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Abbreviated Notes on MILITARY ENGINEERING.

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CONTENTS.

FAMOUS ENGINEERS OF THE ALLIED ARMIES.

JOFFRE.

By COLONEL B. R. WARD, R.E.

CONTEMPORARIES of a great man are rarely able to appreciate the true foundation of his claim to greatness. They are apt to be dazzled by the more obvious and brilliant aspects of his character and achievements, and fail to see his true position in the great current of human history.

Thus Voltaire in the eyes of his contemporaries was a brilliant wit and controversialist, Rousseau an eloquent writer on social subjects, Napoleon a supreme master of the art of war. Only the obvious characteristics of these three great men were clearly visible to their contemporaries.

Macaulay's magnificent appreciation of Voltaire was written more than fifty years after the death of the famous writer, and shows clearly that a political thinker, writing at so late a date as the middle of the 19th century, was unable even approximately to appraise the value of the work of his great predecessor.

"If thou wouldst view," writes Macaulay in that astonishing style of his, which here at least reaches the very high-water mark of rhetorical verse,

> "If thou wouldst view one more than man, and less,
> Made up of mean and great, of foul and fair,
> Look here, and weep and laugh and curse and bless,
> And spurn and worship, for thou seest Voltaire.
>
> "That flashing eye blasted the conqueror's spear,
> The monarch's sceptre and the Jesuit's beads,
> And every wrinkle in that haggard sneer
> Has been the grave of dynasties and creeds.
>
> "In very wantonnness of childish mirth
> He puffed bastilles and thrones and shrines away,
> Insulted Heaven and liberated earth.
> Was it for good or evil? Who shall say?"

It was not until long after the death of Napoleon—a man who in his youth had been saturated with the writings of Rousseau—that Sir William Napier, perhaps the greatest and certainly the most eloquent of military historians, could write of him as "the child and the champion of democracy."

Now at last—in the year 1916—it is as clear as the sun in heaven that the real work of Voltaire, of Rousseau and of Napoleon was to range France on the side of Liberty and Democracy, before the commencement of the new era inaugurated by the World struggle which commenced in August, 1914, against Tyranny and Autocracy. Now that the lists have been marked out and the battle engaged, it is clear to all eyes—although we are contemporaries of the great soldier whose career we are now considering—that the *rôle* that General Joffre was destined to play in the world's history was that of the champion of civilization, the Joshua destined to lead the European nations into the new era of liberty foreseen by Voltaire and Rousseau and ushered in by Napoleon as the champion of the Revolution.

Joseph-Jacques-Césaire Joffre was born at Rivesaltes, in the old province of Rousillon, on the 12th January, 1852. This province exchanged Spanish for French rule in 1659 as the result of the Treaty of the Pyrenees. This treaty was the crowning success of Mazarin, the great minister of Louis XIV. The Roussillon people are mountaineers, and although they have been incorporated with France for over 200 years they speak a Catalan dialect closely akin to that spoken on the other side of the Pyrenees.

Joffre was one of eleven children, his father being a working cooper who owned a small patch of vineyard close to the town. Had it not been for a friendly uncle who was struck by his intelligence, Joffre would not have enjoyed the education which was his at the lycée in the neighbouring town of Perpignan.

Another Rivesaltes lad who was educated at the same school, and who has been his friend ever since, is the present General Roques. Roques, like Joffre, is a famous Engineer officer, and held the position of Minister of War before being appointed to the Command in the Field which he now holds.

That the French Commander-in-Chief and War Minister should both hail from the same little Rousillon town is a remarkable feather in the cap of Rivesaltes and the best possible justification of the policy of Mazarin.

At the age of 15½ Joseph Joffre, who displayed a remarkable aptitude for mathematics, was sent by his father to Paris, where, before the age of 18 he succeeded in passing 14th out of 132 students into the famous Engineering College known as the Ecole Polytechnique.

Although Joffre was the youngest cadet in the whole school, his high position on the list entitled him to the rank of Sergeant. Possibly his duties as a non-commissioned officer may have interfered somewhat with his opportunities for study, for he was only 35th on the list when he passed out.

Before this occurred, however, Joffre had passed through the most impressive experience of his life.

The Ecole had just broken up for the summer vacation of 1870 when war was declared against Prussia.

Joffre was gazetted a Sub-Lieutenant of Engineers and appointed to one of the Paris forts for duty. Here he remained throughout the campaign and saw but little of the field operations.

The depth of the impression made upon him by the Terrible Year may, however, be gauged by the following extract of an Army Order issued by him after the Battle of the Marne.

"As for me," he wrote, "if I have done any good I am rewarded by the greatest honour that ever came to me during my whole career, the honour of commanding men like you. It is with deep emotion that I tender you my thanks for what you have done: I owe to you the realization of that towards which all my energies have been continuously strained for the last four-and-forty years, I mean the Revanche of 1870."

After the War Joffre went back to the Ecole Polytechnique to complete his studies, and on the 21st September, 1872, he graduated 35th on the list as a Lieutenant of Engineers.

His early career in the Service was uneventful. He was employed in the construction of one of the new Paris forts; later on he took a hand in barrack building in Brittany, and was afterwards for several years employed at the Ecole du Génie at Montpellier.

He was gazetted Captain on the 22nd April, 1876; and early in 1884, just after the death of his young wife, he applied for a mission in Indo-China. Here he was employed under Admiral Courbet, who appointed him Chief of the Engineering Department at Hanoi, and recommended him for the decoration of the Legion of Honour.

Four years later he returned to France, was promoted to the rank of Major and was employed in the military railway service for a short time until appointed Professor of Fortification at Fontainebleau. In 1892 he was ordered to proceed to the Soudan in order to superintend the construction of a railway in the Sahara from Kayes to Bafoulabe.

It was during this period that he undertook and carried to a successful conclusion a long march of 500 miles from Segou to Timbuctoo through a hostile country, and firmly established French authority over the wild tribes of the Sahara.

This well-organized and successful expedition made a great stir in France at the time, and has been recorded by Joffre himself in the form of a report published by him in the *Revue de Génie* in 1895 under the title: "Operations of the Joffre Column before and after the Taking of Timbuctoo."

The style of this report is interesting as revealing something of the personality of the man. It is entirely devoid of any straining after literary effect, is severely practical, and the whole report shows its author to be not only an organizer and leader of men, but also a master of intricate detail.

In March, 1894, while still at Timbuctoo, Joffre was promoted

Lieutenant-Colonel and was transferred to Madagascar where, under orders of General Gallieni, the Governor, he carried out the extensive fortifications of Diego-Suares, at the extreme northern point of the island.

On his return to France in 1897 he was promoted to the rank of Colonel, and in 1901 he was gazetted Brigadier-General. From this time forward his promotion was exceptionally rapid. At first he commanded the Artillery at Vincennes. In 1905 he was given the command of a division whose headquarters were in Paris, and at the same time he was appointed member of the Technical Engineering Commission. In 1909 he commanded the Second Army Corps at Amiens, and made frequent visits to Paris as Inspector of the Military Colleges.

Lastly in 1910 he became a member of the Superior War Council. This Council consists only of eleven members. The Minister of War is President of the Council, the Vice-President being the officer designated to act as Generalissimo in the event of war.

In 1911—the year of the Agadir affair—the Vice-Presidency was offered to General Pau, a distinguished soldier who had lost an arm in 1870. In view of the fact, however, that he was due to retire in 1913 at the age of 65, General Pau suggested that a younger General should be appointed, and recommended Joffre—then 59 years of age—as the best man in every way for the post. Thus it came about that for three years before the outbreak of War Joffre was designated to command the French armies in the event of a European conflagration.

The work done by Joffre at the War Office during those three years can only be partially guessed at, but the principles that guided him in his administration of the Army can be discovered from his occasional speeches and interviews.

The principles of the French General Staff are no secret to military students. The voluminous literature that marks the labours of the Historical Section of the French General Staff during the last 30 years—largely under the direction of General Bounal—leaves no doubt as to the trend of French military thought since 1870, and constitutes by far the most important national contribution to the study of war that has been made during the last half-century.

It is not too much to say that French logic and clear thinking—as a result of the disasters of 1870—have, by rediscovering the Napoleonic secret, placed the philosophy and science of war on a firm foundation. "Read and re-read," said Napoleon in one of those sentences that have become embedded in the consciousness of all students of war. "Read and re-read the campaigns of Alexander, of Hannibal, of Cæsar, of Gustavus, of Turenne and of Frederick. Mould your thoughts by means of theirs. Only by this means will you be able to hit upon—*surprendre*—the secret of war."

It is not every student who by studying the works of Quintus Curtius, of Arrian, and of Plutarch could arrive at the principles acted upon by Alexander during his military career.

The biography of Quintus Curtius entitled "The Deeds of Alexander the Great" consists of ten books, of which the first two are entirely lost, and the remaining eight are incomplete.

Add to this that the author was a rhetorician who flourished during the first century A.D., that is to say three centuries after the death of Alexander, that the work is uncritical, and that although written in a picturesque style it displays considerable ignorance of geography, chronology, and military matters.

In the short *Life of Alexander* written by Plutarch as one of his famous 46 Greek and Roman "Parallel Lives," he compares him with Julius Cæsar. Plutarch's *Life of Alexander* was written during the 1st century A.D., and was therefore contemporaneous with the biography of Quintus Curtius.

Arrian's work, *The Campaigns of Alexander*, was written a century later than the biographies of Quintus Curtius and Plutarch. It consists of seven books and is a history of Alexander from his accession to his death. Arrian's chief authorities were Aristobulus and Ptolemy, both of whom accompanied Alexander during his campaigns.

