Report:

Workshop on

Defining "Small Arms"

as they Pertain to "Firearms" for the

2001 UN Conference on Small Arms

The Imperial War Museum
London, United Kingdom
April 27, 2001

EXECUTIVE SUMMARY

A workshop on "Defining 'Small Arms' as they Pertain to 'Firearms' for the 2001 UN Conference on Small Arms" was held at the Imperial War Museum in London, April 27, 2001.

Firearms manufacturers, small arms experts and government representatives attended. A definition for the firearms, which should be the focus of the 2001 UN Conference on Small Arms, was produced.

There are at least five definitions to be found in the 1997 and 1999 UN reports on small arms, which are the primary documents for the Conference. These definitions are too broad. They refer not only to purely "civilian firearms," such as hunting rifles, but they use the broad, essentially undefined term "manufactured to military specifications." The term is most likely intended to imply a military design.

A majority of "civilian" firearms are based upon military designs. This is especially true of hunting rifles, most of which are based on the German Army Mauser 1898 rifle design. Likewise, as a result of common design characteristics, there can be little differentiation of handguns into "military" or "civilian" categories.

A technological and historical evaluation of firearms development reveals one recent, defining characteristic of a "weapon of war." This is the capacity for full automatic fire.

Any definition should meet minimum standards. It should be simple, time neutral, objective and user friendly, not too broad and not too narrow.

In order to meet all of these considerations, it is proposed that firearms which ought rightly be the focus of the Conference, be defined or categorized as:

"Lethal weapons of war which are capable of full automatic fire."

WORKSHOP PROCEEDINGS

Nature of the Workshop

The Workshop was convened by the Manufacturers Advisory Group of the World Forum on the Future of Sport Shooting Activities (WFSA).[1] Gratitude is expressed to the Imperial War Museum for hosting the Workshop. Use of the Museum's exhibits created a unique opportunity to examine actual weapon types.

Workshop Opening and Participants

The Workshop was convened at 9:30AM, April 27, 2001. Mr. Robert Crawford, Director-General of the Imperial War Museum, welcomed the participants. In his remarks, Mr. Crawford noted that museums, such as the Imperial War Museum, are very concerned about a provision of the Draft Programme of Action for the UN Conference on Small Arms which required the deactivation of firearms held in museums and collections. Such a requirement would be harmful to the quality and authenticity of firearms in museum collections, many of which come from private collectors.

Mr. C. Edward Rowe, Chairman of the WFSA Manufacturers Advisory Group gave a Welcoming Speech and Opening Remarks, attached as Annex A.

A list of participants is attached as Annex B.

Framing the Issue, i.e., the Need for a Clear Definition of Firearms Within the Scope of the 2001 Conference[2]

Definition always plays a crucial role in law and public policy whether international or domestic. The definition of which firearms are within the scope of the

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[1] The World Forum on the Future of Sport Shooting Activities was formed in Nuremberg, Germany, in 1997. The WFSA is officially incorporated under Belgium law and its secretariat is in Rome, Italy

The WFSA is an association of associations with approximately thirty members world-wide. Participants include, among others, ANPAM (Italian firearms manufacturers), AFEMS (European ammunition manufacturers), Associacion Arema (Spanish manufacturers), British Shooting Sports Council, Forum Waffenrecht (Germany), National Rifle Association of America, SAAMI (American manufacturers) South African Gunowners Association, Safari Club International and the Sporting Shooters' Association of Australia.

The WFSA has four subcommittees and one advisory group. The subcommittees are UN and Legislative Affairs, Image of Sport Shooting, Statistics/Research and Environment. The advisory group is the "Manufacturers Advisory Group" or "MAG." The affairs of the WFSA are overseen by an Executive Committee that meets twice a year. The current President of the WFSA is Carlo Peroni of Italy.

Both governments and international organizations have accepted the WFSA as the spokesperson for the world's firearms community in the international arena. It has participated in numerous conferences and workshop focusing on international firearms regulation matters.

The WFSA will be the coordinating body for the world's firearms community at UN Conference on Small Arms, July 9-20, New York.

[2] Presentation by Thomas Mason, WFSA Co-Executive Secretary.

United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects[3] is crucial. According to the Small Arms Survey organization[4] there are approximately 550 million firearms in the world. Of these 226 million are held by armed forces, 18 million by police and 305 million are legally held by civilians.

This means that if the category of firearms, which is the focus of the Conference, is too broad it could inappropriately include many, if not most, civilian held firearms.

The two primary documents for the Conference are the 1997 "Report of the Panel of Government Experts on Small Arms,"[5] and the 1999 "Report of the Group of Governmental Experts on Small Arms."[6] These two reports contain at least five definitions for the firearms, which should be the focus of the Conference. They are presented for perusal.

Definition #1 is from the 1997 "Report of the Panel of Government Experts on Small Arms" paragraph 24:

> *Small arms and light weapons range from clubs...The small arms and light weapons which are of the main concern for the purposes of the present report are those which are manufactured to military specifications for use as lethal instruments of war...*

Definition #2 is from the 1997 "Report of the Panel of Government Experts on Small Arms," paragraphs 25 and 26:

> *...Broadly speaking, small arms are those weapons designed for personal use, and light weapons are those designed for use by several persons serving as a crew. (Paragraph 25)*
> *Based on this broad definition and on an assessment of weapons actually used in conflicts being dealt with by the United Nations, the weapons addressed in the present report are categorized as follows:*
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> *(i) Revolvers and self loading pistols;*
> *(ii) Rifles and carbines;*
> *(iii) Sub-machine guns;*
> *(iv) Assault rifles;*
> *(v) Light machine-guns... (Description continues with heavy machine guns, grenade launchers, etc.) (Paragraph 26)*

Definition #3 is from the 1997 "Report of the Panel of Government Experts on Small Arms," paragraph 28:

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[3] UN General Assembly Resolution 54/54V.
[4] Briefing presented by Prof. Keith Krause at the Third Preparatory Committee meeting, Mach 27, 2001, UN Headquarters New York.
[5] "Report of the Panel of Government Experts on Small Arms," 27 August 1997 (52/298).
[6] "Report of the Group of Governmental Experts on Small Arms," 19 August 1999 (54/258).

> *In conflicts dealt with by the United Nations, non-military weapons not manufactured to military specifications, such as hunting firearms and home-made weapons, have been used in violent conflicts, terrorism, and the intentional harming of civilian populations. In such cases, and where such weapons are used and accumulated in numbers that endanger the security and political stability of a State, the Panel considered them relevant for the purposes of this report.*[8] *(End note 8 describes home-made weapons that can be constructed out of readily available materials with little skill.)*

Definition #4 is from the "Report of the Group of Government Experts on Small Arms," paragraphs 129 and 130:

> *The scope of the International Conference will be the illicit trade in small arms and light weapons in all its aspects.* (Paragraph 129)
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> *In this context, the primary focus of attention should be on small arms and light weapons that are manufactured to military specifications (see endnote 5). Other types of firearms used in conflicts may, however, also have to be considered in dealing with the problems in the most affected regions of the world...*(Paragraph 130)

Definition #5 is from the "Report of the Group of Government Experts on Small Arms," endnote 5.

> *The Group followed the practice of the previous Panel of Governmental Experts on Small Arms in its definitions of small arms and light weapons. Broadly speaking, small arms are those weapons designed for personal use and light weapons are those designed for use by several persons serving as a crew. The category of small arms includes revolvers and self-loading pistols, rifles and carbines, sub-machine guns, assault rifles and light machine guns...*

These definitions are overly broad on two counts. First they refer to and include, somewhat convolutedly, civilian firearms such as hunting rifles (definition #3). More important, they rely on the broad, undefined term "manufactured to military specifications." This is probably intended to mean military design.

If the term were interpreted as merely being manufactured to certain standards of increased durability or tolerances it would be unworkably narrow. For example, an M-16 manufactured by a regular producer under a government contract would be within the definition, but a copy of the same firearm, made in an illegal workshop, would not be within the definition.

Given the inadequacies of the definitions from the 1997 and 1999 reports they should best be viewed as an initial attempt. If international regulatory efforts are to continue, there will eventually have to be a definition in which firearms are the focus of international regulatory efforts. This may not occur at the July Conference, but the task must eventually be performed. This did not occur at the July Conference, and the task still needs to be performed.

David Penn of the Imperial War Museum gave the following address, which is set forth verbatim.

Basic Firearms Types: Common and Distinctive Operational and Design Characteristics Between Categories of Firearms[7]

> Thank you, Mr. Chairman. I might start by restating the very premises upon which this workshop and the various presentations rest.
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> The first premise is that we want to differentiate between those weapons the international community should and should not be concerned with at the July UN Conference on Small Arms and beyond. In other words, there is a utility, if not a necessity, in having certain definitions for the Conference.
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> The second premise is that when it comes to firearms, we want to focus on what can be called "weapons of war," for want of a better term. This is no easy task—supposedly simple terms turn out to be not-so-simple, and that which you intended becomes not at all what you had in mind.
>
> We also need some ground rules as we go down this difficult definitional path.
>
> My remarks this morning are going to be aimed at the non-expert, the un-initiated as it were. For you "experts" in the audience, please bear with me. It is the fundamentals that we are interested in here today. While I am only too aware that for every statement I will be making there is an absolutely fascinating piece of firearms esoterica that can be used to contradict what I have just said, such minutiae are not what we are here for today. We are in pursuit of the general, not the particular.
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> Earlier you heard about the number of firearms in the world, 550 million with 308 million firearms being legally held by civilians.
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> We are here today to consider all those firearms and try to find their usable defining characteristics.

[7] Presentation by David Penn, of the Imperial War Museum.

We are going to look at the evolution of certain of those defining characteristics over the years and later today we will see if we can use those characteristics for an appropriate definition for the 2001 Conference.

It is my hope that at the end of this presentation you will be familiar with not only basic firearms types, but more importantly, with some actual weapons, which by their very existence play a role in this international policy discussion. We are going to consider firearms today, but at the end you should have a working knowledge of around 30 of these particularly important weapons. For instance, everybody in this room has heard of the infamous AK-47, but how many of you know its history or its defining characteristics?

To a certain extent we are going to have a history lesson about the ubiquitous "gun" from the muzzle of which, according to Chairman Mao, "political power flows".

Perhaps I should clarify things a little more. I am only going to be talking about the firearms end of what could be called the "small arms-light weapons" continuum. I will not be talking today about so-called light-weapons, usually crew-served arms such as general purpose or heavy machineguns, mortars, rocket launchers, grenade launchers or flamethrowers.

It is always good to start with the basics. In this category of "firearm" there are now three basic types: the handgun, the rifle, and the shotgun. All three propel projectiles out a barrel by the use of an exploding propellant. Rifles and modern handguns have grooved barrels to spin and stabilize a single projectile as it leaves the barrel. Shotguns have smooth bored barrels that allow multiple projectiles to be expelled in a kind of cloud or pattern. The most common form of these multiple projectiles is, of course, bird shot. Bird hunting is what most shotguns are used for and we will only mention them again briefly in closing. Of these three basic firearms types, we are mostly concerned with rifles and handguns.

There are in my opinion four major purposes and one minor one that affect small arms design: military use, defence, hunting, target shooting and, the minor one, for aesthetic appreciation. These tend to require emphasis on different aspects of design, for instance a trade-off seeking easy handling, light weight, visual grace and 'pointability' in a sporting shotgun, at the expense of strength and ability to withstand hard knocks. Arms for target shooting will almost always put precision accuracy at a premium, while adequate accuracy will suffice for the great majority of military and hunting rifles, where ruggedness and mechanical reliability are very important.

As I said, we will mostly consider rifles and handguns as we attempt to find defining characteristics. Let us consider how the modern rifle evolved.

We are going to begin with muskets, which are not technically rifles because they have smooth barrels, or smooth bores. The flintlock musket reigned supreme for around 150 years until the 1830s. These guns were single shot, black powder, muzzle loading firearms. You literally put the powder and the bullet down the barrel to load it. Almost all armies were similarly armed with them. The flintlock was simple enough to be made in quantity by artisan methods, and was affordably cheap. This flintlock is the first of those notable weapons of which I want you to have a working knowledge.

It was also during this period that you could say "one gun could serve all purposes." These arms could perform adequately in the period as a military arm, a hunting gun or a gun for defence.

In practice, however, for optimum performance for specific purposes, specialized firearms had begun to evolve for war, for hunting and for target shooting as an artificial sport in its own right as early as the 16th century.

Firearms development has never stood still and the musket eventually ceased to be militarily efficient. The primary reason for its retirement from active service was ever-improving field artillery. In Napoleon's day artillery was best deployed alongside the infantry firing grapeshot. As the long range capability and accuracy of field guns developed during the 19th century, unmechanized infantry had as their only defence, if bereft of artillery of their own, their personal weapon.

In Napoleon's day, a musket could be fired two or three times a minute and had an effective combat range of about 120 metres, with mediocre accuracy. As artillery increased its range the infantry needed to respond. The muzzle loading smoothbore musket had therefore to be replaced as a general issue arm by the rifle, hitherto a specialist weapon. Muzzle loading rifles became the norm in the 1840s, '50s and early '60s, to be replaced by single shot breechloaders firing fixed cartridges in the late 1860s, '70s and early '80s. I might add that at this time there was essentially no difference between rifles used by the military and civilians.

However, in the 1870s a fundamental change occurred in the military, and that was the advent of the bolt-action, centre-fire rifle. The bolt action was admirably suited to the utilization of cartridge magazines to become a repeating rifle. Shortly thereafter, in 1886, smokeless powder was

introduced for military purposes and transformed the battlefield. Smokeless powder essentially doubled the velocity of bullets, made strong actions a necessity and eventually made the development of the machine gun possible.

The absolute archetype of this type of bolt-action rifle was the Mauser 1898 developed by Paul Mauser for the German military. This is the second of the important weapons you should have a familiarity with. We will show you the similarities with other rifles later, but more importantly this basic military design became the basis for almost all modern bolt-action guns. It was also copied or emulated by almost all the major powers in World War I and II. These would include the American 1903 Springfield, the British Enfield P14, and the Japanese Arisaka '99. The Americans were even successfully sued by Mauser for copying the design.

By 1900 military rifles had developed to the point where, with manually-operated repeaters, twenty or more aimed shots a minute were feasible, and where the cartridges were ballistically effective at over 2,000 metres, and could be used with massed volley fire (but not precision accuracy) against far distant enemy artillery positions or infantry formations. As with their military predecessors, and indeed their military successors to this day, they are intended to be fitted with bayonets, a weapon of very doubtful combat value today, but still prized for ceremonial purposes, for its effect on morale, and, perhaps most usefully, for guarding prisoners.

We see with the later military rifle's use *en masse* against large groups of enemy soldiers or artillery, or in the attack, another primary characteristic of military rifles: their need to lay down large volumes of suppressive fire. The purpose of suppressive fire is not to hit a specific target, but rather to keep the enemy's heads down and deny them the ability to move, maneouvre or return fire. By contrast almost every civilian use of firearms is predicated on the intention of hitting a specific target, animate or inanimate.

Let me emphasize an important development that occurred shortly before the First World War. Both the long range and the terminal ballistic performance of the military rifles of most of the major Powers had been improved by adopting lighter 'spitzer' bullets fired at higher velocity, although the Hague Convention had outlawed any form of 'expanding' or indeed explosive projectile for military use. Military thinking was at this time predicated on engagements between rifle-armed troops taking place at several hundred metres' distance. The rifles of this period were capable of excellent accuracy at long range and were, and remain today, the marksman's rifle. As an example, we will look at the British Short Magazine Lee Enfield (SMLE), developed after the Anglo-Boer War as

the standard arm for all services, and which served with distinction in both World Wars.

Before we leave the SMLE, I will show you a facsimile made in the Khyber area using files and simple hand tools. Of course it is not quite as good as the SMLE, but it works well and it demonstrates that there is nothing magic or arcane in the manufacture of firearms. They can be produced in any light engineering facility.

You should remember the SMLE as the third of our seven notable firearms. It illustrates the commonality of military rifles until the end of WWII and bolt-action rifles in general. I might add that I could just as well have used the American Springfield or the Japanese Arisaka to make this point. Indeed, that is the point—all these rifles are variations of the same idea.

These types of bolt action rifle were the backbone of the armies of both the First and Second World Wars, but the experience of the First World War radically changed the role of the rifle in combat, and consequentially, although slowly, its design. Trench warfare was essentially close range, the war was predominantly an artillery war, and the medium machine gun was a far more effective weapon than even massed rifle fire. Infantry were soon equipped with a range of grenades, grenade throwers, mortars, and light machine guns in addition to rifles, and the tank brought mechanization to combat. It was slowly recognized that the long-range capability of the late 19th century military rifle was no longer necessary, and that volume of fire at close range was desirable.

I must make a very important point here, the profound effect of the development of the modern military, mostly Mauser-designed, bolt-action rifle on civilian hunting arms. To quote Melvin Johnson and Charles Haven, "The First World War established the bolt-action rifle as the popular hunting weapon..." They were talking about the US, but their observation is applicable world-wide. After the First World War, changes in both the rifles and ammunition, used by civilians, were based upon military developments. Remember, these rifles were very accurate long-range weapons firing high velocity rounds. They were perfect for hunting and still are.

The truth is that this Mauser '98 military rifle is the basis for almost all of today's bolt-action hunting rifles as well as most of the previously mentioned military rifles. Let me cite the world's leading authority on the subject, Ludwig Olson: "Highly-successful rifles such as the M1903 Springfield, the 1917 Enfield, Winchester Model 70, Remington Model 700, Savage Model 110, and Ruger Model 77 are based on the Mauser."

Indeed, our fourth notable firearm for you is a Remington 700. It is probably the most popular American hunting rifle today and is based on the Mauser military design. Thus, I might add, by definition they share common characteristics, such as type of ammunition, range and rate of fire. Before any of you give up on this exercise, let us proceed with how military rifles developed.

Largely because of metallurgical problems, it was in the early 20th century difficult to build an automatic rifle that was cheap and of reasonably light weight, and only one such weapon of any significance came out of the First World War: the unlovely French Chauchat, which has endured a poor reputation that it did not deserve. It is also notable for being perhaps the first example of a military rifle built using methods borrowed from the motor industry.

What could be built, however, was a short, handy, cheap, large magazine capacity fully automatic weapon firing a cartridge designed for a semi-automatic pistol: the sub-machinegun. The Italians developed one first, the Vilar Perosa, but failed to exploit its tactical advantages as well as did the Germans with their Bergmann MP18.1. While the sub-machinegun is short, light and handy, and can be very cheap, it has two major disadvantages: it has an effective tactical range of only around 200 metres and its pistol cartridges have poor penetration and stopping power. It is tactically a niche weapon, and while it was used widely and sometimes to great effect during the Second World War, especially in Finland and on the Eastern Front, its doubtful value as a general purpose military weapon was terminated by the development of the assault rifle. The sub-machinegun is now seen as a Special Forces weapon, especially when fitted with a suppressor, and as a police and bodyguard weapon where its lack of power is seen as a benefit in urban situations. Here is *(displays images)* an early post-war sub-machinegun, the British Stirling, which is a true and direct derivative of the original Bergmann, and here is a Stirling-inspired sub-machinegun made by Loyalist paramilitaries in Northern Ireland.

Because it was fully automatic and only fired a short-range pistol cartridge the sub-machine has never played any significant role with civilian users.

During the inter-war period, there was little will or finance to pursue research into self-loading rifle designs. Only two were of any significance: the US Garand is a very fine tough rifle, but is semi-automatic only, with a fixed magazine of only 8 rounds, and using the old full-power .30-06 cartridge. Tactically, it offers little over its bolt-action predecessors, although it continued to be much used in the early post-Second World War period. The Garand is still a marksman's rifle, highly accurate and used in competition in America today. The Russian Tokarev series was flawed,

also used the old full-power Russian 7.62mm cartridge, but did introduce a detachable 20-round magazine. The Americans apart, the Second World War was fought mainly with bolt actions of late 19th century design.

This *(showing illustration)* is the granddaddy of the modern assault rifle: the MP 43 or StGew 44. It was developed to meet specific tactical conditions on the Eastern Front. The Germans wanted a large magazine capacity rifle with fully automatic capability, easier to use in cold conditions than a bolt action, with an effective range of 300 metres or so, to outclass the 200-metre Russian PPSh 41 sub-machineguns carried by often entire units of Russian infantry. It is made using stamping techniques developed in the automotive industry, and already successfully applied to sub-machineguns and general-purpose machineguns. It is a little heavy, but works just fine. It also introduced a new intermediate range cartridge, the 7.9mm Kurz.

This is another important point that I would like you to take away from this Workshop: until around 1944 there was little difference in mechanism or ballistic performance between military rifles and hunting rifles, many such hunting arms then and now being based on or derived from the Mauser '98 action.

It is with the introduction of the assault rifle category that military and hunting rifle designs began radically to diverge. The traditional bolt action now occupies only a very narrow military niche as a specialist sniping rifle. It has become predominantly a civilian rifle. This illustrates how hard it is to talk of "military" or "civilian" firearms. As I said in my introduction, what seems simple is not. This is particularly true if we try to use the terms "military" and "civilian."

Let us return to our story. The Russians were mightily impressed by the StGew 44, and in 1947 introduced the AK 47, to be followed by the AKM, the same design but easier to make. These are better known as 'Kalashnikovs', after their inventor, Sergeant, now General, Mikhail T. Kalashnikov. The Kalashnikov stands as one of the three most successful selfloading rifle designs of all time. Over 50,000,000 Kalashnikovs have been made, many have survived, and it has achieved, deservedly, iconic significance in post-war low intensity conflict, appearing even on the national flag of Mozambique. The AK 47 uses an intermediate cartridge of 7.62mm.

The Americans were less impressed. They wanted a Garand, but with a 20-round detachable box magazine and a fully automatic capability. They got it with the M14, which also introduced a slightly shortened .30-06 cartridge christened the 7.62 NATO. This was needlessly powerful, but the rest of NATO felt obliged to follow. Many countries within and

outside NATO adopted the FN FAL, the second of the major post-war successes. A fine, tough rifle, it was nevertheless long, relatively heavy and, in its fully automatic versions, performed poorly in fully automatic fire, as indeed did the M14. The lesson to be learned was that average troops could not perform well with the 7.62 NATO cartridge in a fully automatic rifle. It generated too much recoil.

Another highly significant characteristic borrowed from the light machinegun and adopted in the StGew 44, AK47 and FN FAL is the straight-line butt with separate pistol grip for the firing hand. This helps to counteract muzzle rise and aids controllability. This is now a close to universal characteristic in military rifle designs.

The third outstanding success as a military self-loader is the American M16, the best of several successful designs by Eugene Stoner. After a patchy debut in the Vietnam War, it has evolved into a formidably reliable arm, and it introduced the 5.56mm NATO cartridge, a highly controllable round with light recoil and formidable wounding characteristics.

Noting the success of the 5.56mm NATO, Russia adopted *circa* 1980 a 5.45mm round in a minor adaptation of the AKM called the AK74, improving it still further, and with enhanced terminal ballistic performance and outstanding controllability in fully automatic fire.

This is about where we have reached in modern military rifles in the field. Much experimentation has gone on with caseless ammunition and with arms firing 40mm or 20mm grenades, including laser-controlled ‘smart’ grenades, but these are not with us yet in quantity.

In my opinion, the three over-riding characteristics of a modern military rifle are that it possesses fully-automatic, or possibly controlled burst fire, capability, is chambered for an ‘intermediate’ cartridge, and is capable of accepting large capacity magazines. Secondary characteristics are that it will have a straight-line stock and a separate pistol grip for the firing hand, and be capable of accepting a bayonet.

I now wish to turn again to rifles used for hunting. It is possible to construct these as single shots or double-barrelled rifles along the same lines as a conventional shotgun, but as indicated earlier the great majority in use today are repeaters based on bolt actions identical to or very similar to the military bolt actions of the late 19th century. Other sporting rifles use cowboy-style lever actions, or pump actions, neither of which systems have ever achieved any significant military following. There are sporting self-loading rifles. One of the most popular is the Ruger Mini-14 Ranch Rifle. Self-loading shotguns are extremely popular in the US.

For the vast majority of the world's hunters and shooters, full automatic firearms play no role whatsoever. On the other hand, self-loading semi-automatic firearms do play a role, especially in formal competition shooting. There is a very definite and accepted line of demarcation in the firearms community between full automatics and semi-automatic firearms. In the largest jurisdiction we are concerned with, the US, there is an immense constituency for semi-automatic firearms and we have got to be aware of that. Such an immense constituency simply does not exist for fully automatic firearms.

Hunting rifles have to be fit for purpose against quarry as small as rats or as large as rhinos, and in conditions varying from thick woods or jungle to open plains, so come in bore sizes as small as .17inch and as large as .700inch. There is therefore no such thing as a 'standard' or 'typical' hunting rifle, and they vary far more in their characteristics than do modern military rifles. Those intended for hunting deer and similar sized game may well use a cartridge case of military origin, but loaded with an expanding bullet designed to optimize speedy humane dispatch at close to medium range. Just as examples, the American .30-06, the 7.62mm NATO (which has a popular civilian guise, the .308 Winchester), the 7mm and 7.9mm Mauser cartridges, the .303 and even the 5.56mm NATO are all popular and widely distributed hunting cartridges as well as military rounds.

The main characteristics of these hunting rifles are that they will not be capable of fully automatic fire, or be intended for use with a bayonet. Most will tend to have limited magazine capacities in centrefire calibres, and will tend not to have separate pistol grip stocks. While many have a traditional appearance, with handsome wooden stocks and finely blued metal surfaces, some hunters, particularly those operating in harsh environments, opt for stainless steel and fibreglass or plastic stocks. The most determined hunters might even have the entire arm treated with a camouflage finish.

There is a point to be made here. It is much more practical to use operational characteristics than appearance in classifying firearms.

Target shooting is an artificial activity, and these arms have tended to evolve to give maximum advantage under the rules. In the United States, much centrefire rifle target shooting is still firmly in the military tradition, and shooters tend to use self-loading versions of military rifles, but incapable of fully-automatic fire. Other countries have this military basis for target shooting, particularly Britain and its Commonwealth. In other competitions such as International Shooting Sport Federation events, as seen at the Olympics, the arms have evolved far beyond what is practical for combat.

Let us again turn to shotguns for a moment. We have already looked at a traditional double barrelled shotgun, but shotguns exist also in single-barrel single-shot form, and as bolt actions, pump actions and self-loaders, all of which are well established and widely distributed types.

The overriding characteristic of a shotgun is that it is effective only at short range, up to 60 metres with shot loads, perhaps 125 metres with solid projectiles intended for deer or boar. Typically, for hunting purposes, magazine capacities are limited to three cartridges or less. For police or military use, tubular magazines may be extended and barrels shortened (although these two aims are not always reconcilable), and such arms have limited utility in the military context for short-range use by special forces, as guard guns and for jungle combat, but they are in no sense a general-purpose military arm. Overwhelmingly, shotguns are used for hunting, vermin control and for shooting at artificial clay targets.

Let us now turn to pistols. By and large, they are used for defensive purposes in a military, police or civilian context, and for target shooting. The main characteristics of pistols are their relatively small size, which makes for easy portability but renders them very difficult to shoot well under stress, and the relative ineffectiveness of their cartridges. I stress 'relative', but no one would willingly go into combat with a pistol if faced with an alert foe equipped with a rifle, sub-machinegun or even shotgun. Their offensive military potential is limited to two obsolete forms of combat: cavalry actions and trench fighting and today to some special forces situations. Being small, they are convenient to carry, and they provide a 'teddy bear factor': great psychological reassurance enabling more effective performance at non-combat activities by personnel who might expect to find themselves in harm's way but are not anticipating the sort of imminent trouble that would warrant lugging around a rifle. Pistol design began with single-shot muzzleloaders, progressed to revolvers *circa* 1850, and by 1896 a viable self-loader for military purposes was on the market. Here we have one of the most successful early military self-loaders, the Colt 1911, still in widespread production in China as well as the Americas, and excellent modern service-type pistols by Beretta, Glock and Ruger. Let us take the Colt 1911 as our sixth notable firearm. Almost the same thing can be said about the modern revolver: it is used by the military, police and civilians. Here is a double action Smith & Wesson. Because this type is so common, it will serve as our final notable firearm.

Pistols are objects of desire, an emotion that can have either healthy or unhealthy expressions, and it is worth bearing this reality in mind. They are well suited to urban circumstances, legitimate or illegitimate. Gun collectors pressed for space favour pistols *(shows illustration)* such as this beautiful Gastinne Renette; urban target shooters can practise with

complete safety for all on indoor urban ranges. Target shooting with pistols is challenging and very popular, and the pistols and revolvers used range from such 19th century classics as replicas of early percussion revolvers and the Colt 'Peacemaker,' through the conventional service pistols and revolvers that we have seen through to arms such as the French Manurhin .32 Match revolver, a modification of its service and target revolver, to highly evolved exotica such as the East German Buhag Centrum Free Pistol, the Finnish Sako Triace, the Police Pistol target revolver and the highly evolved 'race gun' for practical pistol shooting. These arms are the equivalent of a Formula One racing car.

As I have said, the same types of revolvers and pistols are used by both civilians and the military. Except in a narrow set of circumstances in the hands of very highly trained personnel, they are ineffective offensive weapons. Unlike shoulder weapons, there is no one defining characteristic that would allow the differentiation of pistols.

Hunting, target shooting, gun collecting and historical re-enactment are all activities that may be carried out safely in a civilian environment. Target shooting is actuarially one of the safest of sports, and hunting may be almost equally so, if best safe practice is cultivated. They provide legitimate outlets for interests that are more or less strongly entrenched in different societies around the world, and are not about to be wished away. In a fair, liberal and truly civil society, these interests need to be accommodated.

As we see daily in the media, the sad reality of low-intensity conflict is very largely carried out with light weapons such as rocket launchers and machine guns, with sub-machineguns, although these are losing ground to rifles, and the post-war generation of military rifle, whose characteristics are:

That it possesses fully automatic, or possibly controlled burst fire, capability, is chambered for an intermediate cartridge, and is capable of accepting large capacity magazines. Secondary characteristics are that it will have a straight-line stock and a separate pistol grip for the firing hand, and be capable of accepting a bayonet.

These are very much the rifles of choice for such conflicts, and there are more than enough of them to go around, concentrated in large *caches* and at prices rather lower than the generality of conventional civilian arms. It is easy to achieve a modicum of competence in their use and they are tough enough to withstand considerable abuse. These are characteristics not universally found among civilian arms.

It is on these light weapons, sub-machineguns and post-war military rifles that I would suggest controls be focused.

Examination of Firearms from the Imperial War Museum and Forensic Science Collections

Upon conclusion of the above presentation participants personally examined the firearms mentioned under the supervision of Museum staff. Among the firearms available for their perusal were examples of rifles, shotguns and pistols, including a flintlock musket, a British Martini-Henry rifle, a German Mauser '98 rifle, a British Lee-Enfield Mark 4, an American Winchester Model 70, an American Remington Model 700, a Japanese Arisaka '99 rifle, a German Bergmann MP 18.1, a Russian PPSh 41 submachine gun, an American M-1 Garand, a German MP 43 assault rifle, a Russian AK-47 assault rifle, an Italian Beretta semi-automatic pistol, an American Colt Model 1911 semi-automatic pistol, an American Ruger semi-automatic pistol and an Austrian Glock semi-automatic pistol.

Defining a Weapon of War

Mr. Claude Gaier, President, International Association of Arms Museums, delivered an analysis of the overall subject entitled "Explanation of a Definition of 'Weapons of War' and other Firearms." Mr. Gaier examined the question from different historical and national perspectives and concluded that the most practical definition of a "weapon of war" (firearm) would be one which is capable of fully automatic fire and is used for military purposes.

Mr. Gaier also spoke on behalf of military museums and reiterated the concern expressed earlier by Mr. Crawford about the effect upon the integrity of collections of a deactivation requirement.

Panel Reaction and Discussion of a Definition[8]

A panel chaired by Ms. Virginia Ezell from the Institute for Research on Small Arms discussed the proposed definition. The discussion focused on whether or not a "full automatic" definition of a "weapon of war" would suffice.

Mr. Mason of the WFSA maintained that a good definition should meet certain minimum criteria for efficiency and workability. These criteria would include being:

(1) Simple.
(2) Time neutral, i.e., covering firearms already produced and which will be produced in the future.
(3) Objective, so that nature of the firearm can be determined from the physical or mechanical characteristics of the firearm itself. It should also be user

[8] The panel was chaired by Ms. Virginia Ezell from the Institute for Research on Small Arms.

friendly in that it can be used by an ordinary customs officer or law enforcement official and not just an expert.

(4) Not so broad as to include firearms which are legitimately possessed by civilians.

(5) Not so narrow that it includes those firearms which the international community has been concerned about, such as AK-47s.

Particular emphasis should be placed on "objectivity." This is a characteristic that either exists or does not exist. This is opposed to a subjective characteristic. Whether or not a firearm is capable of fully automatic fire is an objective characteristic. It is an absolute; whether a firearm has a "military-style" appearance is subjective.

Mr. Herbert Woodend of the UK MOD Pattern Room noted that a "full automatic" definition might hit some collectors.[9]

Mr. Jas van Driel of The Netherlands commented that a "full automatic" definition might be the most practical.

Ms. Ezell said that most of the problems in the realm of small arms are caused by excess stock from Central Europe and state action.

Comments from Participants and NGOs

The Rt. Honourable Count Albi of the Eminent Persons Group delivered a statement. He congratulated the industry on its engagement with the issue and emphasized the need for a successful Conference. The wish was to see a goal oriented Plan of Action which holds states accountable for their actions, with special attention being paid to violations of international humanitarian law. He said that it is possible for there to be a differentiation between fully automatic firearms and sporting weapons.

Conclusion: A Definition for Firearms Which Should be the Subject of the UN Conference on Small Arms

There are numerous elements that must be taken into consideration when drafting a definition for firearms that should be the subject of the UN Conference on Small Arms and beyond. Many of these have been discussed in prior sections. They can be summarized as follows:

? Current definitions in the 1997 and 1999 small arms reports are inadequate.

? "Military" and "civilian" firearms are extremely hard to differentiate because of common design characteristics, unless one uses the firearm's capacity for fully automatic fire.

[9] It should be mentioned that in several jurisdictions collectors possess these firearms under highly regulated situations.

? From a historical perspective, the capacity for fully automatic fire is the most appropriate defining characteristic.

? Any definition should meet certain other criteria in that it should be:

(1) Simple.
(2) Time neutral, i.e., covering firearms already produced and which will be produced in the future.
(3) Objective, so that nature of the firearm can be determined from the physical or mechanical characteristics of the firearm itself. It should also be user friendly in that it can be used by an ordinary customs officer or law enforcement official and not just an expert.
(4) Not so broad as to include firearms which are legitimately possessed by civilians.
(5) Not so narrow that it includes those firearms which the international community has been concerned about, such as AK-47s.

It is therefore proposed that the definition be as follows:

"Lethal weapons of war which are capable of full automatic fire."

"Capable of full automatic fire" is selected as the defining operational characteristic because it the only characteristic that is technically and historically valid and meets all five of the above criteria. "Capable" means the firearm is actually configured for full automatic fire or full automatic fire may be selected as a firing mode. "Full automatic" fire means that more than one round is fired with a single pull of the trigger.

There are those who will disagree with this definition. Many will want a much broader definition in order to include within UN efforts numerous civilian firearms. Given the enormous number of civilian firearms and political implications of such an endeavor this is inadvisable.

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Annex A

Defining "Small Arms"

as they Pertain to "Firearms" for the 2001 UN Conference on Small Arms

Imperial War Museum, London
April 27, 2001

Welcoming Speech and Opening Remarks

C. Edward Rowe, Chairman,
WSFA Manufacturers Advisory Group

Good morning, and welcome to this Workshop on "Defining Small Arms as they Pertain to Firearms for the 2001 UN Conference on Small Arms." My name is Ted Rowe and I am the Chairman of the World Forum on the Future of Sport Shooting Activities' Manufacturers Advisory Group, or MAG, which is the body holding this workshop today.

