

percussion—fitted to Shrapnel shell would result in causing most havoc against troops in the open.

On Wednesday, in site of the elements, Major Nicholson, with Major Noble and some other members of the committee, left the camp for the hill country about noon for the purpose of prospecting for new ranges, but before very long they were all obliged to return. The practice on Wednesday was a repetition of that of Monday, at a longer range, namely, 2000 yards. The formation was an attacking line of one company rank entire; at 250 paces a supporting line one company with open files in line; and at 350 paces from supports the main line two companies in company quarter column at double interval. The order of the day was for each battery to fire eighteen rounds of common shell (powder) percussion fuse; eighteen rounds Abel's water-shell, percussion fuse; eighteen rounds Boxer-Shrapnel shell, time fuse; and eighteen rounds Boxer-Shrapnel shell, percussion fuse. And here I should mention that although not specifically so stated in my previous letter, Boxer-Shrapnel shells only have been used in these experiments. The C Battery 25th Brigade, R.A., with four 16-pounder guns, were the first into action, which they did at about 10.30 a.m. The following is a tabulated statement of the results of their seventy-two rounds against the dummies at 2000 yard range:

No. of Rds.	Projectile.	Row No.1.	Hits. Row No.2.	Row No.3.	Total Hits
15	Common shell, powder, percussion fuse	9	0	0	9
15	Abel's water shell, percussion fuse	8	0	0	8
15	Boxer-Shrapnel shell, time fuse	37	0	0	37
15	Iditto, percussion fuse	11	0	0	11
72					65

These hits represent men only, and not the number of wounds caused by bullets or splinters. Some of the dummies get riddled, and this not from the same round, the damage being done by several out of the eighteen rounds. It therefore follows that if the gaps in the ranks were filled up as soon as made, as they would be in actual warfare, two, three, or even four men more would probably be sacrificed, and the total number of hits considerably augmented. After the C Battery had moved off, the E Battery E.B. Brigade R.A. came on to the ground with their six 16-pounder guns, and soon opened fire. The results of their practice with seventy-two rounds at 2000 yards is here tabulated:

No. of Rds.	Projectile.	Row No.1.	Hits. Row No.2.	Row No.3.	Total Hits
15	Common shell, powder, percussion fuse	4	0	0	4
15	Abel's water shell, percussion fuse	11	2	0	13
15	Boxer-Shrapnel shell, time fuse	33	0	0	33
15	Iditto, percussion fuse	18	3	0	21
72					71

The practice was excellent on the part of the batteries, and considering the deceptive appearance of the ground from the firing point the shells were all well planted. It will be remembered that the dummies are on the crest of a hill which slopes down towards the firing point, but there is a ledge of table land running in front of the targets. Part of this land, too, is bog, into which the shells often plunge, the burst the having little if any effect upon the targets. The range party pronounced the practice to be decidedly good. The operations were concluded about 3 p.m. Major Nicholson, with his range-finding party, has been out to-day laying the ranges for future practice in

a valley somewhat to the eastward of that in which the present practice is being carried out. Thursday was an off-day, and was occupied in placing the dummies for Friday's practice, which will consist in firing at compact masses of troops.

In the general results of the practice on Thursday and Friday last as per returns posted by the committee, are as follows:—

EXPERIMENTS, AUGUST 5					
Gun.	Through.	Bullets or Splinters.	Direct Struck.	Hits or Shell.	Total Hits
16-pdr	12	1	6	3	22
9-pdr	21	13	10	3	50
16-pdr	7	3	4	3	19
9-pdr	11	20	9	3	43
16-pdr	68	31	5	—	107
9-pdr	—	—	—	5	5
EXPERIMENTS, AUGUST 6.					
16-pdr	61	17	13	3	121
9-pdr	—	—	—	1	1

The experiments on the 20th elicits the following notice from our contemporary:

The practice of Friday set at rest the idea that field artillery was ineffective at ranges of 2500 and 3000 yards. The programme was framed with the view of ascertaining the effect of various projectiles against the most recent formations in which infantry will attack. The firing was to be deliberate, and at the known ranges of 3000 yards and 2500 yards. The batteries were each to take out to the firing points 36 rounds common shell, powder, percussion fuse; 36 rounds common shell, water, percussion fuse; 36 rounds Boxer-Shrapnel shell, time fuse; 36 rounds Boxer-Shrapnel shell, percussion fuse.

The targets consisted of wooden dummies arranged to represent a main supporting line consisting of a half-battalion (400) men in company quarter column at double interval. They had spaces of two paces between the ranks, six paces between companies, and double interval between files the formation presenting a front of 80ft. and a depth of 26ft. The C Battery, 25th Brigade, R.A., came first into action about 10.30 a.m., the order being that the ammunition should be divided between the two ranges—thirty is, 18 rounds of each class of projectile were to be fired at each range. By some mistake, however, the battery got off 24 rounds of common shell before the error could be corrected. This somewhat astonished the range party, who, with General Wilmot had taken up their quarters a short distance from the summit of Yes Tor, and who, after the 18th round, dropped their banner-rolls, and were about to move to the targets to inspect them. The results of this practice is summarised in the following tabulated statement:

		No. of men hit per Comp.				Total Hits.
No. of Rds.	Projectile.	No.1.	No.2.	No.3.	No.4.	
21	Common powder shell, percussion	10	13	9	11	43
15	Abel's water shell, percussion	7	17	15	43	82
15	Boxer-Shrapnel shell, time	32	22	33	22	109
15	Boxer-Shrapnel shell, percussion	20	23	26	15	84
78						321

After the C Battery had completed the series, the E Battery E.B. Brigade Royal Horse Artillery came into action, and the work they did was as follows:

Range, 3000 yards; E Battery, six 9-pounder guns:

		No. of men hit per Comp.				Total Hits
No. of Rds.	Projectiles.	No.1.	No.2.	No.3.	No.4.	
15	Common powder shell percussion	3	6	2	4	15
15	Abel's water shell, percussion	8	9	18	12	47
15	Boxer-Shrapnel shell, time	18	23	24	7	72
15	Boxer-Shrapnel shell, percussion	4	9	7	2	22
72						156

In the 16 pounder practice there was a premature burst with a water shell, and although the Boxer-Shrapnel percussion shells fell rather short, they gave very good results. In the 9-pounder practice with common percussion shells several went over and several fell short, there being only one shell really well planted in the square. On the other hand, with the watershell, six splendid hits were made; while with the time fuse the practice was decidedly good. In comparing the results of the two batteries to day, it should not be forgotten that the C Battery 25th Brigade had an advantage of six extra rounds with the common percussion shell, nor should the fact ever be lost sight of that a larger projectile means an increased number of both bullets and splinters.

The experiments were continued on Monday. The new ground was chosen, and the line of fire was up the valley, from the bottom of Belstone Tor. The target consisted of a row of dummy skirmishers a hundred strong, with a pace between each file. The supports were two hundred yards in the rear, with two paces between the files, and the reserves three hundred yards in the rear of supports, drawn up in three companies, six paces between the companies, and two paces between the files. The practice was carried on by the Royal Horse Artillery with 9-pounders. The Battery was supplied with 144 rounds of ammunition, but owing to the depth of the column, and the rough nature of the ground, delay was caused in taking the results at each change of position, and consequently only twenty-four rounds of Shrapnel shell with percussion fuses, and seventy-two rounds of shell with gun cotton bursters were fired. The chief object of to-day's practice was to test the ability of a battery to judge the range with Nolan's range-finder, and to ascertain how many rounds could be fired in the least possible time, time being taken for pointing the guns with accuracy. The battery changed position eight times, the ranges extending from 1680 yards to 3200 yards. The practice as viewed from the battery seemed very good. Firing did not cease until nearly six p.m.

Further experiments on 20th August gave the following results as reported in our contemporary of 28th:

"These experiments were resumed yesterday week, the weather proving exceptionally fine. The heat was very great, and created a mirage which somewhat interfered with the shooting at the long ranges of 3500 and 4000 yards. The practice was made as against cavalry, the targets presenting a front 108ft long and 9ft high, and being arranged in four division or squadrons, consisting of two ranks each. They were placed on a continuation of the slope of Yes Tor, towards the south west, having to their rear a deep ravine, through which rise Sourton Tors. The C-25th Battery came into action about eleven o'clock with their six 16-pounder guns at 4000 yards range. The range having previously been found by Nolan's range-finder, a salvo of six guns was fired simultaneously, there being no necessity for wasting a shot in trying the range. Abel's water-shells were first used and the first discharge showed that the range had been correctly obtained. The succeeding twelve rounds of water-shell made their mark well upon the targets, the destruction being remarkable considering the range. After the twelve rounds of water shell had been fired, a salvo of Boxer-Shrapnel percussion shells was discharged. Of these, one shell penetrated the first rank of the first squadron; one the third; one fell 38yds. short,