Arrian was the first Greek to whom an important Roman military command was ever given. He therefore possesses the qualification of having at one time himself served as a soldier, which makes him superior both to Quintus Curtius and to Plutarch as an interpreter of the great king. His work, which has come down to us in its complete form, consists of seven books and is the most complete and trustworthy account of Alexander that we possess.

It would be difficult after a study of the three foregoing authorities to re-discover the "secret of war" which according to the saying of Napoleon is to be found from a study of the campaigns of Alexander.

It would be still more difficult to discover this secret by studying what Polybius—a Roman enemy—has to tell us of the campaigns of Hannibal.

It would require the sympathetic insight of another great captain to penetrate across the centuries the guiding principles of Alexander and of Hannibal.

Napoleon himself undoubtedly possessed this sympathetic insight, for on one occasion he stated that he had no doubt in his mind that Hannibal was the greatest soldier of whom we possess any record, and on another occasion he complained that he knew of no living contemporary who could sympathize with Alexander.

It is therefore necessary for us moderns to read and re-read the campaigns of Napoleon himself if we wish to penetrate the secret of war.

The records of Alexander and of Hannibal are too scanty and too remote, and the contemporary records too few even in the case of Frederick for us to be able to discover with any scientific confidence the guiding principles of these great soldiers.

It was therefore a wise decision on the part of the French military authorities after the disasters of 1870 to entrust to a specially appointed Historical Section of the General Staff a report of the principal military operations conducted by Napoleon in order to arrive at the principles that guided his action at critical moments.

The result of this study—made with all the rigid accuracy and reference to contemporary documents required by modern scientific historical research—is set out at large in the series of Napoleonic studies produced under the editorship of General Bonnal between the years 1889 and 1895.

The first study is entitled :—*The Spirit of Modern War. From Rosbach to Ulm.*

The others came out in the following order :—

La Manœuvre d'Iena. A study of the strategy of Napoleon and his military psychology from the 5th September to the 14th October, 1806.

La Manœuvre de Landshut. A study of the strategy of Napoleon and his military psychology from the middle of the year 1808 to the 30th April, 1809.

La Manœuvre de Vilna. A study of the strategy of Napoleon and his military psychology from January, 1811, to July, 1812.

These books were not given to the world until 1903 when *Rosbach to Ulm* was published. In 1904 *La Manœuvre d'Iena* appeared, and in 1905 the studies on Landshut and Vilna.

It is no exaggeration to say that the modern French "Doctrine of War" has been dug out of the brain of Napoleon by patient historical research illuminated by occasional flashes of genius.

The evolution of this science—for it is a science as well as a doctrine—can perhaps be most clearly seen in the writings of General Bonnal, the leader of the French military historical students, and from the essays of Captain Gilbert, perhaps the most brilliant member of the famous group.

It is however possible to reconstruct the entire French Doctrine of War from the words and actions of General Joffre.

In 1913, he delivered before the cadets of the Ecole Polytechnique an address which has since become famous.

In the following sentences he lays down with burning emphasis and transparent sincerity his faith in the necessity for a thorough organization of the entire *personnel* and *matériel* of the nation in order to ensure victory.

"To be ready," he said, "means nowadays a degree of preparation which those who conducted past wars could hardly conceive.

It would be an illusion to reckon on the impetus of the masses, even if it were to leave behind that of the Volunteers of the Revolutionary Wars, unless it is helped by organization. To be ready means to have turned all the resources of the nation, all its intelligence, all its energy, towards the one object—victory. Everything must be foreseen, no extemporizing will avail; what will be lacking at the declaration of war will remain lacking, and the least gap may cause a disaster."

The foregoing words may be taken as a general statement of the objects and scope of French military science. By analyzing its generalities, and by comparing it with other French writings we may with some confidence reduce the science to an axiom and three principles.

The axiom on which the science rests is to the effect that the training of the individual soldier is the solid foundation on which victory must be based.

In an interview accorded to an American writer, Mr. Owen Johnson, General Joffre explained that in a Republic where the need of individual liberty is always strong, military service gives the citizen a quality of self-discipline which he needs in order to respect the rights of others, as well as to act in organized bodies. He went on to say that if America dreaded military service, it was because the citizen had his eyes fixed on the German ideal rather than on the French. The German system made a man into a machine. It was based on fear, and robbed him of his initiative. The German system was the revolver at the head, the French the word of encouragement, the smile, the *bonne camaraderie*.

If the axiom of the science may be described as the training and the tuning up of the individual soldier so that he may respond to the appeal of the averagely good Commanding Officer or General, its first principle may be said to be the efficient co-ordination of organization, training and fighting power which is the result of patient thought, plan, and action on the part of the responsible authorities.

In a speech delivered by him in 1913 to the Old Boys of the Ecole Polytechnique, General Joffre made use of the following words:—

"Neither the material organization of the army nor its training would suffice to assure victory, if to this intelligent and strong body a soul were lacking. This soul is Patriotism."

Only by the combination of organization, administration and fighting capacity, he seems to say, brought to its highest pitch of efficiency by the fire of patriotism, can death be defied, reverses be borne and victory ultimately be attained.

Another aspect of this principle is seen in the well-known sequence, *Prise de Contact*, *Fixation*, and *Exécution*, by means of which words the French General Staff indicate the dynamic sequence of events which Napoleon consciously controlled in order to achieve victory.

The second principle of the science is so to distribute the duties and to arrange for their execution, that due weight shall be given both to centralization and decentralization, thus ensuring a minimum of friction in all military action.

This principle goes to the root of French army discipline.

"Though the French *pioupiou* is readily accessible to daring," writes Mr. Charles Dawbarn in *Joffre and His Army* "and glories in a passionate achievement, he is not hypnotized by names, but demands a real aristocracy. It is an error to suppose that he resents superiority. On the contrary, he is constantly looking for it and is eager to recognize it when found. He is equally impressed by it, whether he finds it in the plain features of Dupont or in the aristocratic mien of De Rochefoucauld. The name matters nothing; the qualities are everything."

In other words the genuine leader of men who knows how to centralize and when to decentralize, how to command and when to unbend, will obtain the greatest results from his men.

Mr. Herbert Ward, in his interesting study of the French soldier published under the title *Mr. Poilu: Notes and Sketches with the Fighting French*, compares the delicate balance of authority and obedience which can be seen in the French Army to-day to that which obtains in happy family life.

The French Army reminds him "of a family wherein the father ranks as the General, the elder brothers as officers, and the rest of the children are the soldiers. My reason for comparing the system of the French Army with that of family life is the sympathetic understanding which exists among French soldiers of all ranks. One never sees any signs of swaggering or haughty bearing among the officers. There is no arrogance; everywhere there is simple equality. I feel that I am on safe ground when I affirm that the tenacity and patience of the French Army—those very qualities that have gained the admiration of the whole world—are largely due to this paternal system." General Joffre himself exhibits this quality in a supreme degree. To the armies of France, he is not only "Mon Général," he is "Grandpère Joffre," and the man who can thus inspire both confidence and affection can move more than mountains—he can move armies to victory.

Lastly the most ruthless application of the principle of selecting the efficient and displacing the unfit has been exhibited by General Joffre when, after the Battle of Charleroi, 150 Generals were placed on the retired list. "Some were my best friends," said General Joffre, "but if I am fond of my friends, I am still fonder of France."

Such is the doctrine of war as exhibited by the words and actions of the great Engineer whose career is now being followed with feelings of confidence and hope by members of the allied and neutral

nations. It is felt instinctively by all that victory must follow so thorough-going an exponent of the true doctrine of war.

The strongest possible proof that the French doctrine of war is sound is to be found in the fact that all the details of tactics as applied to modern trench warfare have been first worked out by the French Staff and have then been adopted by the other allied nations.

The great victory at Verdun of the 15th December, 1916, was a culminating example of economy and efficiency as applied to the attack of fortified positions.

Had the basic thinking of the French General Staff not been sound and thorough, they would not have been able to work out tactical details with such uniform thoroughness and success. The French tactical successes will doubtless now draw attention to French theories with a force that could not have been attained in any other way.

It is a new illustration of the old truth that "when the parts are in their places the whole is surveyed, and when the whole is surveyed new light is thrown on the parts."

"On the highest point of the Plateau de la Vierge," writes Mr. H. Warner Allen, in his interesting book, *The Unbroken Line*, "is perched a not particularly artistic monument with a Latin inscription: 'In memory of Jovinius who in 366 overthrew the barbarians from Germany.' Perhaps some day," continues Mr. Allen, "the name of Joffre will be added to that inscription."

That General Joffre himself has no doubt whatever as to the ultimate issue of the War may be seen from the stirring Army Order published by him on the 1st August, 1916. The Order runs as follows:—

"Soldiers of the Republic,—You are about to enter upon the third year of the War.

"For two years you have sustained without flinching an implacable onslaught.

"You have wrecked all the plans of our enemies. You have conquered them on the Marne, stopped them on the Yser, and beat them in Artois and Champagne, while they vainly strove for victory on the Russian plains. Now, after your heroic resistance in the five months' battle, you have smashed the German effort before Verdun.

"Thanks to your steadfast courage, the armies of our Allies have been able to forge weapons of which our enemies are to-day feeling the weight on all fronts. The time is coming when the military power of Germany will collapse under the general pressure.

"Soldiers of France, you may be proud of the work you have already accomplished. You are determined to complete it. Victory is certain."