The World Forum is an international association of approximately thirty major hunting, sport shooting and commercial firearms groups. Dr. Carlo Peroni, who is here today, is the President of the World Forum. The MAG itself is a sub-group made up of firearms manufacturers and manufacturers' associations. My company is Sturm-Ruger. We also have several other company representatives here today.

I think it only right to start these proceedings by extending very heartfelt thanks to the Imperial War Museum for acting as our host today. One could not ask for a more impressive or appropriate surroundings for this Workshop.

Walking under those 15-inch naval guns a few moments ago I couldn't help but reflect that weapons such as those were once the subject of international conferences in the past. This brings me to the first of several points I would like to make about this Workshop.

I am not a historian, but when conferences were held on naval armaments there was probably little, if any, controversy about whether guns such as the ones displayed in front should be the subject of the conferences—this is not the case now when it comes to what is to be included in the definition of small arms and light weapons at the upcoming United Nations Conference on Small Arms. Civilians did not own 15-inch naval guns, but they do own hundreds of millions of firearms, which could be the subject of the July Conference.

This is why we are here today and thus the title of the Workshop "Defining Small Arms as they Pertain to Firearms..." We are going to attempt to narrow the definition of small arms, in relation to firearms, so that it only covers the appropriate category, for the conference, sometimes called "weapons of war." Formulating such a definition is a little bit like the old fable about putting the bell around the cat's neck; all the mice agree that it

needs to be done, but none of them want to do it. Almost everyone agrees that we need such a definition, but no one has yet to put the bell around that cat's neck.

Let us not underestimate what a hard task it is. It is not as simple as it might seem. One can very easily get bogged down in the political and technical aspects. It is going take a substantial amount of good will, effort and patience, on all of our parts, to do this.

Let me make another point. We are going to try to operate on a consensus basis, but the eventual report will be a manufacturers' and firearm community's view of the question. Please do not feel that you from governments, or other NGOs, are automatically buying into our conclusions. As the name of the MAG implies, we are only here to advise.

When this Workshop is over I hope we will have accomplished three things.

First, I hope we will have produced a report which is both informative and technically sound—a concise document that can be used by delegates to this summer's Conference as they consider the relevant issues.

Secondly, it is my wish that we will have produced some useful language for the eventual definition of small arms *vis-à-vis* firearms.

Lastly, I hope that those attendees who are not familiar with small arms and firearms will be a bit more so after today—that we will have given you some useful basic knowledge about the subject.

Although I have mentioned how hard this task is going to be, I have not mentioned politics *per se*. This is a political issue and we should be aware of that. But that does not mean that we cannot accomplish something here today. With your help we can make a significant contribution to the Conference.

With that, let's start today's proceedings.

Annex B

Workshop Attendees
Imperial war Museum
April, 27 3001

ALBI	**Count**	The Eminent Persons Group, Executive Director, US
ALEXANDER	**Richard**	National Rifle Association Manager, External Affairs, US
BEAULIEU	**Yves**	Government of Canada Policy Officer, Canada
BERKOL	**Ilhan**	GRIP Groupe de Recherche et d'Information sur la Paix et la Securite, Belgium
CANNATA	**Daniel**	Office of the Secretary of Defence International Negotiations; Regional Affairs, US
CHAMBERS	**James**	Sporting Arms and Ammunition Manufacturs Institute, Executive Director, US
DE JENLIS	**Boousquillon**	Contrôle Générale des Armées Contrôleur Générale des Armées, France
EZELL	**Virginia**	Institute for Research on Small Arms President, US
GAIER	**Claude**	The International Committee of Museums of Arms and Military History, Chairman, Belgium
GIANNESINI		Contrôle Générale des Armées Contrôleur Générale des Armées, France
GRENWOOD	**Colin**	Shooting Sports Trust, UK
FISHER	**Nadia**	Ministry of Defence Global Arms Control and Disarmament, Switzerland
GENCO	**Vito**	Executive Secretary WFSA, Italy
HEIDEBROEK	**Henry**	IEACS, France

JOHNSON	**Patrick W.**	BSSC British Shooting Sports Council – Secretary, UK
KENDRICK	**Steven**	Deactivated Gun Collectors' Association Secretary, UK
KOSTER	**Rudy H. G.**	FESAC - President Fed. of Eur. Soc. of Arms Collectors, The Netherlands
MASON	**Thomas**	Executive Secretary WFSA, US
MENTZ	**John W.**	Office of the Secretary of Defence Conventional Treaty Manager, US
O'CALLAGHAN	**Kevin**	Forensic Services Lab, UK
OGUNBANWO	**Sola**	Eminent Persons Group, Nigeria
PENN	**David**	The Imperial War Museum, UK
PEARTREE	**Edward**	Department of State Foreign Affairs Officer Small Arms Expert, US
PERONI	**Carlo**	WFSA - ANPAM President, Italy
PHILLIPS	**Derek**	Office of Legislative Affairs, UK
PUURTINEN	**Esa**	Ministry of Interior Inspector, Finland
ROWE	**Edward**	Sturm, Ruger & Co., Inc., US
TANNENWALD	**Nina**	Brown University Assistant Professor, US
TORCOLI	**Antonello**	Beretta Holding Consultant, Italy
VAN DRIEL	**Jas**	FESAC/FARE Consultant, The Netherlands

WOODEND	**Herbert J.**	MOD Pattern Room, UK
WESTON	**Sir Michael**	Foreign & Commonwealth Office, UK