

## THE EMPLOYMENT OF MITRAILLEURS DURING THE RECENT WAR, AND THEIR USE IN FUTURE WARS.

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In bringing before your notice the subject of the employment of the Gatling gun in war, I wish it to be understood that I have little or nothing to say that is original, and have no dogmatic opinions to offer, founded either on carefully constructed theories or on extended practice. I have merely endeavored to collate from various documents and especially from the reports of the War Office Committee, of which Colonel Wray is President, and of which I have the honor to be one of its members, the opinions for and against the employment of this description of weapon, and the reasons deduced from the examination of oral and written evidences for its adoption into, or rejection from the category of military arms.

The mechanical construction of the gun has been already carefully described in a paper contributed to this Institution by Mr. Gatling (see vol. xiv., p. 504, *et seq.*), and if not readily understood, will readily be comprehended on an inspection of the drawings kindly placed at my disposal by the Secretary for War; and on examination of the gun itself, also lent to the Institution for the purpose of illustrating this paper.

The subject of the employment of mitrailleurs in the wars of the future has also been very ably dealt with by Major Fosbery, V. C., in a paper communicated by him to this Institution (see vol. xiii. p. 539, *et seq.*); and the only excuse I can offer for again bringing it before the notice of the members of this Institution, lies in the fresh light that has been thrown on the merits or demerits of the mitrailleurs during the recent campaigns between France and Germany, where they were for the first time extensively used, and from the fact, regretted by Major Fosbery, that his lecture was not followed by a discussion, which would probably have elicited some valuable opinions. On these grounds I have ventured to re-open the subject, and with that view purpose to lay before you a summary of the several arguments for and against the adoption into the service of the machine gun, embracing generally under that name the Gatling, preferred by Colonel Wray's Committee, and the French mitrailleurs.

The idea of machine guns is not new; weapons somewhat resembling in principle the present Gatling Battery, were manufactured in the early part of the sixteenth century. They were known as *orgues* or *orgels*, and the term is thus defined by M. Remi in his "Memoires de l'Artillerie." "An *orgue* is a machine composed of several musket barrels fastened together, and used for the defence of breaches and entrenchments on account of the possibility of firing from them many shots at once." Of these *orgues* specimens still exist in Germany. They are specially mentioned by Weigel in his description of the arsenal at Nuremberg, in 1698, and are called *Todtenorgels*, on account of the deadly power of the thirty three barrels of which each were composed (*l*). Probably, as was the case with revolvers at that early period, defects in manufacturing skill pre-

vented their perfection: whilst, although some of them appear to have been loaded at the breach, no attempt was made to secure continuity of fire, such as is possessed by the modern Gatling Gun. In another and most important respect, the old machine guns were defective. The method of inserting the charge in rigid cartridge cases were unknown, and, as Major Fosbery points out, the serviceability of this description of weapon has mainly resulted from the adoption of the metal cartridge case of comparatively recent invention.

It is not, however, with the history of mitrailleurs that I propose to deal; allusion to it was necessary, first, to show that these arms were known to our forefathers, and were by them recognized for serviceable military purposes; and, secondly, to meet the objection which might be raised against them that they have never played a prominent part in former wars, by pointing out that although the principle might have been recognized, its application was defective.

The real point at issue is, whether the best form of the machine gun, which, assuming the Report of Colonel Wray's Committee to be correct, is that known as the Gatling, is a weapon which ought to find its place in modern warfare. That it possesses fearfully destructive powers, no one who ever seen it fired, can doubt; but whether it should, in accordance with its greatest admirers, take the place of the lighter artillery, whether it should supplement that arm, as some who are more moderate would recommend, or whether it should be cast aside as a curious, but comparatively unserviceable weapon, as others would urge, are the questions that I would desire to present to you this evening.

In order to form just conclusions on this important subject, a knowledge of the grounds on which the admirers and the opponents of the mitrailleurs (to use the term as embracing the principle) found their opinions, is essential; and, therefore, I propose to endeavor, first, to place before you in a few words the alleged reasons for, and against their extensive introduction into the Services, and then try to prove how far these reasons have been justified by the experiences of the late war.

