

tigny in many important points of detail. It has ten separate barrels, which revolve; the cartridges being fed into a hopper above the breech, and falling by gravitation into their places, one by one, opposite to the empty barrels. The fire is thus continuous instead of intermittent. There are three sizes of this weapon, of which two at present are officially under trial; the larger has barrels of 1-inch calibre, and fires 3lb. shot with 525-grain charges of powder; the smaller Gatling has barrels of .42-inch calibre, and fires 380-grain bullets, with 80 grains of powder. The Gatling was first tried on Tuesday, last week, in the presence of a large number of spectators. With the larger specimen, 270 rounds were got off in 1 minute 45 seconds; with the smaller specimen something went wrong with the mechanism, and the practice could not be continued. The experience which we have of the Gatling is thus far too limited to enable us to express an opinion as to its efficiency considered merely as a piece of warlike machinery; nor is it possible at present to pronounce on its merits as compared with those of the Montigny. Indeed, it is desirable to consider the question as far as possible without reference to the performances of particular specimens. There is no doubt that if it be decided to introduce mitrailleurs, it will be practicable either to remedy the defects of the existing weapons or to design new ones. The probable position of the mitrailleur in war is really independent of considerations of constructive detail; and the experiments have now gone far enough to enable us to name at least some places which this class of instrument can, and some which it cannot, fill.

It seems to us quite clear, for example, that the mitrailleur cannot take the place of field artillery. To say nothing of the fact that the field guns have thus far generally beaten it more or less decidedly in actual effect even at short known ranges, there is the important consideration that the field-guns are effective also at ranges to which the bullets of the mitrailleur could not even reach. Those who have compared the mitrailleur with field artillery have apparently been ignorant of the effects capable of being produced by a well directed shrapnel fire. Shrapnel fire, indeed, is not really understood in any country except England; and until lately very few English artillerymen were aware what a formidable projectile the rifled shrapnel shell really is. The case-shot of the service have also been recently made more effective. The result is that the field-guns, especially the capital little 9-pounder bronze muzzle-loading Indian gun, have exhibited a power which the supporters or the mitrailleur had not anticipated. Guns, too, possess other advantages. The moral effect of a bursting shell is greater than can be produced by any mitrailleur fire, however formidable. The fact that a gun can fire a great variety of projectiles—shot, shell, shrapnel, segment, and case—and that is available at all ranges, gives it a position and importance which the mitrailleur can never hope to attain. Further, when the range is unknown, the mitrailleur fire is often entirely thrown away. Thus, on Tuesday last, the Gatling in 270 rounds only hit a large cavalry column sixteen times, and the Montigny in 367 rounds only hit the same column three times. The supporters of these weapons would therefore do wisely if they were once to withdraw from their pretensions to take the place of field artillery.

Nor can the mitrailleur ever effectively take the place of infantry in the field. It

can neither skirmish nor charge; it is difficult to see how it could be usefully employed for the attack of an entrenched position, or generally as an offensive weapon at all; the men who serve it are also debarred from taking the offensive. However light it may be made, a wheeled carriage is always necessarily more hampered in its movements than an infantry soldier; if disabled the effect is tantamount to the placing *hors de combat* of as many infantry soldiers as the machine may be supposed to represent; its effects are too uniform, unvarying a character—there is, so to express it, too little intelligence and discrimination in its volleys, to enable it ever usefully to replace the infantry soldier in field warfare.

But short of this—short of superseding artillery and infantry—it is impossible not to recognize in a good mitrailleur a useful auxiliary weapon. The lightness of the machine and of the ammunition required to produce a particular effect will enable it to compare favorably with field guns under certain circumstances. Theory and practice alike point to the necessity of keeping your artillery as much as possible outside the range of infantry fire. Within those ranges the mitrailleur, requiring as it does fewer men and horses, and being able to take up and withdraw from a position more promptly than a gun, may often be usefully employed to save the artillery; while in all these positions where it is necessary to multiply in infantry fire over a small front, the mitrailleur can hardly fail to produce good effects. Such positions are numerous enough, though they are to be found more often on the side of the defence than on that of the attack. Among the positions of this class we may mention the defence of the unflanked spur of a hill, the defence of a narrow gorge, of a street, roadway, or *tête de pont*, or for the flanks of short ditches, to sweep breaches, etc. It is a very distinct and important advantage of the mitrailleur that it has no recoil. This in a fixed position, or where the weapon is under cover, is a point in its favor which everyone must recognize. In such positions as these the mitrailleur, skillfully handled, ought to be able to accomplish nearly all that either field guns or infantry could do, at a less cost of *matériel*, and a less exposure of horses and men; and for use in such positions it may be fitly introduced.

