[FN69]. Andrew J. McClurg, [Child Access Prevention Laws: A Common Sense Approach To Gun Control](#), 18 ST. LOUIS U. PUB. L. REV. 47 (1999) (analyzing state CAP laws).

[FN70]. In response to the traditional pro-gun calls for punishing gun-wielding criminals as opposed to punishing

all gun owners, gun control advocates have argued that such punishment is reactive, and it does nothing to prevent the violent act from occurring. One of the mantras of the public health community in its support of restrictive gun measures is that intentional and unintentional firearm injuries are preventable. See Nancy Sinauer et al., Unintentional, Nonfatal Firearm-Related Injuries: A Preventable Public Health Burden, 275 JAMA 1740, 1740-43 (1996). See also Mark L. Rosenberg et al., Let's Be Clear: Violence is a Public Health Problem, 267 JAMA 3071, 3071-72 (1992). Demanding that locks or storage devices be supplied with handguns may fit with a preventative ideal. Yet laws that make "unsafe" storage either a civil offense, or a criminal offense, are as belated as mandatory penalties for using a gun to commit a violent crime.

The mother of a four year old who died as a result of an accidental shooting commented on proposals to punish persons who failed to safely store their firearm: "We can never have a worse punishment than having to put our son in the ground. I had to watch him die. Putting me behind bars or making me go through the court system for being careless or irresponsible is nowhere near as devastating as to be there when it happened." Associated Press, Should Adults Be Held Responsible for Guns Used by Children?, Nov. 4, 1999.

[FN71]. For example, Florida does not require that guns be locked, but instead punishes persons whose unsafe storage of guns results in harm. The legislature rejected a mandate that handgun locks be used in households with children. See Steve Bousquet, Divided Senate Committee Lets Handgun Lock Proposal Die, [MIAMI HER.](http://www.herald.com/herald/content/archive/news/legis99/docs/083931.htm), Mar. 30, 1999, available at <http://www.herald.com/herald/content/archive/news/legis99/docs/083931.htm> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review).

[FN72]. Surprisingly, the school shootings in Jonesboro, Arkansas, were touted by some gun prohibition advocates as a reason to enact more CAP laws. See Marc Perrusquia, Is Lockup Law Best Chance to Keep Guns From Kids?, THE COMMERCIAL APPEAL (Memphis, TN), July 12, 1998, at A1, LEXIS, News Library, Comapp File (reviewing CAP laws in wake of Jonesboro shootings). But the guns were obtained one of the killers broke into his grandfather's house and stole his gun after the killer was unable to retrieve his father's gun from a safe. No children lived in the grandfather's house, so the house would not be covered by a CAP law. Even if an expansive CAP law applied to the grandfather's house because the grandchild was sometimes an invited visitor, the CAP law would not have applied to the Jonesboro incident. The killer illegally broke into the house in order to steal the guns; CAP laws do not apply when the minor is in the home as a result of unlawful entry. See Rachel O'Neal, Bill to Limit Suits Against Owners Whose Guns Are Used Without Consent in Crimes Hits Snag, ARK. DEMOCRAT-GAZETTE, Feb. 3, 1999, at A9, LEXIS, News Library, Arkdem File (reviewing liability of grandfather for guns stolen from his house under Arkansas law).

[FN73]. Peter Cummings et al., State Gun Safe Storage Laws and Child Mortality Due to Firearms, 278 JAMA 1084, 1084-86 (1997).

[FN74]. See Daniel W. Webster & Marc Starnes, Reexamining the Association between Child Access Prevention Gun Laws and Unintentional Shooting Deaths of Children, [106 PEDIATRICS 1466](http://www.pediatrics.com), 1466-69 (2000).

[FN75]. JOHN R. LOTT, JR. & JOHN E. WHITLEY, [SAFE STORAGE GUN LAWS: ACCIDENTAL DEATHS, SUICIDES, AND CRIME 11](http://papers.ssrn.com/sol3/DisplayAbstractSearch.cfm) (Program for Studies in Law, Econ., and Pub. Policy, Yale Law School, Working Paper No. 237, 2000) available at <http://papers.ssrn.com/sol3/DisplayAbstractSearch.cfm> (last visited September 1, 2001) (on file with the Connecticut Law Review).

[FN76]. Id.

[FN77]. Id.

[FN78]. Id.

[FN79]. Id.

[FN80]. Id. at 3.

[FN81]. John R. Lott Jr., Unsafe Gun Laws: Reducing Access to Guns Makes People Sitting Prey, INVESTORS BUS. DAILY, Sept. 22, 2000, Lexis Busfin Library, Invdly File; Vin Suprynowicz, If It'll Save a Single Child ...

Repeal the Gun Laws, *LAS VEGAS REVIEW-JOURNAL*, Sept. 24, 2000, LEXIS, News Library, Lvrjnl File; Kimi Yoshino, No Easy Answers: Gun Advocates Say Fear of Liability Keeps Parents From Teaching Survival Skills, *FRESNO BEE*, Aug. 26, 2000, LEXIS, News Library, Fresno File.

[FN82]. Yoshino, *supra* note 81.

[FN83]. *Id.*

[FN84]. *Id.*

[FN85]. *Id.*

[FN86]. According to the Centers for Disease Control and Prevention, National Center for Injury Prevention & Control website, per 100,000 population the 1997 firearm suicide death rate is 0.66 for ages 10-14, 5.95 for ages 15-19, and 14.58 for ages 80-84; for males aged 80-84, the rate is 36.88. [CDC, INJURY MORTALITY REPORTS](http://www.cdc.gov/ncipc/osp/usmort.htm), available at <http://www.cdc.gov/ncipc/osp/usmort.htm> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review).

[FN87]. According to Gary Kleck:

[S]elf-inflicted shootings are not significantly more likely to lead to the victim's death than suicide attempts by hanging, CO poisoning, or drowning. Given no significantly greater lethality than other easily available methods of suicide, what extraordinary suicide-facilitating attributes could guns possess that enable them to increase the risks of suicide by a factor of ... even two? ... An hour is sufficient time to hang oneself, fill the interior of a car with CO and inhale a lethal dose, or drive to a body of water large and deep enough for drowning. Thus, the only impulsive suicide attempts where the quick availability of a gun would be crucial in leading to death would be attempts that (1) were serious enough to induce the attempter to shoot himself, if a gun were available, yet (2) were so impulsive that the suicidal motive persisted for less than an hour Advocates of the "impulsive adolescent" thesis have presented no evidence that suicides attempts of this description occur at all, never mind often enough for gun ownership to elevate the suicide rate among adolescents

GARY KLECK, [TARGETING GUNS: FIREARMS AND THEIR CONTROL](#) 283-84 (1997).

[FN88]. Tom Jackson, Keeping the Battle Alive, [TAMPA TRIB.](#), Oct. 21, 1993, available at <http://www.archive.tampatrib/archive.htm>. But see Victoria Dorfman & Michael Koltonyuk, When the Ends Justify the Reasonable Means: Self Defense and the Right to Counsel, 3 *TEX. REV. L. & POL.* 381, 388 (1999) (arguing that the right to own handguns is a necessary recognition of a meaningful right of self-defense); Samuel C. Wheeler III, Self-Defense: Rights and Coerced Risk-Acceptance, 11 *PUB. AFF. Q.* 431, 433-34, 438, 441 (1997).

[FN89]. In Step With: James Brady, *PARADE MAG.*, June 26, 1994, at 18.

[FN90]. The most recent states to enact laws for such permits are Michigan and New Mexico. Mich. Comp. Laws § 28.425(b) (2001); N.M. Stat. Ann. § 29-18-6 (2001). See generally John R. Lott, Jr., More Guns, Less Crime: Understanding Crime and Gun-Control Laws (2d ed. 2000); Clayton E. Cramer & David B. Kopel, [Shall Issue: The New Wave of Concealed Handgun Permit Laws](#), 62 *Tenn. L. Rev.* 679 (1995).

[FN91]. Joseph Perkins, Violence Control at the Source, *WASH. TIMES*, Oct. 27, 1999, LEXIS, News Library, Wtimes File. Gravano's statement is consistent with a recent incident in Colorado: Harris, a contractor, had picked up three young hitchhikers on his way home from work, taken them home and fixed them a steak dinner. He was preparing to offer them work when two of them attacked him, stabbing him repeatedly in the back, head and hands with knives they had taken from Harris' kitchen. The assault stopped when Harris said he would get them money. Instead, he grabbed a .44 Magnum pistol he kept in a desk drawer and began shooting. He shot one in the torso. The two others tried to flee in Harris' car, so he shot out

two tires Harris said the attack took him by surprise and that he was glad his pistol was easily available. "If I'd had a trigger lock, I'd be dead," he said. "If my pistol had been in a gun safe, I'd be dead. If the bullets were stored separate, I'd be dead. They were going to kill me."
Ellen Miller, Man Faces Suspects Accused of Attacking Him After Getting Ride, ROCKY MTN. NEWS, (Denver, CO) Mar. 14, 2001, LEXIS, News Library, Rmtnew File.

[FN92]. [GUN OWNERS OF AM.](#), "LOCK UP YOUR SAFETY" INTRODUCED IN NORTH CAROLINA, at <http://www.gunowners.org/snc0101.htm> (last visited Aug. 29, 2001) (on file with the Connecticut Law Review).

[FN93]. See Storage, Display, Transportation and Handling of Firearms by Individuals: Regulations under the Firearms Act, C.R.C., ch. 98-209, §§ 5-6 (1998) (Can.).

[FN94]. [Firearms Act, S.C., ch. 39, §§ 102-04](#) (1995) (Can.).

[FN95]. Joseph E. Olson & David B. Kopel, [All the Way Down the Slippery Slope: Gun Prohibition in England and Some Lessons for Civil Liberties in America](#), 22 HAMLIN L. REV. 399, 423-24 (1999).

[FN96]. Id.

[FN97]. Handgun Control, Inc., is the lobbying and politics affiliate of the Center to Prevent Handgun Violence. See *infra* note 216.

[FN98]. "Arsenal" inspections would be permitted for anyone who owns twenty or more firearms. Firearms, firearm parts, and ammunition magazines would all count as a "firearm." In other words, if a person owned three rifles and three handguns, plus two ammunition clips for each gun, and a set of disassembled spare parts for the rifles and the handguns, his collection of six actual guns would be an "arsenal."

A thousand rounds of ammunition also count as an "arsenal." Thus, the hundreds of thousands of target shooters who pick up a couple bricks of .22 caliber rimfire ammunition for \$15 every few months would also become the owners of "arsenals." See Gun Violence Prevention Act of 1994, S. 1878, 103d Cong. §§ 101(u)(1), 204 (a)(x), 305 (1994).

[FN99]. [Camara v. Mun. Court](#), 387 U.S. 523, 538-39 (1967).

[FN100]. [Wyman v. James](#), 400 U.S. 309, 326 (1971).

[FN101]. An argument against the constitutionality of such searches might rely on *Pratt v. Chicago Hous. Auth.*, 848 F. Supp. 792 (N.D. Ill. 1994). There, Chicago Housing Authority police conducted warrantless house-to-house searches in public housing projects, until a federal court ordered them to desist. According to the court, these "sweeps were conducted by searching entire apartment units, including closets, drawers, refrigerators, cabinets, and personal effects." Id. at 793. The police justified the warrantless searches because gunfire in the area created exigent circumstances. Id. at 794. Exigent circumstances arise when there is an immediate threat to life or imminent destruction of evidence thus allowing an exception to the warrant requirement of the Fourth Amendment. See [Segura v. United States](#), 468 U.S. 796, 798 (1984). As the *Pratt* court noted, however, not one of the searches in question took place within 48 hours of the shooting activity. *Pratt*, 848 F. Supp. at 793.

In 1992, presidential candidate Ross Perot and Richard Wigod, the president of the Los Angeles County Medical Association, both proposed warrantless gun searches. See Paul Cotton, CDC Investigators Explore New Territory in Aftermath of Unrest in Los Angeles, 267 JAMA 3001, 3002 (1992) (discussing how Dr. Wigod advocates a "military attack" on ghetto areas and encouraging police to "make a sweep through those neighborhoods [and] take all the weapons [they] can find"); Donald Lambro, Quayle Lands First Major Hit on Perot, WASH. TIMES, June 13, 1992, LEXIS, News Library, Wtimes File (discussing Perot's opinion that the police should roam high-crime areas "looking for guns and drugs").

Among the abuses that led to the English Revolution of 1689 was the King's order for warrantless searches for arms and ammunition stockpiles greater than those necessary for self-defense "in the house of any person disaffected to us." JOYCE LEE MALCOLM, [TO KEEP AND BEAR ARMS: THE ORIGINS OF AN ANGLO-AMERICAN RIGHT](#) 43 (1994).

[FN102]. As of March 2001, [Mossberg's website](http://www.mossberg.com) makes no mention of a SmartGun, or of any plans to develop one. See <http://www.mossberg.com> (last visited Mar. 20, 2001) (on file with the Connecticut Law Review).

[FN103]. The Center for Disease Control once suggested the idea of surgically implanting some type of device to transmit the radio waves. While this proposal would virtually guarantee the safe storage of the transmission device, it would not answer the question of how to recharge the battery. See generally Francis Wilkinson, Gunning for Guns, *ROLLING STONE*, Dec. 9, 1993, at 36, 39 (mentioning chip implantation as one possible technological advancement). Implantation would also likely be seen as grossly invasive by many gun owners.

[FN104]. Paul M. Barrett, Personal Weapon: How a Gun Company Tries to Propel Itself Into the Computer Age, *WALL ST. J.*, May 12, 1999, at A1, A8.

[FN105]. [COLT](http://www.colt.com/colt/html/k1_positionpaper.html), COLT'S POSITION ON PERSONALIZED WEAPONS TECHNOLOGY, http://www.colt.com/colt/html/k1_positionpaper.html (last visited Mar. 20, 2001) (on file with the Connecticut Law Review).

[FN106]. See <http://www.colt.com/colt/index.htm> (last visited Mar. 20, 2001) (on file with the Connecticut Law Review).

[FN107]. See WEISS, *supra* note 26, at 7. A related concern is that government experimentation with electromagnetic pulse technology could mean the government, and those who might steal technology from the government, could deliberately undermine the utility of frequency-related firearms. Indeed, a strong electromagnetic pulse might render all RFID guns in a particular area temporarily or permanently useless. Fears of government misuse of such technology could enhance the likelihood of gun-owner resistance to the implantation of these devices in their firearms. Additionally, law enforcement officers and civilians who own guns equipped with such personalization devices would have to worry about organized criminals and terrorists defeating the operation of the firearm.

An electromagnetic pulse is:

1. The electromagnetic radiation from a nuclear explosion caused by Compton-recoil electrons and photoelectrons from photons scattered in the materials of the nuclear device or in a surrounding medium. The resulting electric and magnetic fields may couple with electrical/electronic systems to produce damaging current and voltage surges. May also be caused by nonnuclear means. 2. A broadband, high-intensity, short-duration burst of electromagnetic energy. Telecommunications: [Glossary of Telecommunication Terms](http://www.its.bldrdoc.gov/fs-1037/dir-013/_1938.htm), available at http://www.its.bldrdoc.gov/fs-1037/dir-013/_1938.htm (last visited Mar. 20, 2001) (on file with the Connecticut Law Review) (citing DEP'T OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS, Joint Pub 1-02 (DOD Joint Staff Publication No. 1-02) (1994)).

[FN108]. WEISS, *supra* note 26, at 7.

[FN109]. The majority of protective gun use occurs in or near the home. Gary Kleck & Marc Gertz, Armed Resistance to Crime: The Prevalence and Nature of Self-Defense with a Gun, 86 *J. CRIM. L. & CRIMINOLOGY* 150, 174 (1995).

[FN110]. Sue Fox, Safety: A City Council Task Force Is Exploring Ways to Ensure Handguns Can Only Be Fired by Their Authorized Users. NRA is Opposed, *L.A. TIMES*, Mar. 11, 2001, at B1, LEXIS, News Library, Lat File.

[FN111]. [Tinker v. Des Moines Indep. Cmty. Sch. Dist.](https://www.supremecourt.gov/opinions/68/states/01-1070.html), 393 U.S. 503, 505-06 (1969) (wearing of armband in school raises First Amendment issues).

[FN112]. WEISS, *supra* note 26, at 85-86.

[FN113]. *Id.* at 86.

[FN114]. *Id.* at 88.

[FN115]. See *id.* at 88-89, 110.

[FN116]. Id. at 90-100.

[FN117]. Id. at 94-95.

[FN118]. The New Jersey Institute of Technology recently conducted a study that concluded that biometric technology was the only personalization which could ever be workable. The study estimated that it would take three years of research, five million dollars, and would require firearms companies to work together with the NJIT in a joint research project. Even then, products liability reform would be necessary before firearms manufacturers would be willing to take the chance. [N.J. INST. OF TECH.](#), EXECUTIVE SUMMARY in I PERSONALIZED WEAPONS TECHNOLOGY: PROGRESS REPORT (2001), available at <http://www.njit.edu/pwt/reports/VolumeI/07ExecutiveSummary.html> (last visited Oct. 9, 2001) (on file with the Connecticut Law Review).

[FN119]. [TARENHELM SUPPLY, CO.](#), THE MAGNA-TRIGGER CONVERSION, at <http://www.tarnhelm.com/magna-trigger/gun/safety/magna1.html> (last visited Mar. 21, 2001) (on file with the Connecticut Law Review).

[FN120]. Id. Guns are shipped to the company via UPS or Federal Express where work is performed by a company gunsmith. Id.

[FN121]. Id.

[FN122]. Id.

[FN123]. Id.

[FN124]. See discussion supra Part II.

[FN125]. For example, representatives from Handgun Control, Inc., have asserted that the Boston Police Department is using smart guns, when in fact, the officers have been issued ordinary Glock .40 caliber pistols equipped with Saf-T-Loks.

[FN126]. Michael Dresser, Gun Safety Bill Clears Final Hurdle, BALTIMORE SUN, Apr. 4, 2000, LEXIS, News Library, Balsun File.

[FN127]. Robinson et al., supra note [24](#), at 8-9.

[FN128]. See WEISS, supra note [26](#), at 103.

[FN129]. Id.

[FN130]. See discussion supra note [68](#) and accompanying text.

[FN131]. SIG ARMS, ABOUT US: [SIGARMS HISTORY](#), at www.sigarms.com/about/history.shtml. (last visited September 4, 2001) (on file with the Connecticut Law Review).

[FN132]. SIG Arms Announces E.P.L. System: New Technology Yields Integral Personalized Electronic Lock System For New SIG Handgun Line, SIG Arms Press Release, Feb. 1, 1999. This press release is no longer available on the SIGARMS web site. Since the release of this press release, SIGARMS sold off its small arms division and "this firearms [sic] was never produced in this country [the United States] or any other." Email from Laura Burgess, Director of Marketing, SIGARMS, Inc. to the Connecticut Law Review (Oct. 15, 2001) (on file with the Connecticut Law Review).

[FN133]. See discussion infra Part B.2 for Sandia Laboratories finding that officers need a gun that can be used during overtime and prolonged after- shift emergencies.

[FN134]. See <http://www.sigarms.com> (last visited Sept. 3, 2001) (on file with the Connecticut Law Review).

[FN135]. Melissa Healy, "Smart" Weapon Shoots Holes in Gun Rift, L.A. TIMES, Oct. 22, 1998, LEXIS, News Library, Lat File.

[FN136]. [UNIFORM CRIME REPORTING PROGRAM](#), FBI, LAW ENFORCEMENT OFFICERS KILLED AND ASSAULTED (1998), available at <http://www.fbi.gov/ucr/killed/98killed.pdf> (last visited Mar. 21, 2001) (on file with the Connecticut Law Review) (in 1998, of the fifty-eight officers who were fatally shot on duty, six were shot with their own guns).

[FN137]. This branch of the Justice Department had long been concerned with developments in law enforcement technology, including protective armor, ammunition, and gun-detection technology.

[FN138]. WEISS, supra note [26](#), at 12.

[FN139]. Id. at 15.

[FN140]. See generally WEISS, supra note [26](#).

[FN141]. Id. at [76](#).

[FN142]. Id.

[FN143]. Id. at 24.

[FN144]. Id. at 25.

[FN145]. Id. at 33-34.

[FN146]. Id. at 3.

[FN147]. Id. at 67.

[FN148]. Id.

[FN149]. Id. at 43.

[FN150]. Press Release, [Beretta](#), USA, Beretta Announces Position Concerning "Smart Gun" Technology (Jan. 4, 1999), available at <http://63.174.195.254/w45/bgc.htm> (last visited Aug. 23, 2001) (on file with the Connecticut Law Review).

[FN151]. WEISS, supra note [26](#), at 47.

[FN152]. Id. at 49.

[FN153]. Id. at 50.

[FN154]. Id. at 55.

[FN155]. Id. at 73.

[FN156]. According to a press release, Oxford Micro Devices, Inc., has formed an organization to promote a memory chip that would be in the gun's handle. According to Steve Morton, CEO of Oxford Micro Devices, Inc.: A handgun is a tool that one must be able to use without thinking, without having to do anything special, without wasting any precious time getting it ready for use, and without having to bring along a key, bracelet or any other

device, or to remember and enter a combination, to enable its use. And, unlike trigger locks that one must remember to apply when the gun is being put away for storage, our safety technology will be available at all times without thinking about it.

Press Release, [Oxford Micro Devices, Inc.](http://www.oxfordmicrodevices.com), Fingerprint-Activated Childproof or Smart Guns to be as Easy to Use as any Other Guns (June 7, 1999), available at <http://www.oxfordmicrodevices.com>. The operation of the chip's speed is advertised as less than one second, or "less than a heartbeat." CEO of Connecticut Company Developing Safer Gun Technology to Testify Oct. 15 on Behalf of NJ Childproofing Handgun Bill, PR NEWS WIRE, Oct. 13, 1998, LEXIS, News Library, Pnews File (on file with the Connecticut Law Review). The advertisement did not include any material regarding how precise the reading would be or how to overcome the problems of an officer wearing gloves or having scrapes or dirt on his finger. See WEISS, *supra* note 26, at 94-95. The information available on Oxford Micro Devices Inc.'s web site indicates that: "A fingerprint sensor is built into an ergonomically correct part of a gun to capture a live image of the user's fingerprint." [OXFORD MICRO DEVICES, INC.](http://www.oxfordmicrodevices.com), OMDI IMAGING TECHNOLOGY THAT CAN HELP US ALL: FINGERPRINT TECHNOLOGY FOR CHILDPROOF HANDGUNS, SMART GUNS, HIGH-TECH TRIGGER LOCKS, SAFER GUNS AND PERSONALIZED GUNS, at <http://www.oxfordmicrodevices.com> (last visited Oct. 21, 2001) (on file with the Connecticut Law Review). The image sensor is powered by (and thus dependent on) batteries in the magazine. The technology clearly requires holding the gun in such a way that the appropriate fingertip rests in the right spot.

It should be noted that Sandia Labs would find one second too long, as would a Boston Police Officer who stated that a gunfight may only last 1.5 seconds; other reports suggest that the average gun-fight is more about 2.5 seconds. See [KPBS Radio: Deadly Force: Script](http://www.kpbs.org/fullfocus/_ep_00_04/script.html), at http://www.kpbs.org/fullfocus/_ep_00_04/script.html (last visited Sept. 28, 2001) (on file with the Connecticut Law Review). If the device is literally less than a heartbeat, then it would be less than .83 seconds (assuming seventy-two heartbeats per minute). That is still more than 200% over the maximum activation time required by the Sandia study. See *supra* note 142.

[FN157]. WEISS, *supra* note 26, at 69.

[FN158]. *Id.* at 40, 79-80. Sandia Labs suggested that the "smart gun" technology would have to operate between temperatures from -50 to 160 degrees Fahrenheit. *Id.* at 79. For those wishing to remove the "smart gun" feature, exposing the gun to higher or lower temperatures might suffice to destroy the battery or whatever other operating device was inserted.

[FN159]. *Id.* at 79.

[FN160]. *Id.* at 37.

[FN161]. *Id.* The idea that officers could tell whether a potential assailant had another officer's personalized firearm raised a liability issue: Could "an officer's smart gun in the hands of an assailant be considered a deadly threat"? *Id.* at 59. Normally, an officer, or civilian, is justified in using deadly force in response to a serious threat. If the officer recognized that the assailant's gun were an unworkable smart gun, then the officer would probably not have legal authority to use deadly force against that individual.

[FN162]. *Id.* at 43.

[FN163]. [Responsible Gun Safety Act of 2000](http://mlis.state.md.us/2000rs/billfile/sb0211.htm), S. 211, 2000 Leg., Reg. Sess. (Md. 2000) (unenacted), available at <http://mlis.state.md.us/2000rs/billfile/sb0211.htm> (mandating in the original version of the bill, that after May 31, 2003, dealers may not sell, offer for sale, rent, or transfer handguns that are not personalized, provided that personalized handguns are commercially available) (last visited Oct. 22, 2001) (on file with the Connecticut Law Review); S. 2045, 209th leg., 2000/2001 Sess. (N.J. 2000) (unenacted), available at http://www.njleg.state.nj.us/2000/Bills/s2500/2045_il.pdf (mandating the sale of personalized handguns when available for retail sales) (last visited Oct. 22, 2001) (on file with the Connecticut Law Review).

[FN164]. *Id.* at 130.

[FN165]. *Id.*

[FN166]. *Id.* at 78.

[FN167]. L.J. Nicholson, Making Guns "Smarter" Could Make Them Safer, PHIL. INQ. (June 4, 1998), LEXIS, News Library, Phi File; I. Peterson, "Smart Guns" Setting Off Debate: How Smart Will They Really Be? N.Y. TIMES, Oct. 22, 1998, at B1, B7.

[FN168]. Vanessa O'Connell & Paul M. Barrett, Here's the Turnoff: In the Market for Guns, the Customers Aren't Coming Back For More, WALL ST. J., Oct. 26, 1999, at A10.

[FN169]. Johns Hopkins Center for Gun Policy & Research, A Model Handgun Safety Standard Act, October, 1996, at 3.

[FN170]. T. Markus Funk, Gun Control and Economic Discrimination: The Melting-Point Case-in-Point, 85 NW. U. L. REV. J. CRIM. L. & CRIMINOLOGY 764, 801-03 (1995); cf. Philip Cook, The "Saturday Night Special": An Assessment of Alternative Definitions from a Policy Perspective, 72 J. CRIM. L. & CRIMINOLOGY. 1735, 1737 (1981). The bans cannot be justified on the ground that they protect poor people from dangerous, inferior products. Every single proposed ban, as well as bans currently in effect in a few states, includes an exemption for possession of the banned guns by police officers. Presumably, legislative bodies do not wish local police officers to have inferior guns.

[FN171]. Nicholas J. Johnson, [Principles and Passions: The Intersection of Abortion and Gun Rights](#), 50 RUTGERS L. REV. 97, 191 (1997).

[FN172]. "A well-regulated Militia, being necessary to the security of a free state, the right of the people to keep and bear Arms, shall not be infringed." U.S. Const. amend. II.

[FN173]. [381 U.S. 479](#) (1965) (holding that a state may not ban use of contraceptives by married couples).

[FN174]. [410 U.S. 113](#) (1973) (holding that the U.S. Constitution protects right to abortion).

[FN175]. See supra note 8 and accompanying text. Of the 44 states, only Massachusetts has interpreted its state constitutional provision as not guaranteeing an individual right.

[FN176]. But see, Beretta U.S.A., The Semi-Automatic Pistol in Law Enforcement (1993) (pistol manufacturer suggesting that it was the "mystique of the revolver" which slowed the country's change to semi-automatics which were widely used in European policing for most of the twentieth century).

[FN177]. G.W. Ness & Pete Dickey, For Our Police: Auto or Revolver: Which is Best?, AM. RIFLEMAN, Dec. 1983, at 39.

[FN178]. Id.

[FN179]. See id. at 41; c.f., Dave Hetzler & Bob Milek, Auto vs. Sixgun, GUNS & AMMO, Nov. 2, 1981, at 83 (suggesting that for general use, such as plinking, self-defense, and hunting, defenders of semi-automatics said they had proven reliability, while proponents of the revolver dismissed such reliability except for expensive semi-automatics).

[FN180]. Beretta U.S.A., supra note 176.

[FN181]. U.S. Dept. of Justice, F.B.I. Academy Firearms Training Unit, Weapons Workshop (May 1988).

[FN182]. The barrel and internal working components of the gun are made from metal. The Federal Aviation Administration and the Bureau of Alcohol, Tobacco and Firearms have both testified to Congress that the Glock is easily detectable by airport metal detectors.

[FN183]. Jeff Leen & Sari Horowitz, Armed and Unready, WASH. POST, Nov. 18, 1998, at A1.

[FN184]. Jeff Leen, Weapon of "Simplicity" Finds Success, WASH. POST, Nov. 18, 1998, at A23.

[FN185]. Law Enforcement Alliance of America, Smart Guns: A Progress Report, SHIELD, Winter 1999, at 266.

[FN186]. Leslie Wayne, "Smart" Guns Proving to Be No Quick Fix for Firearm Violence, N.Y. TIMES, June 15, 1999, at A24

[FN187]. For more on treating guns like cars, see David B. Kopel, [Treating Guns Like Consumer Products](#), 148 U. PA. L. REV. 1213, 1214-24 (2000).

[FN188]. See infra notes [233-38](#) and accompanying text (discussing the unintended consequences of seat-belt mandates).

[FN189]. Id.

[FN190]. Id.

[FN191]. For gun accidents involving children and teenagers (the only kind that personalized guns could be expected to prevent) see note [56](#). In a typical year, there are over 40,000 motor vehicle fatalities. National Safety Council, supra note 2.

The scholarly debate on the number of annual defensive gun uses is whether they number in the hundreds of thousands or the millions, although the large majority of such uses do not involve the gun being fired. Contrast Gary Kleck & Marc Gertz, The Illegitimacy of One-Sided Speculation: Getting the Defensive Gun Use Estimate Down, 87 J. CRIM. L. & CRIMINOLOGY 1446, 1460 (1997) (approximately 2.5 million defensive uses) with Tom W. Smith, A Call for a Truce in the DGU War, 87 J. CRIM. L. & CRIMINOL. 1462, 1468 (1997) (hundreds of thousands of defensive uses).

[FN192]. For more on "childproof" medicine caps, see infra notes 246 and 285 and accompanying text.

[FN193]. But see supra note 102 and accompanying text.

[FN194]. [Colt's Position on Personalized Weapons Technology](http://www.colt.com/colt/html/mk1_positionpaper.html), http://www.colt.com/colt/html/mk1_positionpaper.html (last visited Mar. 20, 2001) (on file with the Connecticut Law Review).

[FN195]. KLECK, supra note [87](#), at 64.

[FN196]. The man may have some fears of accidents too, but because the woman is (in the hypothetical) less knowledgeable about firearms, her fears of accidents are apt to be more intense.

[FN197]. Leslie Wayne, "Smart" Guns Prove To Be No Quick Fix For Firearm Violence, N.Y. TIMES, June 15, 1999, at A24.

[FN198]. Stephen P. Teret, [Support For New Policies to Regulate Firearms: Results of Two National Surveys](#), 339 N. ENG. J. MED. 813, 815 (1998).

[FN199]. Id.

[FN200]. Johns Hopkins Center for Gun Policy & Research, 1996 National Gun Policy Survey, March, 1997 at 30-31.

[FN201]. Iver Peterson, "Smart Guns" Setting Off Debate: How Smart Will They Really Be?, N.Y. TIMES, Oct. 22, 1998, at A1, B7.

[FN202]. Stephen P. Teret et al., Making Guns Safer, ISSUES IN SCI. & TECH., Summer 1998, at 37-40.

[FN203]. The CPHV is the legal and educational arm of [Handgun Control, Inc.](#) (HCI), which is headed by Mrs. Sarah Brady. <http://www.bradycampaign.org/about/index.asp> (last visited Sept. 5, 2001) (on file with the Connecticut Law Review). The group, which was originally called the National Council to Control Handguns, recently renamed itself the Brady Center to Prevent Gun Violence.

[FN204]. Mark Johnson, Locks Personalize Firearms: Mayors Emphasize Accident Prevention, RICHMOND TIMES-DISPATCH, Mar. 16, 1999, at A1, LEXIS, News Library, Rchtdm File; Barry Meier, Gun Producers' Use of a Safety Device is Called Erratic, N.Y. TIMES, Mar. 19, 1999, at A12.

[FN205]. Meier, *supra* note 204, at A12.

[FN206]. Johnson, *supra* note 204, at A1.

[FN207]. See discussion *infra* part IV.A.

[FN208]. See *supra* notes [70-71](#) and accompanying text.

[FN209]. Agreement Between [Smith & Wesson and the Departments of the Treasury and Housing and Urban Development](#), Local Governments and States, available at <http://www.hud.gov/library/bookshelf18/pressrel/gunagree.html> (last visited Sept. 18, 2001) (on file with the Connecticut Law Review) (reprinting the text of the agreement).

[FN210]. Jerry Miller, [Smith & Wesson](#) President Admits Consumer Anger Hurting Sales, at <http://www.cnsnews.com/ViewPolitics.html> (last visited June 21, 2000) (on file with the Connecticut Law Review).

[FN211]. *Id.* The Smith & Wesson agreement mandates that the cities can never grant better terms to any future company that is willing to settle. Accordingly, all of the features that made the agreement unattractive to the rest of the firearms industry (even before the extent of the consumer backlash against Smith & Wesson became apparent) will remain as deterrents to future agreements by other companies.

[FN212]. See http://www.firearmslitigation.org/content/articles/body_articles.html (last visited Sept. 18, 2001) (on file with the Connecticut Law Review).

[FN213]. For example, Colt's leadership among the gun industry in trying to develop "smart-gun" technology was associated with hiring a president who does not own a gun, and who decided he would not keep a gun in the house while his daughter was living there. Melissa Healy, "Smart" Weapon Shoots Holes in Gun Rift, L.A. TIMES, Oct. 22, 1998, at A1, LEXIS, News Library, Lat File. Additionally, the spokesperson for Saf-T-Hammer, a disabling device for guns with external hammers, was formerly employed by Handgun Control, Inc. Bill McAllister, The Revolving Door, WASH. POST, Oct. 29, 1998, at A25.

[FN214]. Daniel LeDuc, Tough Laws for Guns Proposed in Maryland: Attorney General Says Goal Is Ban, WASH. POST, Oct. 20, 1999, at A1.

[FN215]. Guns Kids Can't Fire, WASH. POST, Sept. 3, 1999, at A26.

[FN216]. Sue Fox, Safety: A City Council Task Force Is Exploring Ways to Ensure Handguns Can Only Be Fired by Their Authorized Users. NRA is Opposed, L.A. TIMES, at B1, Mar. 11, 2001, LEXIS, News Library, Lat File.

[FN217]. Handgun control recently changed its name to the [Brady Campaign to Prevent Gun Violence](#). See <http://www.bradycampaign.org/about/index.asp> (last visited Sept. 5, 2001) (on file with the Connecticut Law Review).

[FN218]. DeLuc, *supra* note 214, at A1.

[FN219]. SUSAN DEFRANCESCO ET AL., JOHNS HOPKINS CTR. FOR GUN POL'Y. AND RESEARCH, A MODEL HANDGUN SAFETY STANDARD ACT, Oct. 1996, at 8, 12. While proposed legislation would allow

continued possession of non-personalized handguns, their transfer would be prohibited, pending after-market "personalization." Id. at 10, 13.

[FN220]. Id. at 13.

[FN221]. Id.

[FN222]. Leslie J. Nicholson, Personalized "Smart Guns" Nearing Reality, PHIL. INQ., June 4, 1998, Business Section, LEXIS, News Library, Phi File. Cf. WEISS, supra note [26](#), at 144-54.

[FN223]. Leslie Wayne, "Smart" Guns Prove to be No Quick Fix for Firearm Violence, NY TIMES, June 15, 1999, at A24.

[FN224]. Mark Johnson, Locks Personalize Firearms: Mayors Emphasize Accident Prevention, RICHMOND TIMES-DISPATCH, March 16, 1999, at A1, LEXIS, News Library, Rchtmd File.

[FN225]. Law Enforcement Alliance of America, Smart Guns: A Progress Report, SHIELD, Winter 1999, at 24-25.

[FN226]. Interview with Paul Januzzo, Chief Counsel for Glock (Dec. 1999).

[FN227]. Teret, supra note [198](#), at 815. The wording of the question is strange, in that it does not ask if respondents want such a law, or if they would support it. But rather, it asks if there were a law, how strongly would they support or oppose it.

[FN228]. See supra note [190](#) and accompanying text.

[FN229]. DeFrancesco, supra note 219, at 9.

[FN230]. One is reminded of Abraham Lincoln's story about a man who sawed a piece of wood three times, only to find it was still too short.

[FN231]. See WEISS, supra note [26](#).

[FN232]. United States v. Seven Miscellaneous Firearms, 503 F. Supp. 565, 574 (D.D.C. 1980); United States v. Smith, 477 F.2d 399, 400 (8th Cir. 1973).

[FN233]. Linda Gorman & Dwight Filley, [Mandatory Seat Belt Laws Cause Dangerous Driving and Invade Privacy](#) (1999), at <http://i2i.org/suptdocs/personalfreedom/mandatoryseatbeltlaws.htm> (last visited Aug. 22, 2001) (on file with the Connecticut Law Review) (reporting results of seat belt studies).

[FN234]. Id.

[FN235]. Id.

[FN236]. Id.

[FN237]. Id.

[FN238]. See Dwight Filley, [Risk Homeostasis and the Futility of Protecting People from Themselves](#), INDEPENDENCE INSTITUTE (1999) at <http://i2i.org/SuptDocs/PersonalFreedom/MandatorySeatBeltLaws.htm> (defining "homeostasis" as the tendency of bionomes or organisms to revert to stable conditions; for example, the human body maintains a temperature of 98.6 degrees regardless of ambient air temperature. Filley applies the concept to the risk-taking behavior of humans) (on file with the Connecticut Law Review).

[FN239]. [Minn. Stat. Ann. § 624.7161](#) (West Supp. 2001).

[FN240]. 3 Nabbed in Minneapolis Gun Shop Killings, THE NEW GUN WEEK, Aug. 7, 1992, at 1, 7.

[FN241]. A survey of felons in eleven state prisons found that most of them were afraid of confronting an armed victim, but one-tenth strongly agreed that "committing crime against an armed victim is an exciting challenge." JAMES D. WRIGHT & PETER H. ROSSI, [ARMED AND CONSIDERED DANGEROUS: A SURVEY OF FELONS AND THEIR FIREARMS](#) 146 (1986).

[FN242]. Fox Butterfield, Justice Department Carjacking Figures Exceed Criminologists' Estimates, N.Y. TIMES, Mar. 8, 1999, at A10.

[FN243]. Id.

[FN244]. Teret, supra note [198](#), at 815.

[FN245]. Id.

[FN246]. One company is making guns specifically for older, arthritic hands. Such a gun could be viewed as easier for children to use also, and conflict with efforts to outlaw such firearms. See Vanessa O'Connell & Paul M. Barrett, Here's the Turnoff: In the Market for Guns, the Customers Aren't Coming Back for More, WALL ST. J., Oct. 26, 1999, at A1.

[FN247]. Some of these secondary consequences are discussed in Part VI, infra.

[FN248]. Robert K. Lee & Jeffrey L. Sacks, Letters: Latchkey Children and Guns at Home, 264 JAMA 2210 (1990).

[FN249]. David Hemenway et al., Firearm Training and Storage, 273 JAMA 46 (1995); Douglas S. Weil & David Hemenway, Loaded Guns in the Home: Analysis of a National Random Survey of Gun Owners, 267 JAMA 3033 (1992)

[FN250]. Lee & Sacks, supra note 248.

[FN251]. Id.

[FN252]. Hemenway et al., supra note 249, at 47.

[FN253]. Id. at 49; Harvard School of Public Health, 1994 National Survey of Gun Owners.

[FN254]. See discussion supra Part II. A-B.

[FN255]. Harvard's leading gun researcher, David Hemenway, demonstrated to gun owners a certain ignorance of guns when he tried to distinguish between owners of semi-automatic firearms and owners of other firearms by describing a semi-automatic as "a rapid-fire firearm" and "a more dangerous type of firearm" than other guns. David Hemenway & Elizabeth Richardson, Characteristics of Automatic or Semiautomatic Firearm Ownership in the United States, 87 AM. J. PUB. HEALTH 286, 287-88 (1997). Automatic firearms may certainly be described as "rapid fire," but the speed with which semi-automatics and revolvers can be fired is dependent primarily upon the shooter. Generally, semi-automatics are more apt to have various safety devices, such as magazine safeties, grip safeties, manual safeties, in addition to the greater strength often needed to chamber a round. One hypothesis explaining part of the decline in firearm accidents involving children is the switch by adults from long guns to handguns for protection. Don B. Kates, et al., [Guns and Public Health: Epidemic of Violence, or Pandemic of Propaganda?](#), 62 TENN. L. REV. 513, 561, 567-68 (1995). This switch occurred around the same time that semi-auto pistols were superseding revolvers among handgun manufacturers. R. Thurman, Firearms Business Analysis, SHOOTING INDUS., Dec. 1995, at 98.

[FN256]. Harvard School of Public Health, supra note 254.

[FN257]. Id.

[FN258]. Teret et al., supra note [198](#), at 814-15.

[FN259]. LAWRENCE RESEARCH, A NATIONAL TELEPHONE SURVEY OF REGISTERED VOTERS, June 1998.

[FN260]. Michael Barone, Impeachment Unpopular? Look Deeper, WALL ST. J., Sept. 18, 1998, at A10. Barone used the example of surveys finding opposition to America entering World War II while subsidiary questions would have noted the possibility of a shift, and, of course, the Japanese bombing of Pearl Harbor brought all but unanimous support for going to war. Id.

[FN261]. Teret et al., supra note [198](#), at 816.

[FN262]. See DEFRANCESCO ET. AL., supra note [219](#), at 2-3.

[FN263]. Teret et al., supra note [198](#), at 814.

[FN264]. [VIOLENCE POLICY CENTER](#), THE FALSE HOPE OF THE "SMART" GUN (1998) at http://www.vpc.org/fact_sht/smartgun.htm (on file with the Connecticut Law Review).

[FN265]. Barrett, supra note [21](#), at A1. The Handgun Epidemic Lowering Plan (HELP) Network, a group advocating handgun prohibition, criticized the agreement between the White House and the gun industry to ship locks with all new handguns, complaining that "the agreement contains no lock performance standards and may also serve to promote the misleading idea that keeping a handgun at home is safe as long as it is locked." HELP Network, Legislation and Litigation Target Guns as Consumer Products, [HELP NETWORK NEWS](#), Winter/Spring 1998, at 1, 11 at <http://www.helpnetwork.org/resources.html> (on file with the Connecticut Law Review).

[FN266]. Nicholson, supra note [222](#).

[FN267]. 1996 National Gun Policy Survey, supra note [186](#), at 30.

[FN268]. Anne Eisenberg, "Smart" Guns Can Check Identities Before Firing, N.Y. TIMES, Sept. 10, 1998, at G3.

[FN269]. Susan Glick, "Smart" Guns Dumb Idea, Won't End Firearm Abuse, HOUSTON CHRON., Sept. 21, 1998, at Sec. A.

[FN270]. But see TOM DIAZ, [MAKING A KILLING: THE BUSINESS OF GUNS IN AMERICA](#) 95-96 (1999) (arguing that the gun industry has increased the lethality of weapons in order to "simulate stagnant markets").

[FN271]. N.J. Goldring, Dealing With the Chain of Violence, Address before the Hague Appeal for Peace (May 14, 1999).

[FN272]. See, e.g., discussion supra note [70](#) and accompanying text.

[FN273]. CALLIE MARIE RENNISON, U.S. DEPT OF JUSTICE, CRIMINAL VICTIMIZATION 1998: CHANGES 1997-98, in Bureau of Justice Statistics, National Crime Victimization Survey (1999).

[FN274]. Sherry L. Murphy, Deaths: Final Data for 1998, 48 NATIONAL CTR. FOR HEALTH STATISTICS 67 (2000).

[FN275]. Joseph Annet et al., National Estimates of Nonfatal Firearm- Related Injuries: Beyond the Tip of the Iceberg, 273 JAMA 1749, 1751 (1995).

[FN276]. Murphy, supra note 274, at 69; Sinauer et al., supra note [70](#), at 1743.

[FN277]. Josh Sugarmann, Laws That Can't Stop a Bullet, N.Y. TIMES, Nov. 4, 1999, at A29.

[FN278]. VIOLENCE POLICY CTR., supra note 264.

[FN279]. ANDREW J. MCCLUNG, ET AL., [GUN CONTROL & GUN RIGHTS: A COURSEBOOK Ch. 2](#) (forthcoming, 2002).

[FN280]. KLECK, supra note [87](#), at 97-98.

[FN281]. NATIONAL RIFLE ASSOCIATION, [EDDIE EAGLE](#) at [http:// www.nrahq.org/safety/eddie/](http://www.nrahq.org/safety/eddie/) (last visited Sep. 17, 2001).

[FN282]. See NATIONAL RIFLE ASSOCIATION, [EDUCATION SAFETY AND TRAINING](#) at <http://www.nrahq.org/safety/education/guide.asp> (last visited Sep. 17, 2001) (on file with the Connecticut Law Review).

[FN283]. All of the proposed legislative personalized gun mandates are handgun-only; many gun storage laws apply only to handguns. See, e.g., discussion supra notes [70-71](#), [214](#), [217-20](#) and accompanying text.

[FN284]. STEPHEN TERET, ASS'N OF TRIAL LAWYERS OF AM. & JOHN HOPKINS CTR. FOR GUN POL'Y. & RESEARCH, MAKING CHANGES IN MAKING GUNS 20 (1995).

[FN285]. W. KIP VISCUSI, [FATAL TRADEOFFS: PUBLIC AND PRIVATE RESPONSIBILITIES FOR RISK](#) 240 (1992); GERALD J. S. WILDE, [TARGET RISK](#) 91-92 (1994).

[FN286]. F.A. HAYEK, [THE FATAL CONCEIT](#) 6-7 (1988).

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