To commence with the opinions of those most in favor of the arm, Major Fosbery in his paper (before alluded to) when advocating the adoption into our Services of the Montigny mitrailleurs, sums up their advantages and disadvantages in comparison with field artillery. He commences his argument by laying down the broad principle that in war as in peace, machinery should, as far as practicable, take the place of human labour. "If," he says, "it is possible, by means of a machine, not too liable to derangement, and not too complicated for the comprehension of the soldier, to make three or four men do the work of 120, the advantages must be self evident." Granting this hypothesis, it remains to be shown whether the result claimed has not already been attained by artillery, and whether, if guns are still further to replace men, an increase in field artillery would not fulfil the desired object.

Major Fosbery considers that room exists for the employment of an intermediate weapon between infantry and artillery, and infers that at the shorter ranges the mitrailleurs will be a more certain, and, consequently, more effective arm than the field guns. He instances the experiments made before the *Segment and Shrapnel Shell Committee* in 1869, where, to judge from the report, the results of artillery fire against infantry—by

feebly entrenched—was remarkably slight, and where the numerous faulty rounds, consequent generally on defective fuzes, showed that there are in artillery fire important elements of error, irrespective of inaccuracies. Greater rapidity of fire is claimed for the mitrailleuse as compared with the field gun, measuring that rapidity by the number of shots compared with the number of pieces of segment, or bullets in shrapnel; and if at the longer ranges, say at 1,400 or 2,000 yards, the advantage lies with the field gun; at ranges under 1,200 yards, the conditions are, by Major Fosbery, believed to be reversed. The mitrailleuse if exposed to artillery fire at the longer distance, would, consequently, probably be knocked over, whilst if approached by that arm within its effective range, it would inflict serious injury on the horses and gun detachments.

Mr. Gatling, in the paper before referred to, presses the utility of his invention to a point beyond Major Fosbery. He advocates powerful long range Gatlings to compete with field guns, and thus sums up their advantages:—

1. Equal range, and greater accuracy and precision than field guns.
2. Rapidity and continuity of fire, viz. 200 shots per minute, each bullet weighing a half pound.
3. No re-sighting or no re-laying between each discharge there being little or no recoil.
4. Lightness.
5. Great power of ricochet fire.
6. Economy in money, in horses, and in men.

In his pamphlet, Mr. Gatling still further urges the claims of his gun in comparison with infantry. He considers it as the means of revolutionizing in a great degree the present modes of warfare. A few men furnished with those death dealing engines will, according to his opinion, be able to defeat thousands armed with ordinary weapons. Consequently, their use will, in a great degree, supersede the necessity for large armies.

He considers the accuracy of the Gatling fire will, shot for shot, be much greater than that of the infantry, on account of its greater steadiness, and its want of nerves, whilst the exposure of life, owing to the small number of men necessary for the service of the gun, will be comparatively very slight.

Having thus briefly alluded to the opinions ably set forth by Mr. Fosbery and Mr. Gatling, I propose to detail the reasons, founded on experiment, which induced Colonel Wray's committee to reject for land Service the larger Gatling gun, and to recognize the smaller arm, throwing a bullet of similar size to that of the new army rifle. In their report of the 28th October, 1870, the Committee point out the difference of opinion which existed as to the value of these arms in Prussia and in France, the former being adverse to them on the ground that the narrow sphere within which their effect was restricted did not compensate for the *personnel* and *material* required in serving them, whilst the latter taking a different view, adopted the mitrailleurs in comparatively large numbers. The Committee then justify their preference for the Gatling over the Montigny, and having selected the former, state what they consider to be their uses in warfare. As this part of the report summarises generally the opinion of those who hold a moderate view on this disputed question, I think it well to read it *in extenso*:—

(To be continued.)

(l) Since writing this paper, the author's attention has been called by Captain H. Brackenbury, R. A., to the employment of weapons somewhat resembling in principle the mitrailleuse as early as the year 1382. They were termed *ribandeause* or *ribaldequins*, and were used by the men of Ghent in their attack on Bruges.