There are other uses to which these machines may also be probably applied; such as to accompany cavalry upon occasion, when it is necessary promptly to bring a hot fire to bear for a short time upon some one point. It has often been suggested of late years that the cavalry soldier ought to be more like the old dragoon—a mounted infantry soldier in fact. To the suggestion answer has generally been made, that if this were attempted the result would probably be a "Jack of all trades and master of none." It is not impossible that the mitrailleur may offer a solution of this difficulty, by enabling the cavalry to carry with them a means of swiftly establishing a rapid and effective infantry fire upon a certain point, without themselves abandoning their character as cavalry soldiers. If the mitrailleur is to be used in this way, it would be better, we think, to separate the limber from the carriage, attach a third wheel to the latter, and employ lasso harness.

The mitrailleur, it is hardly possible to doubt will also have certain naval uses. It may be advantageously employed for the tops of men-of-war; it would be effective in repelling boat attacks; and some of the instruments might perhaps be advantageously supplied for use on board ships' boats.

In short, the rôle which we would assign to the mitrailleur, although it may fall far short of the hopes and anticipations of its supporters, is not an inconsiderable one. The instrument will not bring about a revolution in tactics; it will accomplish no real change in the art of war; it is not, in the broad sense of the word, a new arm or a new power; but it may often save and assist both our artillery and our infantry, and may serve so to intensify the fire on critical points as to earn for itself a reputation which it would certainly not acquire in general field fighting.

THE MILITARY AND NAVAL STRENGTH OF TURKEY.

The military force of Turkey is divided into—1st. The regular army, called Nizam; 2nd, the reserve or Redif; the contingents of auxiliaries; and 4th, the irregular troops. The regular native army consists of six corps under command of the Field Marshal, with their headquarters at Scutari, Constantinople, Monastir, Karbrout, Damascus and Bagdad. Each corps consists of two divisions, commanded by a General of Division. The corps comprise eleven regiments, namely: six regiments of foot four of horse, and one regiment of artillery.

The Reserve, or Redif, forms a second army, with the same organization as that of the Nizam, and consisting of the same number of regiments of the various arms. These regiments are divided into Battalions, squadrons and companies, and have their standing staff of officers and corporals on active service receiving full pay. The Redif soldiers meet every year, for four weeks, at the headquarters of their respective corps, and take part in the field manoeuvres. The auxiliaries consist of the contingents of the tributary provinces.

In the last war with Russia the number of auxiliaries amounted to 75,000 men, namely—30,000 from Bosnia and the Herzegovina, 20,000 from Upper Albania and 25,000 from Egypt.

The total of the military forces of Turkey are officially estimated as follows:

	Regiments.	War footing.	Peace footing.
Infantry.....	36	117,360	100,300
Cavalry.....	24	22,416	17,239
Field Artillery.....	6	7,800	7,800
Artillery in fortresses.	4	5,200	5,200
Engineers.....	2	1,600	1,600
Detached corps.....	10	16,000	16,000
Total.....	80	170,376	148,650
Reserve.....			48,650
Auxiliaries.....			75,000
Irregulars.....			87,000

Total military strength..... 459,360

The 87,000 irregular troops are calculated to consist of the following:

Kavas or gendarmes on foot.....	30,000
Tartars.....	5,000
Hungarian and Polish Volunteers....	2,000
Moslem Volunteers.....	50,000

Total of irregulars..... 87,000

The total strength of the Turkish army in the last war with Russia was 216,893, of whom about half were of the Reserve.

THE TURKISH FLEET.

The fleet of war of Turkey was composed, at the commencement of this year, of 163 vessels, carrying a total of 2283 guns and manned by 30,000 sailors and 4000 marine troops. The following is the classification of the fleet: