New Light Thrown on Odessa's Bloody Scenes

Lower Element Started to Pillage, Burn, and Kill, and Soldiers Sternly Mowed Down Mob to Protect a Half Million Citizens.

The following extracts are from the private letters of an Englishwoman written to friends at the time of the troubles with the Potemkine mutineers at Odessa:

"Odessa was transformed. Instead of living in a peaceful, busy, commercial town, we seemed to be on a devil's playground. Bombs, riots, fire, and the expectations of bombardment from the mutinied crew of the Potemkine, combined to make the change. How we hated the great turretted ship, with her heavy guns trained night and day on the defenceless town—for defenceless we were during three long days. One thing alone was certain; the Jewish 'blind' had armed their people, and the bombs thrown on Cathedral square told us that the society were provided with more powerful weapons than firearms.

ANARCHISTS' OPPORTUNITY.

"In the afternoon the fire broke out. Every inch of the harbor seemed to be on fire. The glare from the burnt ships and buildings, the thick black smoke columns of the coal wharves, the blood red light on land and sea, made a picture I shall never forget. A storm of threats, a rattle of pistol shots, and a shower of stone greeted the firemen, and some of them fled back to their stations. And at the top of the military "spuck," or incline, a party of Anarchists were stationed on the roof of a wing of the Crimean Hotel, awaiting their opportunity when the rush of the populace should come.

"About midnight a roar of human tumult told us that the people were coming from the harbor. So fierce and vodka-maddened were they that the officers doubted their power to stem the rush of the yelling, smok-blackened mob. Huge, powerful grain carriers and dock hands were there, and slim agile Circassians; Jews mixed with Russian students; unsexed shrieking women were everywhere. And everywhere was the scum of our cosmopolitan town howling, firing, and surging towards the square.

SOLDIERS PROTECT PUBLIC.

"The soldiers' walked between two fires, the mob in front and the Anarchists in the rear. Stronger and more furious pressed the mob, while we who watched, blanched, thinking of the riot and destruction that threatened the city. The rioters gained ground, but the soldiers never wavered. Volley after volley rang out again and again, and yet again and then the arrival of machine guns settled the contest, for there was no hesitation in using them. The soldier's faces were stern set; the safety of some 500,000 fellow creatures and their own lives were at stake, and so the guns mowed furrows into the ranks of the rioters, decapitating here and amputating there, until the mob suddenly scattered in headlong flight. They left more work behind than our doctors could grapple with.

ORDINARY LIFE RESUMED.

"It was strange on Thursday morning to watch the town striving to resume its ordinary course. The icemen, milk-women, and bakers again began their rounds. The sunrise was beautiful that morning over the red-tinted clouds and sea, but what the sun illumined in the harbor few of us here care to remember. The Jewish bund and the Maxime Gorky's heroes had had their day, and I do not think the results could have been satisfactory even to them. Ruined buildings, burnt and sunken ships, quays that had been crowded with busy workers and were now turned into smoking ash-heaps were on every hand, and everywhere, too, lay the charred fragments of human beings who had been burnt beside the vodka casks, from which they had been too intoxicated to move when the flames swept up to them. It had been a holocaust indeed. No wonder the men whose duties took them to the inland harbor do not care to speak of that morning's work. Twenty-five wagons of dead bodies picked up at the Polish "spuck"; the military 'spuck' must have been more, not to mention the Nichola Boulevard, where the rush was the most desperate of all.

SHELL FROM REBEL SHIP.

"That Thursday was an interminable day. The entire town seemed on the watch for some surprise, and about 8 o'clock it came in the shape of a live shell from the Potemkine. There was a general rush to balconies, roofs, and any place where a view could be gained of the ship. People living on or near the 'spucks' began to prepare for flight.

" 'Mania,' said the mistress, entering the kitchen of a flat on the Polish street, 'leave everything at once; here is your passport.'

" 'I have not washed myself, Barina,' said the cook crossly, but true to her sex even in the hour of danger, 'and if we are to fly, I must put on clean linen and a good dress.'

COAXED SERVAMTS TO BED.

"Half an hour passed. Then another crash. By this time the entire household, with the exception of the cook, were in walking dress. Check books, passports, and money had been fashioned into a cunning little dress improver under the Barina's skirt, and small handbaskets packed with cognac, bread, and sausages. Then we waited again. The soldiers closed the street. They ordered us to close all windows on the Polish street. The master of the house retired to rest. Then we coaxed the servants to bed. Mania, the cook, remarking that at any rate her corpses would be buried clean.

"And, strange to say, most of us, worn out by the anxiety and watch of the previous nights, contrived to get some sleep.

"By Sunday the Potemkine was gone, and confidence was restored. It was wonderful how the people adapted themselves to the changed circumstances. The squares had been turned into encampments, and the Dvorniks and workmen and their wives sat about gossiping, joking, and laughing with the soldiers off duty. They gave quite a homelike look to the state of siege. In the evening came the call to prayers, and the sound of the strong voices of the men chanting the evening hymns added to the sense of security and order."

THE POWER OF ARTILLERY

LESSONS IN JAPAN'S VICTORIES ON LAND AND SEA.

War In Manchuria the First Conflict in Which Latest Guns Have Been Tested.

When the official history of the Russo-Japanese war comes to be compiled it will probably be found that the most interesting chapters will be those relating to the use and effect of the new artillery and the high explosives employed.

It is the first great conflict in which full scope was found for the products of modern mechanical and chemical science as applied to the art and practise of war, and no doubt the gun factories and chemical laboratories of all the great military and naval Powers have been hard at work since the first technical reports began to come in from the opposing armies profiting by the experience which the Russians and Japanese have been gaining at so great a cost.

The effects of field gun fire in past wars have been much less destructive to life in battle than is popularly supposed. The killed and wounded in the Franco-German war, for instance, from artillery fire formed only some 15 per cent. of the total casualties.

This was owing in great part of mechanical deficiencies in the weapons compared with modern guns, to the uncertainty of the fuses used in the shells and to the want of accurate rangefinders.

THE BLACK POWDER

also then in use had limitations both as a propelling force and as an explosive in shells, though it was less liable under ordinary conditions to the rapid decomposition to which the modern compounds are subject.

To a certain extent it was the limitations in the power of the old charcoal powder that retarded the effective improvement in artillery eventually called for by the discoveries of chemical research. So soon as chemistry brought into existence the new explosives the days of the old cast iron gun were numbered, and the arts of the metallurgist and mechanic were brought into rivalry with that of the chemist, each trying to produce a weapon or an explosive which would be equal to the highest requirements in war.

Improvements in the infantry rifle and field guns followed each other so rapidly that an army was hardly provided with a new weapon before it became obsolete and another took its place, and soon the smoke-giving higher explosive was superseded by the smokeless of still greater force. Then came the distinction between the smokeless explosive, intended to propel the bullet or shell or solid bolt from the gun, and that intended to be used as a bursting charge for the projectile of the most modern kind.

The brown cocoa powder and other forms of the same material that followed the black powder have given place to higher compounds, of which nitroglycerin is the basis, and which are known as cordite in the British service and by other names in other countries, where, also, the form in which the material is manufactured varies. But it was a long time before a compound was found which was stable and did not use up the life of the weapon in which it was used too rapidly, owing to the erosion caused by the gases evolved from the acids employed in the manufacture

THE LATEST EXPERIMENTS

have produced a more satisfactory material, but the research for a better continues.

In the matter of explosives for bursting charges for shells and mines of all kinds compounds of picric and guncotton are the most generally employed. The difficulty with a picric compound has been to obtain the best effect.

In some cases, as in lyddite, it is too sensitive and is dangerous to the gun throwing a shell with which it is charged, besides exploding against armor without penetration. Recent experiments are said to have produced the best results, explosion taking place only after the shell penetrated the plate representing the armor of a battleship.

The French melinite is said to answer all required purposes, but the secrecy which has been kept regarding its manufacture and use, so far as the general public is concerned, leaves it uncertain. Other countries have their form of the picric compounds with which their war departments profess themselves satisfied, the Austrian especially believing it has one of peculiar efficacy.

But it would appear from the experience gained during the present war that the shimose explosive, so called after the celebrated Japanese chemist who invented it, possesses the highest qualities of any known as regards stability, force and submission to control. Evidence of these qualities is to be found in the results wherever it has been used, from the first action at Chemulpo, when the Variag was battered almost out of shape as regarded her upper works, through the siege of Port Arthur, down to the last and most disastrous defeat of the Russians in the Sea of Japan.

Not only was the Japanese fire remarkable for its accuracy, but it was still more so for its terrible effect, which, moreover, was not entirely mechanical. The stifling and poisonous character of the gases evolved on the bursting of shimose charged shells on board the Russian ships simply

PARALYZED THE CREWS,

choking them and rendering them incapable of action. Those in the immediate vicinity of the explosion who were not killed by pieces of shell were destroyed by the force of the detonation, while those further away suffered from concussion of the brain.

During the South African war the Boers had much the same experience with the British lyddite shells, besides having their skin where exposed turn to a deep yellow by the gas evolved. One of the latest forms of a picric compound is known as maximite, of which great things are said, but the shimose is the only one of them all that has proved its efficacy in war.

The damage done to buildings by shells charged with such high explosives as the shimose compound is naturally far greater than that by the old time charcoal powder, except when the shell containing it fails to explode on striking. But the effect on ordinary earthworks and regularly constructed batteries is prodigious.

They are simply reduced to a shapeless heap, untenable by the defenders, who must either surrender or abandon their positions, as the Russians were obliged to at Port Arthur. The bombardments of the works defending Sebastopol were child's play compared with the fire from the Japanese batteries after Gen. Nogi had got down to his work at Port Arthur, but the forces were more equal, hence the duration of the siege, eleven months.

At Port Arthur the Russians were deficient in most of the scientific appliances for their guns with which the Japanese were amply supplied, and lacked the explosive that made the Japanese shells a terror to the garrison and fleet. The consequence was that, with all chance of relief cut off, the surrender was only a matter of time and expediency.

As regards guns; it is a question whether we have not about reached the limit of power, chiefly because there is no known metal or process of hardening those employed in making cannon that can resist the wear and tear of use, which also becomes greater with the increased caliber of the piece and

WEIGHT OF THE PROJECTILE.

Between the modern gun and that of this year in the last century there is as great a difference as between the explosives used in them.

The best of the old guns that were cast with a smooth core to form the bore were never more than approximately accurate in their fire, for the reason that the axis of the bore had almost invariably anything from one or two as much as five degrees variation in some guns from the axis of sighting and the line of elevation. In those days the best gunner was the one who had become familiar with the vagaries of his weapon at all ranges, and knew where to plant his shot in spite of them.

In the modern piece mechanical perfection and the use of mathematical and optical appliances for range finding and sighting have diminished the value of the human factor in some ways, while they demand a more cultivated intelligence in the manipulation of the gun.

From the cast iron, bronze or steel gun, with the bore either produced by a core or cut out by machinery, we passed on to the gun with a hardened steel tube, with jackets of wrought iron built up around it. A very short experience, that gained at the bombardment of Alexandria in 1882, demonstrated the vital imperfection of this type.

Although not subjected to any extraordinary test, such as extra rapid fire, these guns broke down in every way. The steel tubes of some of them split, while the jackets of others were displaced to such an extent that they were put out of action.

The demands for more rapid fire than was possible with the best mechanical appliances for the charging of the muzzle-loading gun led to the evolution of the breechloader and ultimately to the quick firing weapon of large caliber now in use in every navy and being rapidly adopted in land service. For field guns, the rapid fire system has been brought to great perfection, and this is also true of the smaller guns of position and of guns for sea service,

SUCH AS THE 6-INCH GUN.

As yet the number of shots that can be fired from the larger guns, such as the 12-inch, is restricted, but in the naval action the weight of metal charged with high explosives that can be thrown in a few minutes practically assures victory, where there is an equality of force, to the side which gets in the quickest and best directed fire at the start. The Russian fleet in the battle of Tsu Shima left a permanent memorial to the truth of this.

What the effect of the progressive changes in guns and explosives is going to have in the case of naval bombardments of coast defenses is a problem of the future. Hitherto the land batteries have generally had the best of it; but given a steady gun platform and fine clear weather, the chances seem turning in favor of the ship. On land conditions are equalized, for both sides can employ vertical as well as horizontal fire, the former as the Japanese showed at Port Arthur being effective in the highest degree when scientifically directed

The unfortunate thing in the present war from the professional point of view is that in a great many respects the conditions were unequal, and it is morally certain that whatever on the Japanese side there may have been circumstances or causes of success not known to the outside world they will naturally not be divulged, but will be guarded with the strictest secrecy, so that many of the problems of modern war still remain for solution.

Strategy and tactics even are being modified in application by the rapid changes that are taking place in the scientific and mechanical appliances used in battle, and if one looks ahead only a couple of decades the possibility that science may discover methods of destruction so terrible that war will kill war presents itself. It only needs that some new discovery in chemistry, or some means of utilizing electricity in the destruction of ships and large bodies of men be placed at the disposal of some government and war would be revolutionized.

The "vrel" of Bulwer's imaginations has not yet been found, but we may be on the threshold of its discovery: and then all the warships and guns of the world will become material for the scrap heap, for they will be of as little use against it as the spears and shields of the old Vikings in their cockle-boats would now be against the latest battleships put afloat.

THE BONE OF CONTENTION BUTTS IN.

The Dogs—"What has the bone got to say about what we do with it?"

BITS OF KNOWLEDGE.

Little Chunks of Interesting Information.

Every German fortress keeps on an average 200 carrier pigeons.

Powdered codfish is sometimes used in Iceland to make bread, in place of flour.

A cork tree must be fifty years old before it produces bark af a commercial value.

Balloonists say that birds' flight is limited to 1,315 feet above the surface of the earth.

The Czar has a single estate covering over 100,000,000 acres—three times the size of England.

Tooth-brushes and tooth-powder are to be supplied to all the inmates of the Austrian prisons.

A system of electric cooking and dish-washing is to be installed in all the warships of the United States navy.

Mauna Loa, in the Sandwich Islands, 13,650 ft. high, is the highest mountain which rises directly from the sea.

Out of 77½ millions of acres of land in the United Kingdom, only 28 millions are under permanent pasture.

Since 1892 no newspapers have been printed on Sundays in Norway, and since 1895 no bread has been baked on that day.

London and Liverpool are both at the level of the sea. Glasgow is 30 ft. above it, Manchester 50 ft., and Birmingham 300 ft.

Siberia could contain all Europe except Russia, and there would still be room left for another country twice the size of Germany.

The largest cabbage farm in the world is near Chicago. It is 190 acres in extent, and yields nearly 1,250,000 cabbages each crop.

Birthday celebrations are unknown among female Moors. They consider it complimentary to be absolutely ignorant of their age.

The site of a little cigar shope at the corner of Wall Street, New York, has just been sold for $700,000. This works out at $26,000,000 an acre.

The baya bird of India has the curious habit of fastening fireflies to its nest with moist clay. On a dark night such a nest might be taken for an electric street lamp.

In Georgia the mountaineers catch trout with a sledge-hammer. Their practice is to thump a rock under which a trout seeks refuge with a hammer, the concussion rendering the fish senseless and an easy prey.

In many parts of the Australian Continent bee-farming has become a profitable and popular occupation. There are at present over 250,000 hives in Australia, producing from 10,000,000 lb. to 15,000,000 pound annually.

A French newspaper asserts that the trade in "artificial" mummies in Egypt amounts every year to more than $250,000. Most of the up-to-date "mummy factories" are located in Italy, but there are also a number of them in Germany and France.

Organ-grinders in Verviers, Belgium, are by law compelled to appear every morning before the police superintendent and play their instruments. The organs which chance to be out of tune must be set in order before a license to play on the streets will be granted.

AT LIAU-YANG.

War is a sorry business, but not ignoble while such stories as those recorded in "From Tokyo to Tiflis" can be told of men. One is of a young lieutenant, known throughout Japan as the hero of Motienling. In the advance on Liau-yang he was among the foremost. Charging with his men through a field of giant millet, he was struck by a splinter of an exploding shell, which tore away part of his lips, shattered teeth and wounded the tip of his tongue. He was ordered to retire, and behind a slight shelter the field surgeon did quick work. Despite his pain, the man was seen to smile, and attempted to mumble some words in his now blurred speech. The surgeon bent down to catch what he was striving to tell. The young man's smile deepened, and he made a motion with his head toward his hands and feet. "They are still there," he thickly murmured. "I can still fight for my country."