The Teuton power has shown during the present War many of the authentic marks of the Apocalyptic Beast.

The Belgian atrocities of August, 1914, and the burning of Lou-

vain first revealed to our careless and easy-going civilization the true inwardness of the "furor Teutonicus." The sinking of the *Lusitania*, the prison camp of Wittenberg, the shooting of Edith Cavell, and the French and Belgian deportations of 1916, have at last convinced a sceptical world that no sign is wanting to identify the Blonde Beast of Teutonism with the foul dragon of the Apocalypse.

The chosen symbol of the Teutonic Empire—an eagle—is now seen to be in reality a vulture, not the noble monarch of the air, but a foul bird of prey. France has known this for more than a century, and for more than 40 years France has trained herself by study and practice to be the champion of civilization. France has played this part before. "History, which opens up the Pantheon of Time, shows imprinted on the two heads of the Vulture of Germany, the Sandal of Charlemagne and the Spur of Napoleon."*

The two-headed vulture of Germany is destined to bear another mark—this time over the heart—the rapier thrust of France, the "Exécution" of the French General Staff, pressed home by the hand of the greatest of modern soldiers, the latest Marshal of France, Joseph Joffre.

UYEHARA.

By MAJOR F. S. G. PIGGOTT, D.S.O., R.E.

GENERAL BARON YUSAKU UYEHARA, Chief of the Japanese General Staff, was born on the 9th November, 1856, in Miyazaki Ken, Kyushu, and obtained his commission in the Engineers of the Imperial Japanese Army on 22nd December, 1880.

Passing through the regular grades of Lieutenant, Captain, Major, Lieut.-Colonel, and Colonel, he attained the rank of Major-General in 1900, Lieut.-General in 1906, and General in 1915.

During the Chino-Japanese War of 1894–5, he served on the General Staff of the First Japanese Army, and was present at the Battle of Ping-Yang, and other engagements.

During the Boxer Rising of 1900, when Japanese troops first fought side by side with European Armies, he occupied the important post of Director of Transport at the War Office. Three years later he was one of the Japanese delegates at the Hague Peace Conference.

* "L'histoire, qui des temps ouvre le Panthéon,
Montre empreints aux deux frouts du vantour d'Allemagne,
La sandale de Charlemagne,
L'éperon de Napoleon."

VICTOR HUGO.

In the Russo-Japanese War of 1904–5, he was Chief of the General Staff of the Fourth Japanese Army (under the late Marshal Count Nodzu), being present at the Battles of Liaoyang, the Sha-ho, and Mukden, as well as at numerous lesser actions.

But it is during the last six years that he has come very specially to the fore, having occupied in succession the posts of Inspector of Engineers, Minister of War,* Inspector-General of Military Education, and Chief of the General Staff. The latter post he holds to-day.

It was during his tenure of the appointment of Minister of War (1912—1913) that the Bill providing for an increase of two divisions to the Japanese Army was first brought before the Cabinet; its rejection by the Premier (Marquis Saionji) led to the fall of the Government, for General Uyehara resigned his portfolio, and no one could be found to succeed him.† It was not until two years later that the measure passed through the Diet.

During the Siege of Tsing-Tau in 1914, General Uyehara was Inspector-General of Military Education in Tokyo; the results of his work were plainly visible during that short but brilliant campaign—a model example of the siege of a first-class fortress, coupled with disembarkation problems of both *personnel* and *matériel*, involving a very high standard of technical training. It was shortly after the fall of Tsing-Tau that he became Chief of the General Staff.

Reserved and taciturn in manner, his forceful personality is very well-known in the Japanese Army. A member of the famous Satsuma Clan, he has all the Japanese natural aptitude for soldiering, and has added to it a keen study of modern strategy and tactics; while his early training in the scientific branch of the army has enabled him to keep abreast of the latest development in artillery and engineering problems. Not only on account of his ability, but also by reason of the respect and admiration of his countrymen, he is a worthy successor to the giants of old—the late General Viscount Kawakami, the late Marshal Prince Oyama, Marshal Prince Yamagata, and Marshal Count Terauchi—the last two of whom are, happily, still serving their country.‡

* The late Lieut.-General Baron Ishimoto, another Engineer officer, held the post of Minister of War from 1910—1911.

† The Japanese Constitution provides that the Portfolio of the War Department must be held by a General or Lieut.-General on the Active List.

‡ Count Terauchi became Prime Minister of Japan in October, 1916, in succession to Marquis Okuma. During the Russo-Japanese War he was Minister of War.

For his services to the State, H.I.M. the Emperor of Japan has conferred on him, from time to time, the following decorations :—

1st Class Order of the Rising Sun.
1st Class Order of the Sacred Treasure.
2nd Class Order of the Golden Kite.

In 1897 he was created a baron.

General Uyehara has travelled extensively in Europe, and knows France intimately, having studied her military system, and language, when a young officer.

*DEEDS OF THE ROYAL ENGINEERS.**

CHAPTER I.

A SHORT HISTORY OF MILITARY ENGINEERS IN ENGLAND.

THE first employment of Military Engineers in this country dates from a very early period of English history.

In Domesday Book, which was compiled in the 11th century soon after the Norman Conquest, will be found the name Waldivus, followed by the title Ingeniator, or Military Engineer. In direct succession from the Ingeniator of William the Conqueror we can trace an unbroken line of military engineers in this country, extending over a period of more than eight centuries.

From the 11th century to the 18th century all Engineers were Military. Sometimes military and episcopal duties were combined. Thus Gundulph, Bishop of Rochester, constructed the Norman keep adjoining his Cathedral, and commenced the still more famous "White Tower"—the keep of the Tower of London—towards the close of the 11th century. Gundulph was the most famous of the early military engineers, who were not only "the builders of castles and defensible strongholds, but also the inventors, manufacturers, and directors in action of engines of war, with which to attack or defend them."

During the period following the Norman Conquest, castles were built at points of strategic importance, chiefly on the great roads and waterways, to strengthen invaders hold on the conquered country.

A square tower in an enclosure surrounded by a bank and palisade was the usual pattern, until the Crusades made English engineers familiar with the elaborations of the Byzantine military science, which had developed in an unbroken line from the days of the Cæsars. A second and third line of defences was added to the enclosure and projecting towers, flanking the wall. Engines which threw huge weights and liquid fire were used, but the mine and the ram were the most effective weapons. Round instead of square towers were adopted as offering less hold to the ram in the concentric castles of this period, such as are still to be seen at Conway and Caernarvon, built by Edward I. to hold down Wales.

* Compiled in the R.E. Record Office.

So little serious fighting took place in England after the early Middle Ages that when the development of artillery made the old fortresses obsolete, they fell into ruin and nothing of any importance took their place. A few coast-defence castles were erected by Henry VIII., but the further development of fortification must be followed overseas.

It is a curious coincidence that the modern School of Military Engineering should have been erected within view of Rochester Castle, the work of the most famous of our early forbears. "By the middle of the 13th century there existed an organized body of skilled workmen, employed under a Chief Engineer. At the Siege of Calais in 1347 this Corps consisted of masons, carpenters, smiths, tentmakers, armourers, gunners, and artillerymen. At the Siege of Harfleur, in 1415, the Chief Engineer of Henry V. was designated Master of the King's Works, Guns, and Ordnance, and the Corps under him numbered 500 men, including 21 foot-archers. Headquarters of Engineers existed at the Tower of London before 1350, and a century later developed into the Office of Ordnance (afterwards the Board of Ordnance), whose duty was to administer all matters connected with fortifications, artillery and ordnance stores."*

In the early part of the 18th century engines of war were beginning to be sufficiently numerous and complex to justify their organization into a separate arm. During campaigns conducted by the Duke of Marlborough, the Chief Engineer was, however, still in command of the "Ordnance Train" as the Artillery was then usually designated, and it was not until after the rebellion of 1715 that it was decided to separate the Artillery from the Engineers, and to bring definitely into being the third arm, the Artillery, with which the Engineers are still so closely connected, and whose history is thus seen to have been identical with our own in its origin, and for the first six centuries of its existence.

A Royal Warrant of the 26th May, 1715, established, on the one hand, two companies of Artillery as a separate regiment, and, on the other hand, an Engineer corps, which consisted of officers only, under a Chief Engineer. For a period of 56 years, *i.e.* from 1716 till 1772, the Corps of Engineers were without any rank and file, all the rank and file of the old Ordnance Corps having apparently been allotted in 1716 to the Artillery. On the 6th March, 1772, this state of things was, however, remedied by Sir William Green, then Chief Engineer of Gibraltar, by the formation of "The Company of Soldier Artificers," the officers being furnished by the Corps of Engineers.

On the 25th April, 1787, the designation of Royal was conferred upon the Engineers, and on the 10th October of the same year "The

* *Encyclopædia Britannica*, 10th Ed., Vol. 28, p. 173.

Corps of Royal Military Artificers," consisting of six companies, was established. The distinction "Royal" was doubtless conferred upon both Engineers and Artificers in consequence of the distinguished services rendered by them during the successful defence of Gibraltar in the years 1779 to 1783.

In 1806 the establishment of the "Royal Military Artificers" was raised to 12 companies, and in 1811 to 32 companies. During the latter year Sir Charles Pasley, then a Captain of Royal Engineers, was in command of a company of Royal Military Artificers at Plymouth. None of the Artificers had up to this time been employed in the Peninsular War, although the need for trained Sappers was glaringly apparent. Capt. Pasley, by the system of instruction employed by him at Plymouth, showed how the non-commissioned officers and men of the Artificers could be turned into most valuable assistants to Engineer officers in time of war by making use of their superior intelligence, in order to assist the officers in laying out batteries, superintending working parties, etc.

When, therefore, on the 7th April, 1812, just after the Siege of Badajos, the Duke of Wellington wrote to the home authorities, urging in the strongest possible terms the absolute necessity for a corps of trained Sappers, no time was lost in establishing a School of Instruction in Fieldworks, and in giving the Artificers the more martial designation of "Royal Sappers and Miners." Thus, by the Royal Warrant of the 23rd April, 1812, was organized at Chatham the Royal Engineers Establishment, now known as the School of Military Engineering, for the instruction of officers and men "in duties of sapping, mining, and other military fieldworks." Lieut.-Colonel Pasley was the first Director of the Establishment and presided over its destinies for the long period of 29 years.

On the 12th October, 1856, at the close of the Crimean War, the connection between the rank and file of the "Royal Sappers and Miners" and the officers of the "Royal Engineers" was made permanent by the incorporation of the two bodies into one corps, known henceforward as "The Corps of the Royal Engineers."

The first title borne by the rank and file, the "Company of Soldier Artificers" raised by Sir William Green in 1772, laid special stress on the character of the men as artisans.

The change of name from Royal Military Artificers to Royal Sappers and Miners in 1813 emphasized the work of the Corps in field engineering. This innovation will always be connected with the name of Sir Charles Pasley.

The last change of name, from "Royal Sappers and Miners" to "Royal Engineers," welded the Corps into a military unity and emphasized the soldierly aspect of the Sapper's character. This change took place in 1856, just after the Crimean War.

The training as soldiers pure and simple, although of course

carried out from the earliest times, was not in point of fact specially emphasized until the necessity for a more rigid system of discipline was acknowledged by Sir John Burgoyne in recommending a great soldier, Sir Lintorn Simmons, for the post of Director of the R.E Establishment in 1865, and again by the appointment of Colonel Fitzroy Somerset as Superintendent of Military Discipline in 1867. At this time Sir John Burgoyne, as Inspector-General of Fortifications, was the official head of the Corps. It may, therefore, fairly be said that, just as we owe the raising of a technical corps, The Royal Military Artificers, to Sir William Green, and the training in siege works and field engineering generally to Sir Charles Pasley, it is to the greatest of them all, Sir John Burgoyne, that we owe the military spirit which has made the Corps an integral part of the British Army.

It will be seen from the foregoing short sketch that there are four main periods into which our history may be divided.

1.—From the time of the Norman Conquest to the 18th century. The ancient period.

2.—From 1772 to 1813. The period of Sir William Green and the Royal Military Artificers.

3.—From 1813 to 1856. The period of Sir Charles Pasley and the Royal Sappers and Miners.

4.—From 1856 to the present day. The period of the Royal Engineers. The first great name of this period is that of Sir John Burgoyne, the first field marshal from the ranks of the Royal Engineers. The last great name is that of Earl Kitchener, Secretary of State for War, our fourth field marshal, who was drowned at sea on the 5th June, 1916, while proceeding on a mission to the Emperor of Russia.

The foregoing four points are all brought out in a very condensed history which is enfaced on a picture postcard published by Messrs. Gale & Polden, doubtless on sale at most R.E. stations.

A lantern lecture illustrative of Corps history is periodically given at Chatham to the recruits of the Reserve Battalion. If officers require the loan of slides for similar lectures at other stations, the Commandant of the School of Military Engineering will as far as possible meet their wishes, if application is made to him.

Chapter II.

THE SOLDIER ARTIFICER COMPANY AT THE SIEGE OF GIBRALTAR.

The military importance of Gibraltar was recognized from the earliest times. The first record of its having been used for military purposes was in A.D. 711, when it was used by the Moors as a base for their successful invasion of Spain..

Through the centuries the fortress underwent twelve sieges with varying fortunes before it passed into the possession of Great Britain in 1704. On the 24th July of that year it was captured by the allied British and Dutch forces during the War of the Spanish Succession and it has remained a British possession ever since. The last siege of Gibraltar by the Spaniards in 1779—1783, when Great Britain was at war with France, Spain, Holland and the revolted American Colonies, was one of the most memorable sieges in history.

The Spaniards had always been impressed with the desirability of recovering possession of the Rock, and although they had been defeated three times in their efforts to regain it, they determined to select this most embarrassing moment for Great Britain, for another attempt, and duly declared war.

At this date the garrison consisted of :—

6 companies of Artillery,
8 regiments of the Line,
1 company of Soldier Artificers commanded by Engineers,

a total of 5,382 of all ranks under the command of the Governor. The company of Artificers consisted of 9 officers and 114 rank and file. The 9 officers were :—

Colonel W. Green, Chief Engineer.
Capt. John Phipps.
Capt.-Lieut. John Evelegh.
First Lieut. William Booth.
Second Lieut. W. Mackerass.
Second Lieut. Thos. Skinner.
Second Lieut. John Johnson.
Second Lieut. Charles Holloway.
Second Lieut. Lewis Hay.

The following Assistant Engineers were appointed in July :—

Lieut. Burton, R.A.
Lieut. Chambre, 56th Regt.
Lieut. Alt, 72nd Regt.
Lieut. Schants, Hardenburg's Regt.

The formation of the Company of Soldier Artificers at Gibraltar, the forerunners of the rank and file of what is now known as the Corps of Royal Engineers, was brought about in the following way:—

After the siege of 1727 the fortifications of Gibraltar had been allowed to fall into a very dilapidated condition. Up to 1772 the works of repair, etc., were mainly executed by civil mechanics from the Continent and England. Not being amenable to military discipline these men were indolent and disorderly, with the result that the works progressed very slowly, imposing much trouble and anxiety on the officers. In 1772, Lieut.-Colonel William Green, the Chief Engineer of the Fortress, suggested the formation of a company of military artificers as the only means of executing the necessary works. In due course the Royal consent was given in a warrant dated 6th March, 1772, which authorized the raising and forming of a company of artificers with a total establishment of 68 N.C.O.'s and men. Officers of the Corps of Engineers were appointed to command this new body which was given the name of "The Soldier Artificer Company."

They soon justified their existence and in 1775 General Boyd, the Lieut.-Governor, in asking that their numbers should be increased stated that "we can depend only upon the Artificer Company for constant work and on soldiers occasionally. Had it not been for the Artificer Company, we should not have made half the progress in the King's Bastion as well as in other works of the garrison."

The work of repair, etc., progressed rapidly, but in 1779 when the last and most memorable siege commenced, the damage caused by neglect and previous sieges had not been entirely made good.

During June and July of that year communication with the Rock was severed and both sides engaged themselves diligently in preparation. In the fortress great depôts of earth were collected in several places, hogsheads and casks prepared for use in repairing the fortifications, and other precautions taken for the defence of the place by strong parties of infantry acting under the direction of the Engineers. About 300 Jews and Genoese were also employed by the Engineers.

At the end of July General Elliott, the Governor, appointed Capt. Evelegh to his staff to act as an additional A.D.C. to himself as Commander-in-Chief.

In August things began to look serious, and where the garrison's efforts had been active they now became intense. It is recorded that this was largely promoted by the example of the Governor himself, who never spared himself, and usually commenced his day by being present when the workmen paraded at dawn.

The Governor, who had himself risen from the ranks of the Engineers, was General George Augustus Elliott, afterwards Lord Heathfield. He had served for many years as an Engineer, his first com-

mission as Practitioner being dated 13th August, 1741. He was promoted Engineer Extraordinary in 1744 and Engineer in Ordinary in 1747. He had of late years abandoned the Corps and reverted to ordinary military duty; but his long training in this scientific branch of the Service proved of the utmost utility during the long siege.

It is noted that on the 20th July, according to an entry in a diary kept by Second Lieut. Holloway, "fresh beef was delivered out at 60 lbs. per regiment, the Artillery and Soldier Artificer Company being considered as equal to one" (regiment).

All this time the enemy confined himself to works of preparation and blockade, intending to reduce the fortress by famine. In this, however, he was disappointed; for the endurance of the garrison and the very occasional arrival of reliefs frustrated his object, and he was compelled to adopt a more difficult and expensive method. The privations of the garrison, however, were so severe that they were reduced to using thistles, dandelions, and other wild herbs to keep body and soul together.

In November the Spanish batteries presented so formidable an appearance that the Governor made a selection of the troops to assault and destroy them. To each of the right and centre columns a detachment of the Artificer Company, in all 12 N.C.O.'s and 40 privates, was attached under Lieuts. Skinner and Johnson, of the Engineers; and 160 working men of the Line regiments were told off to assist them. To the left column 100 sailors were told off to act as pioneers. The Soldier Artificers were supplied with hammers, axes, crowbars, fire faggots and other burning materials. At 3 a.m. on the 27th November, the sortie was made. The moment Lieut.-Colonel Hugo, who had charge of the right column, took possession of the parallel, Lieut. Johnson with the artificers and pioneers commenced with great promptitude and dexterity to dismantle the works. Similar daring efforts succeeded the rush of Lieut. Skinner's artificers and workmen into St. Carlo's battery.

General Elliott in his dispatch on this sortie observes, "The pioneers," meaning artificers, "and artillerists made wonderful exertions, and spread their fire with such amazing rapidity, that in half an hour, 2 mortar batteries of ten 13-in. mortars and 3 batteries of 6 guns each, with all the lines of approach, communication, traverses, etc., were in flames and reduced to ashes. Their mortars and cannon were spiked and their beds, carriages, and platforms destroyed. Their magazines blew up one after another as the fire approached them."

After the sortie the repairs to the defences at the North Front and other works of the fortress found full employment for the company. Sickness set in about this time, the garrison being ravaged first with smallpox and then with scurvy. Working parties were cur-

tailed and men unused to hard labour and unskilled in the use of tools were employed to fill up the gaps caused by casualties. Much extra duty and exertion were thus thrown on the company, and though frequently exposed to imminent danger, they worked both night and day, with cheerfulness and zeal. No detailed record of the different services performed by the company has been preserved, but a reference to Drinkwater's *History of the Siege of Gibraltar* will afford some idea of their labours.

In May, 1782, the Governor, attended by the Chief Engineer and staff, inspected the batteries at the North Front. Great havoc had been made in some of them by the enemy's fire; and for the time they were abandoned whilst the Artificer Company were restoring them.

Meditating a few minutes over the ruins, he said aloud, "I will give a thousand dollars to anyone who suggests how I am to get a flanking fire upon the enemy's works." A pause followed, when Serjt.-Major Ince, of the Company, who was in attendance on the Chief Engineer, stepped forward and suggested the idea of forming galleries in the vertical north face of the rock to effect the desired object. The General at once saw the propriety of the scheme and directed it to be carried out.

On the 25th May, 12 good miners having been selected from the Artificer Company, they commenced, under the executive direction of Serjt.-Major Ince, to mine a gallery from a place above Farringdon's battery through the limestone rock to the notch or projection in the scarp under the Royal Battery. This gallery was 6 ft. wide and 6 ft. high.

On 5th July another gallery was commenced in compliance with the Chief Engineer's orders. This was also 6 ft. high and 6 ft. wide and ran through the rock from the cave at the head of the King's lines to the cave near the west end of the Queen's lines.

On 15th July the first embrasure was opened in the face of the rock communicating with the gallery above Farringdon's. To effect this, the mine was loaded with an unusual quantity of powder and the explosion was so loud that almost the whole of the enemy's camp turned out at the report. The gallery was now widened to admit of a gun being placed in it with sufficient room for its recoil, and when finished a 24-pounder was mounted. Before September, five heavy guns were placed in the gallery; and in little more than twelve months from the day it was commenced, it was pushed to the notch, where a battery, as originally proposed, was afterwards established and distinguished by the name of "St. George's Hall."

These galleries when completed after the siege comprised two ranges, the upper and lower (Windsor and Union Galleries), the latter being partly open and partly under cover, the upper range containing two magnificent halls, St. George's and Cornwallis. Below this upper

line of galleries are others far more vast and wonderful in their construction; these, too, have been hewn and blasted out of the tough limestone and are of marvellous size and strength.

In July, 1782, the company could only muster 92 men of all ranks including the sick and wounded. This was the more unfortunate as the siege was daily assuming a more serious aspect, the enemy collecting greater force and the effect of the cannonade upon the defences becoming more telling and ruinous. As the Governor's chief dependence rested on the Soldier Artificers for the execution and direction of the more important works, he was not only anxious for their completion to the authorized establishment but convinced of the necessity of augmenting them. As soon, therefore, as an opportunity offered, he urgently requested the Duke of Richmond, then Master-General of the Ordnance, to fill up the company with mechanics from England, and also to make a liberal increase in its establishment. His Majesty subsequently issued a Warrant dated 31st August, 1782, ordering the company to be increased by 118 men. Its establishment now amounted to:—

1 Serjt.-Major.
10 Serjeants.
10 Corporals.
209 Working Men.
4 Drummers.

234 total.

In August, 1782, the firing of red-hot shot from the North Front commenced upon the enemy's batteries and caused an astonishing amount of destruction and panic. The bold attack of the garrison however aroused the Spaniards, who, quickly repairing their works, opened, on the next day, a sustained fire upon the Rock from 170 guns of large calibre. Nine line-of-battle ships also poured in their broadsides, in which they were assisted by 15 gun and mortar boats. Considerable injury was done to the North Front and also to the Montague and Orange Bastions, the obstructions and Landport were practically demolished and many other works nearly so.

The Engineers with the Artificers and workmen were unremitting in their exertions both night and day to restore the more important of the defences. At Landport, notwithstanding the heavy firing of the enemy, the carpenters of the company were constantly detached to repair the fresh recurring breaches, which, Drinkwater states, "were kept in a better state than might have been expected."

This attack, however, was only preliminary to the greater one which was to follow. The interval was filled up by the enemy in the discharge of cannon averaging 4,000 rounds in the 24 hours. On the 12th September the combined fleets of France and Spain arrived

before the Rock with 10 floating batteries bearing 212 guns, while their land batteries mounted 200 heavy guns, and were protected by an army of 40,000 men. In less than 10 minutes the flotilla anchored and the garrison at once opened fire with all their available 96 guns. A tremendous rejoinder succeeded from over 200 pieces of the enemy's heaviest artillery. For hours the contest raged, but, at length, the red-hot shot used by the garrison took effect and sheets of flame burst out in all directions from the flotilla. By the 14th the whole of the floating batteries were burnt; their magazines blew up one after the other, and it was only the strenuous and merciful efforts of rescue by the garrison that prevented a colossal loss of life to the enemy by drowning.

Red-hot shot was the grand specific for repulsing this and other attacks. To supply it in sufficient quantities, the Company of Artificers erected kilns in various parts of the garrison. Each kiln was capable of heating 100 shots an hour. By this means, as Drinkwater writes, "the Artificers were enabled to supply the Artillery with a constant succession for the Ordnance."

For a few months the cannonade proceeded, but a trifle less briskly. During this time the Artificers under the Engineers were constantly engaged in the diversified works of the fortress and they began to rebuild the whole flank of the Orange Bastion on the sea line, 120 ft. in length. All the available masons and miners of the company were appointed to this important work. In the face of the enemy's artillery the Artificers continued fearlessly to erect the flank, and at last completed it in about three months, to the amazement and satisfaction of the Governor and the garrison. The erection of such a work, in solid masonry, and under such circumstances, is perhaps unprecedented in any siege, and is alike highly honourable to the Engineers and to the company.

The enemy having failed to reduce the fortress by blockade, by protracted bombardment or by combined attack by flotilla and land batteries, now tried a fourth stratagem, to mine a cave in the Rock by which to blow up the North Front and thus make a breach to facilitate their entrance into the fortress. When it is remembered that the Rock at this point shows a perpendicular face of nearly 1,400 ft. in height it will be realized how desperate the enemy had become. Information was first received of this enterprise from a deserter, but the news was treated with considerable incredulity. The enterprise of Serjt. Thomas Jackson, of the Artificer Company, however, dispelled all doubt. It was his duty to reconnoitre the North Front in addition to other services for which he was held responsible. Observing a certain activity on the part of the enemy at the Devil's Tower, he descended the steep and rugged rock by means of ropes and ladders. The attempt was as bold as it was hazardous. Stopped by an opening very near the base of the cliff,

he explored the entrance and heard the sound of voices and the noise of hammers and picks. Climbing back again he reported what he had discovered.

Hand grenades and large stones were then frequently hurled over the precipice at this point. Although this vertical bombardment did not cause the enemy miners to relinquish their project, it greatly interrupted their progress.

The enemy still maintained a desultory artillery fire but their main energies were directed to the construction of the mine until the arrival of news from home of the signing of the preliminaries of a general peace. On the 5th February, 1783, the last shot in the conflict was fired from the fortress and the siege which had lasted nearly four years was over.

During the whole of the memorable defence the Company of Artificers earned golden opinions of all concerned and proved themselves to be good and brave soldiers as well as conspicuous for their skill, usefulness and industry.

Some time after the siege was over the expediency of increasing the establishment of military artificers was discussed in the House of Commons, and Capt. Luttrell then stated that " during the siege, the Company at Gibraltar had been found of infinite service."

The casualties in the company numbered 49, of whom 35 recovered. In addition 23 died of sickness.

During the siege 43 men deserted from the garrison, but not one was from the Artificer Company.

BOOKS OF REFERENCE.

History of the Siege of Gibraltar. By John Drinkwater.

History of the Royal Sappers & Miners. Vol. I. By T. Conolly.

History of the Corps of Royal Engineers. Vol. I. By Major-General Porter.

History of Gibraltar. By Capt. Sayer.

Encyclopædia Britannica.

THE MINERAL RESOURCES OF THE BRITISH EMPIRE.

A PAPER was recently read at the Apartments of the Geological Society, Burlington House, by Dr. C. Gilbert Cullis, Professor of Economic Mineralogy in the Imperial College of Science and Technology, on "The Mineral Resources of the British Empire with regard to the Production of the Non-Ferrous Industrial Metals."

The particular metals dealt with were: copper, lead, zinc, tin, and aluminium. The object was to demonstrate the Imperial position with regard to each of these, and to show in respect of which of them the Empire was, on the one hand, self-sufficing, or, on the other, dependent upon foreign countries. In the latter case, the extent of the dependence was indicated, and methods suggested by which it might be diminished.

The situation with regard to four out of the five metals was shown to be wanting in independence and security, and the necessity for a full investigation of the British mine and smelter productions was insisted upon.

With regard to copper, not only were the ore resources, as at present exploited, deficient, but the smelting facilities also were seriously inadequate for the Empire's metal requirements. The production both of ores and metal could be substantially increased by suitable organization and administration.

Lead and zinc ores, raised in British territory, had in the past been exported on a large scale to foreign countries, notably Germany and Belgium, for metal recovery, with the result that the Empire had been placed in an anomalous position of dependence which ought never to have arisen. The shortage of zinc, in the early days of the War, and the consequent jeopardizing of supplies of cartridge-brass were referred to. The mine production of lead and zinc was more than sufficient for the Empire's requirements, but the smelting facilities were lamentably deficient, especially in the case of zinc. It was urged that all the lead and zinc concentrates of Broken Hill should in future be smelted within the Empire.

In the case of aluminium, while the actual bauxite resources of the Empire were so small that dependence had to be placed upon the French or American deposits—which were being more and more utilized in their countries of origin—large potential supplies, in the form of laterite, had a very wide distribution in the tropical colonies, but were almost untouched and untried. The systematic examina-

tion of these and other potential sources of aluminium, with a view to their utilization, was seriously needed.

The only metal with regard to which our position was really strong was tin. The British mine production of tin in 1912 was 66,000 metric tons out of a world's total of 125,000, and its smelter production 85,000. Estimating the consumption at 32,500 tons, there remained 53,000 tons for export. Now that the German market for Bolivian tin ore was closed, an opportunity had arisen of securing the whole of the Bolivian output for British smelting.

In a series of general conclusions, a plea was put forward for the elimination of wasteful methods in ore and metal recovery, for the fuller utilization of by-products from ores, and for the adoption of large-scale operations of high engineering efficiency by which capital and labour might be advantageously used. The widespread export of raw or partially smelted materials, produced within the Empire, to foreign countries for the recovery of the finished products was condemned, and the promotion of industries making for independence as regards essential products advocated.

The expediting of geological and mineral surveys of all British territory, and the organization of advance investigations with the object of improving current processes, or of discovering new ones by which geological materials hitherto unexploitable might be made productive, were urged.

The development of the mineral resources of the Empire had taken place in the past without any constructive Imperial policy: it had lacked co-ordination and control and was in need of scientific and business-like administration, and the suggestion that a Government Department of Minerals and Metals should be established to foster and safeguard mineral resources and to promote the welfare of related industries was strongly supported. If formed and properly conducted, such a department should do much to give security and order to what was now full of danger and disorder.

REVIEW.

PAGES D'HISTOIRE, 1914—1915.

(Librairie Militaire Berger-Levrault, Paris: 5, Rue des Beaux-Arts).

The first 70 numbers of the *Pages d'Histoire* series have already been reviewed in the *R.E. Journal* since the first notice relating to this series appeared in the *Journal* for February, 1915.

The 71st number is entitled *Les Pages de Gloire de l'Armée Belge*; the text is illustrated by four sketch-maps. In a preface to this number Major Willy Breton, of the Belgian Army, tells us that the contents of the volume have already appeared, from time to time, under the title "Pages de Gloire," in the *Courrier de l'Armée*, a publication produced for the benefit of the Belgian soldier.

The story of the heroic deeds of the Belgian Army is told in this volume in two parts; the first part deals with the battles and engagements fought during the retreat of the Belgian Army from the Gette to the Yser and with the fighting which took place on the latter river in October and November, 1914, whilst the second part deals with the fighting round Dixmude in October, 1914. The pages of the little volume are full of interest and give in some detail an account of the deeds which have added to the renown of the Belgian soldiers. A perusal of these pages gives some idea of the tenacity of purpose, endurance and courage shown by the sons of Belgium, in their great, but unequal, struggle against a very powerful and unscrupulous aggressor.

The 72nd number is entitled *Chants de Soldats* and contains popular and military songs, dating from 1525 to the present day; the French rendering of the National Anthems of France (the Marseillaise, composed in 1792), of Belgium (La Brabançonne), of Russia (composed in 1833), of Great Britain (composed in 1740), of Serbia, of Montenegro, and of Japan are included in this volume. The songs and national anthems are accompanied by the score of their tunes. This volume concludes with the score of the bugle calls of the French Army.

The 73rd number contains a French translation of certain despatches published in the British White Paper dealing with the crisis leading to the present War; these despatches cover the period 20th July—1st September, 1914. In a preface to this volume it is stated that as the number of despatches in the White Paper in question were so numerous, the editors of the *Pages d'Histoire* decided, in the first instance, to publish only those which were of the greatest public interest. The selected despatches were published in the 15th number of the *Pages d'Histoire* series, and therefore the contents of the number under review are in the nature of a supplement to the despatches in the 15th number.

The 74th number is entitled *Voix Italiennes sur la Guerre de* 1914—

1915. In a preface to this number the editor states that this collection of Italian views on the War differs in many particulars from the collection of American opinions which appear in the 36th and 37th numbers of the *Pages d'Histoire* series under the title *Voix Américaines sur la Guerre de* 1914—1915 (*vide R.E. Journal* for July, 1915).

In the volume now under review considerable prominence has been given to the individuality of the writers of the articles contained therein. The articles in question were written before the rupture of diplomatic relations between Italy and Austria; each article (of which there are 14) is preceded by a very brief biographical notice relating to its author. The names which stand above the articles are those of well-known authors or politicians, whom Italy is proud to own.

The first article of the series is from the pen of Diego Angeli, now employed on the staff of the *Giornale d'Italia*: the title of the original article is *La Francia in Guerra*. The author expresses the opinion that the present War will be known in history as the War without rhetoric. Never before have acts been so anonymous as the deeds of the present War, and a nation more impenetrable than are the French to-day. "All who think of France as a country overflowing with words, and excited beyond measure by the panoply of war, would," he says, "be stupefied and disconcerted at the serenity and silence that prevail there. The victory of the Marne although it delivered Paris from the nightmare of an invasion did not succeed in breaking the line of conduct deliberately chosen and pursued with so much tenacity." He continues: "The communiqués of Ministers, the orders of the Commander-in-Chief, the decrees of the Governor of Paris, are framed in a tenour of Spartan sobriety. 'The Generals seem,' it has been said, 'to be ignorant of the fact that the French language possesses adjectives.' But in this case it is a fortunate ignorance, as is fortunate also the ignorance which prevails concerning the names and the episodes of the battles. To-day, it is not a question of a hero here or there, for everyone is a hero; why attempt to exalt the name of one more than that of another, seeing that the one and the other are both doing their duty nobly?"

In an article republished in this number from the *Secolo* of 13th May, 1915, under the title *Tout ou Rien*, Cesare Battisti, member for Trent in the Austrian Parliament (now a refugee in Italy), sets out the aspirations of Italy. He points out that the people of Trieste wish for their complete liberty and to be freed from the yoke of the Hapsburgs; their desire, and that of the people of the part of the former Republic of Venice now under Austrian rule, is to be once more united to their motherland, Italy. Speaking for the people of the Trentino, he makes it clear that nothing less than the cession to Italy of the whole of that zone of the Tyrol which is inhabited by people of the Italian race will satisfy them; this represents the irreducible minimum. He calls attention to the fact that when the Government at Vienna, in order to destroy the unity of the *Italia Irredenta* Movement, proposed to found an Italian University at Trent or in some other small town, instead of at Trieste, Italians replied with one voice: "At Trieste, or not at all." He continues, "To-day, in the name of Trent, I renew this pact of concord with Trieste and cry: 'Though Trent may continue in the bonds of slavery, let not our mother Italy be guilty of any cowardly act!'"

In another article from the *Secolo* of the 13th May, 1915, Leonida Bissolati, member for Rome in the Italian Parliament, deals with the question of the duty of Italy in connection with the War; this article is republished, under the title *Les Devoirs du Moment*, in the number under review. He points out that the object of the negotiations which Austria had entered into with Italy was to obtain the neutrality of the latter country during the present War. He asks: "Would the adoption of such a course be in the permanent interests of Italy?" He points out that the Italian leaders are not so simple-minded as not to see through the Austro-German game. Once the Cabinets at Vienna and Berlin could succeed in laying Europe by the heels they would, aided by the neutrality of Italy, proceed with the carrying out of the annexation of Belgium and Serbia and with the doing of whatever else they have in mind, regardless of the protests of Italy. He urges that the Italian Government should break off the fruitless negotiations, in which it was at that time engaged, and should make it quite clear that Italy was not prepared to barter away her right and her duty to take part in the international politics of Europe.

An article by Guiseppe Borgese, Professor of German in the University of Rome, being one of a series by this gentleman published in the *Corriere della Sera*, appears under the title *Italie et Allemagne* in the number under review. The professor points out that, to-day, Italy is in one way or another, for better or for worse, up against the danger represented by the tyrannic arrogance of Germany. "The new possessions to which we aspire," he tells us, "will compel us, to-day, to remain armed, ready for defence and for the counter-attack. A proverb says, '*Qui terre a, guerre a*,' and this is still more true when the command of the sea is in question, and, for us, more especially the Adriatic." The article concludes: "But, at this hour, we must invoke Fortune that she may favour our cause. After that, we will take steps to exalt ourselves . . . and still with moderation."

Many of the other articles are of considerable interest. The volume concludes with the speech delivered by Salandra, the Italian Prime Minister, at the Capitol, on the 2nd June, 1915—Italy had declared war against Austria on the 23rd May, 1915—in which he reviewed the position of Italy and the difficulties she had experienced at the hands of her partners in the Triplice. He sums up the principles upon which Italy set so much store, and which she desired her partners in the Triplice to recognize, in the following terms:—

"(1). The defence of *Italianity*, which is our first and greatest duty.

"(2). A sound military frontier to replace that imposed upon us in 1866, a frontier which has opened wide to our adversaries the gates to Italy.

"(3). A strategic position in the Adriatic, less uncertain, less disadvantageous, than the one we have to-day and of which the evil consequences are so apparent."

He informed his audience that all Italian demands in respect of the above had been refused by Austria and Germany under various pretexts. He had, personally, great respect for Germany, but, in the name of his country, he would tell her: "We do not wish to be vassals; we do not wish to be the protégés of any Power in the world. The dream

of universal hegemony has been shattered; the world is dead against it; the peace and the civilization of the future must be based upon respect for national autonomy, in which scheme Great Germany will take her place, equal to others, but superior to none."

These remarks were received with much enthusiasm and approbation by the audience.

The 75th number is entitled *Voix Américaines sur la Guerre de* 1914—1915; it contains 18 articles which have appeared in the American Press. The first article in the volume is taken from the *New York Tribune*, of 14th July, 1915, and is republished in this number under the title *L'Anniversaire de la Prise de la Bastille.* It is stated in this article that to many millions of men and women far from the battle front the National Fête of France would, in the year 1915, seem the most magnificent in the history of the country since that day on which the people of the Ancient Monarchy marched to the gates of the Bastille and made in the walls of tyranny a breach which has never been repaired. It is claimed that the Battle of the Marne will rank in history with that of Marathon; it saved the human race from the yoke of the *Superman.* If France had been defeated there, it does not necessarily follow that the Germanic ideal would have conquered the world for all time. "However it must be admitted," says the author of the *Tribune* article, "that had France perished, the work of long centuries would have been lost in the twinkling of an eye and the progress of humanity would have been retarded for many ages to come. The defeat of France would have converted the inhabited portions of the Old World, and of the New also, into huge barracks, and, for some time at least, civilization would have given to the soldier the foremost place in the scheme of life."

France by her victory has saved democracy, and on the first anniversary of the taking of the Bastille since the Battle of the Marne the whole world begins to appreciate the magnitude of the services rendered by France to the cause of civilization.

The second article in the volume appears under the title *Le "Cas" de L'Allemagne;* the original from which this is an extract is from the pen of Owen Wister and was published in the *Saturday Evening Post* (of Philadelphia) of 3rd July, 1915, under the title of *The Pentecost of Calamity.* "The condition of Germany," says Wister, "is a case for pathological examination and one specially for experts of mental disorders; it is a case of *Manie de la grandeur,* aggravated by *Manie de la persecution.*" He concludes: "We know to-day that the German madness is akin to those mental epidemics of the Middle Ages, associated with religious fanaticism, which obscured the light of reason throughout entire States."

What is wrong with Germany is the *Prussianization of Germany.* Wister expresses the opinion that after our generation has passed away the origin of the present War will still be sought for, and in time the responsibility for the same will be traced to the proper quarters; the heaviest share of this responsibility, he thinks, will undoubtedly be placed on the House of the Hohenzollerns. In order to explain the *Prussianization of Germany* it is only necessary to go back to 1870. Bismarck's rapid and complete victory of that period over France blinded the German people, and they fell ready victims to the tyranny which was at

once practised upon them in every domain of life by the governing classes. By way of compensation they tasted of the great joy of material prosperity on a very large scale. During 40 years, school children and 'Varsity students were brought up under the influence of the pestiferous odours given off by the dung heaps of Berlin. Misfortune overtook every professor or author who could not accept the doctrines propounded by Berlin for the purpose of imposing upon the credulity of the masses. From these dung heaps have sprung three phantoms, three Colossuses; the *Superman*, the *Super Race*, the *Super State*; these three unities compose the new trinity of German *Kultur*.

During these 40 years, the vision of Germany has, according to Wister, become obscured, she has lost all sense of proportion, she has become the victim of a series of delusions: her own greatness, her mission to propagate *Kultur*, her contempt for the rest of the world, her conviction that the rest of the world is jealous of her and is in league against her. Wister quotes the *dicta* of the Kaiser, his generals, professors, of Nietzsche himself, in order to emphasize what it is that the German creed, known as Prussianism, stands for. He asks: "Can the great country of Goethe unlearn its Prussian lesson and recover its health, in spite of the fact that it has for too long a time breathed poisonous fumes?"

Wister's own reply is as follows:—"One cannot say"; and continuing states that the Germans from behind the steel wall which now surrounds them shout that Great Britain provoked the present War, Louvain has not been destroyed, Rheims has not been bombarded, Germany is the victim of the jealousy of the world. When called upon by travellers for proofs in support of their asservations their only reply is: "Our officials tell us so." The German brain is still clothed in Prussian uniform and carries out a drill after the Prussian style. "Will adversity," asks Wister, "break this cursed spell, will it dispel these deadly delusions?"

Many of the other articles are written in the same strain as those from which the above extracts are taken. Four of the articles in the volume deal with the torpedoing of the *Lusitania*; one of these—from the pen of Morris Jastrow—appeared first in the *Public Ledger* (of Philadelphia) for 5th July, 1915, and is republished in this number under the title *Le Cas du "Lusitania" d'après un Germano-Américan*. In this article it is pointed out that the entire German nation has raised a protest, couched in language of pathetic indignation, against the bitter and cruel charge (*sic*) put in circulation against them in the United States of America. Mr. Jastrow states, in his article, that the time has come for the true friends of Germany to tell her, without any beating about the bush, that the torpedoing of the *Lusitania* is an act which cannot but cause her friends to accept as correct the reports in circulation concerning her. He points out that modern war with its wide application of the latest conquests in the fields of science intensifies greatly the conflict between the claims of civilization and the mode of prosecution of war. The only safeguard to civilization is a humanitarian spirit; such a spirit should be preserved as the most precious possession of the human species, being the fruits of a long and painful contest during many centuries.

In the other articles on the same subject, it is made clear that the *Lusitania* crime has caused Germany to be looked upon as an outlaw among the nations of the world and has engendered such a feeling of revulsion in the minds of American people against the Teutonic Powers as to create a positive longing for the decisive defeat of the Central Powers.

An article from the pen of Dr. Morton Prince, which appeared in the *Boston Herald* of 3rd April, 1915, is reproduced in this number under the title *La Conscience Américaine est elle Morte?* In this article Dr. Prince sets out a great number of infractions of International Law committed by Germany. He points out that the question under consideration is not that of neutrality, but that of American ideals regarding a national conscience. He feels that a vast majority of Americans agree that the United States, in not entering a protest against the German invasion of Belgium, has lost a valuable opportunity of disclosing herself to the world as a great moral force. He reviews the German mentality at considerable length and expresses the opinion that Germanism and Pan-Germanism are amongst the most important questions which have had to be taken into consideration by the United States of America, indeed by the whole world, since the date that the question of slavery was disposed of.

"Between the ideal of German autocracy and that of American democracy," says Dr. Prince, "there is an irreconcilable and inevitable conflict." A war on ethics already exists between the American people and Germany; it is not directed by the former against German democracy, but against the German autocracy. When the ideals of the American conscience are challenged, the United States, says Dr. Prince, remains silent. "Had a Sumner or a Phillips, a Garrison or a Lowell, an Austen or a Lincoln been living to-day, would we," he asks, "have maintained a like silence?" And this is his main reason for raising the question: "Is the American conscience dead?"

The last article in the volume is a letter from Dr. J. Marx Baldwin, of New York, sent in February, 1915, to Dr. Hugo Kirbach in response to the invitation issued by the League of German Universities to neutrals, who have been educated in Germany, calling upon them to assist in dispelling the unfavourable opinions formed concerning German aspirations. Dr. Baldwin's letter deals with the subject under four heads:—

1. In that which concerns the truth.
2. Another truth.
3. Yet another truth.
4. As to the aspirations of Germany.

A very close examination is made in this letter of German acts, methods of conducting war, culture, etc., and its contents can hardly have proved palatable to the well-wishers of the League of German Universities, for Dr. Baldwin puts his finger on all the weak points of Germany's case.

The 76th number is entitled *Voix Espagnols*, and contains the views of a number of well-known Spaniards; and in it are also reproduced articles which have already appeared in the Spanish Press. In a preface to this volume, Gomez Carrillo discusses the question of German in-

fluence and French influence. Carrillo points out that the nature of the moral and intellectual intimacy between peoples is not a matter upon which opinions can be formed merely from abstract study; much injustice has been done by writers who have given to the world their impressions of other nations based on such study alone and without any contact with the inner life of the nations discussed. The works of France and Germany in the fields of literature, of the sciences and of colonization, are analyzed, and the debt that the world owes to them for the part each has separately played in the progress of civilization is examined

Carrillo sums up the situation and states that Spain, by reason of racial affinity, of its traditions, of its religion, will always be in greater sympathy with France than with Germany, in the moral as well as in the intellectual domain; of the two, he considers France has been a greater benefactress to the human race than has Germany.

The first article in this volume is from the pen of the Marquis del Muni, who was for many years Spanish Ambassador at Paris. He states that the opinions of the Spanish people, as of others, are divided in relation to the present War; this must inevitably be so as the conceptions of the several partners of the two belligerent groups in relation to political, sociological and doctrinal matters differ widely. Broadly speaking the Central Empires stand for social discipline of an autocratic kind, blind submission of the citizen to the orders of the public authorities; whilst the Entente Powers represent the progress of democracy, the supremacy of the civil power and the development of constitutional liberties. This accounts for the present war being a conflict between two kinds of mind, between two opposite kinds of intellectual culture, between two different conceptions of civilization. Thus it is that in Spain the sympathies of the extreme Right lean towards the doctrines and ideas of the Austro-German alliance, whilst the sympathies of the liberal groups and the extreme Left are strongly with the Entente Powers.

Père Corominas, member of the Cortes, contributes an article full of emotion entitled *Pour l'Amour de la France.*

In an article entitled *Le Monde Espagnol et la France* V. Blasco Ibanez points out that the Pan-Germanists, who have in recent years been exploiting everything with a view to the glorification of Germany's military vanity, have not hesitated to mobilize science to attain their ends, to transform the universities into barracks, and to turn even the professors into corporals, to drill the public mind and to mould it according to the pattern of the German verities. The poetic and sentimental Germany of Madame de Staël, the virtuous and thoughtful Germany of Michelet have long ceased to exist; to-day we have a Germany consisting merely of men of action, vain of their rapid success, surfeited with pleasure and riches, a Germany persuaded that material prosperity is the sole aim and object of human progress, a Germany desirous of imposing her own polity and mentality on the rest of the world.

However, the *homo mediterraneus*, who has his special conception of human dignity, is not willing to accept the automatic discipline advocated by Prussia and to admit it to be the best model of existence. His sense of ridicule renders it impossible for him to proceed along the way of life marking time and stepping out with stiffened limbs as in the goose-step invented by the Sergeant-King of Prussia.

The *homo mediterraneus* has formed three great groups which stand for the Latin tradition: the Italians, the French and the Iberians. Italy is the country of the Renaissance; France gave to the world her Revolution, the most important event in the history of humanity since the advent of Christianity; the Iberian Peninsula gave the world to the world; thanks to her, humanity has taken complete possession of our planet, and our globe has in consequence ceased to be a mysterious palace, in which man occupies only a few rooms on the ground floor.

It is pointed out in this article that French and British capital have done more for the economic life of Spain than the efforts of any other country. So far as Germany is concerned, she imports nothing from Spain, but exports to the latter country what she can and as much as she can. Germany seems since the beginning of the War, however, to have suddenly acquired a great affection for Spain, a country until recently quite ignored by her. German agents are noted for their want of tact and Spaniards have not found it difficult to see through Germany's game. These agents have invited Spain to profit by the present struggle and, in defiance of her sacred engagements, to seize Tangiers. On another occasion, hoping to impose on the credulity of the Spaniards, German agents promised them that if they would take sides with Germany, the Kaiser would give them Gibraltar. Ibanez remarks that history affords no record of any occasion on which the Prussian Monarchy, having once got something into its claws, has ever been known to part with it again. The Germanic double-headed eagle has been, it is said, a bird of bad augury for Spain; the latter's decadence dates from the time that a German strain was introduced into blood of Spanish rulers.

"All thoughts," says Ibanez, "are turned to the future. What is to be the outcome of the present War? A German triumph will mean the deification of *Force*, as the source of all right; the consecration of war, as the state of perfection for man to aim at; the cult of extermination, as a special gift from the Almighty; the banishment of the true spirit of Christianity, as an obstacle to the reinstitution of the barbarous religion of Odin."

"This shall not be," says Ibanez, "let France triumph! For France it is that represents the right of the weak as well as the strong to live; she is the fountain of justice in this world; she is the champion of spiritual progress. These are the things which make for liberty, a state of existence which has not crossed over to the far side of the Rhine."

This volume contains, among other things, the manifestoes issued by Spanish intellectuals and also those issued by Catalan intellectuals, and concludes with a brief reference to the attitude of the Spanish Press in relation to the War.

The 77th and 81st numbers contain the text of the official communiqués addressed by the Central Government to the Provincial Civil Authorities in France and are the XIV. and XV. Volumes of the series dealing with such matters. The 77th number covers the period 1st—31st August, 1915, and the 81st number the period 1st—30th September, 1915; each number contains appendices giving details of the principal events which have taken place during the same month as the communiqués contained therein.

The 78th number is entitled *L'Anniversaire de la Déclaration de Guerre*

(4 *Août*, 1914—4 *Août*, 1915). In a preface to this volume Monsieur Henri Welschinger deals with the proceedings in the Senate and the Chamber of Deputies on the anniversary of the Declaration of War, and with other matters connected with this anniversary. He points out that Germany was blind to the essential qualities and living force possessed at all times by the French nation: its firmness, decision of character, courage, sang-froid, obstinacy, its passion of devotedness and self-sacrifice. "War," it has been said, "makes more men than it kills." Paradoxical as this may appear, it is nevertheless true. Such has been the experience in France during the present times of stress.

Monsieur Welschinger calls attention to a statement recently made by Mr. Wayne MacVaugh, the new United States Ambassador to the Court of Rome, in which occurs the following passage:—"In the whole course of history, I have seen nothing more sublime than the devotion and the spirit of liberty with which the sons of France have defended their country and the whole world against the invading tide of Attila's race and of the Huns; the measures to instil fear taken by the enemy have caused them no alarm. Savagery, the employment of poison, petrol, vitriol, new engines of war and new explosives have in no way terrified them. In the presence of uncertainty and during a prolonged and ferocious struggle their splendid courage has at no time deserted them."

It is also pointed out in this preface that the Presidents of the Senate and of the Chamber of Deputies both urged in their addresses to their respective Houses, on the occasion of the War Anniversary Meeting, that increasing attention should be paid to matters of organization, and that everything possible should be done to develop to its maximum the output of munitions and other necessaries connected with the *industry of war*.

In a concluding paragraph Monsieur Welschinger exhorts France to follow her ancient and noble traditions, to fight without a respite for the complete restitution of those portions of French territory now in enemy hands and to strive for the maintenance of that independence which has always been so dear to all Frenchmen.

The text of the addresses of the Presidents of the Senate and of the Chamber of Deputies, as well as the message of the President of the French Republic, on the occasion of the first anniversary of the Declaration of the War, are published in the volume under review. The historical meeting of the Duma on the 1st August, 1915, is dealt with under the title *En Russie*. The speeches made at the meeting of the Duma by the more prominent speakers are reproduced, among others being that of Sazonef, the Foreign Minister, who, on this occasion, reviewed the political situation and referred to the pledges which exist for the success of the Entente Powers. Under the title *En Angleterre* will be found the text of the telegram addressed by King George V. to the President of the French Republic on the 4th August, 1915, and the latter's reply thereto, as also the speeches made by prominent British politicians on this occasion.

Further, the Kaiser William II. is not overlooked. In an appendix there will be found, under the heading *A Berlin*, the text of the sermon he delivered to his faithful subjects on this anniversary. This appendix

concludes with two repartees to the Kaiser's speech ; one from *L'Homme enchaîné* on 3rd August, 1915, and the other from *Le Figaro*, 2nd August, 1915.

The 79th and 80th numbers of the series are both entitled *Paroles Françaises*. In a preface to the 79th number the editors point out that one of the objects they had in mind in bringing out the *Pages d'Histoire* series was to preserve, suitably classified, the speeches and articles which had moved the people of France at a time when the War stirred up their patriotism to its uttermost depths. The numbers of the series already published, *i.e.*, the 4th and 23rd numbers, which deal with proceedings of the French Legislature and the *Institut de France*, partly fulfil the object in view (*vide R.E. Journal* for February and June, 1915).

The editors, in the numbers now under review, have yet another object in view. In the 40th number of this series (*vide R.E. Journal* for July, 1915) will be found, under the title *Paroles Allemandes*, extracts from speeches and the writings of leaders of thought in Germany ; something is wanted to counterbalance this German exuberance. Hence, we have the volumes entitled *Paroles Françaises*, the contents of which are the very antithesis to the extracts appearing in the volume entitled *Paroles Allemandes* and provide the necessary corrective. It is pointed out in the preface to this number that in contrast with the cynicism and low cupidity, the pride and cruelty displaying itself impudently in the writings of the Bernhardis, the Treitschkes, the Von Hartmanns, the Von der Goltzes, of the Hardens, we have in the volumes now under review the polish of the ancient virtues of France provided in the magnificent flights of imagination of a de Mun, in the flow of spirit of a Clemenceau, in the delicate sentiments of a Barrès. In contrast with the hypocritical homilies of the Bishops of Cologne and the Court preachers of Prussia, we have the impressive lessons regarding morality, faith and courage of the chaplains, pastors, priests and rabbi, who are a source of honour to the pulpit and the sacerdotal office in France. But the most striking difference of all is that which distinguishes the representatives of German *Kultur* from the champions of French civilization.

In the 79th number are contained extracts from the sayings and writings of French statesmen, Members of Parliament, diplomats and publicists, whilst in the 80th number appear the addresses and writings of members of learned societies, of the universities, the Ministry of Education, as also those of leading soldiers and the President of the Republic. To do justice to the contents of these two volumes a separate review would have to be prepared ; unfortunately considerations of time and space forbid the adoption of this course. Brief reference to a few only of the articles is alone possible.

The 79th number contains 20 articles of which the first, entitled *La France debout!* and dated Paris, 2nd August, 1914, is from the pen of the late Count Albert de Mun. In the opening sentence, the Count points out that the time for long articles dealing with the situation had passed ; the time for action had already arrived. He continues : " To-day, if I understand rightly the echo of the souls of the sons of France, two sentiments are uppermost in men's minds, indignation and pride. Indignation against brutal and deceitful Germany, who is about to push Europe heedlessly into the most dreadful of catastrophes ; pride in our

beloved France, who, bravely, calmly, without brag and without weakness, accepts the Teuton's challenge and is about to pick up the glove thrown in her face."

He proceeds to deal briefly with the situation and the failure of the Powers to persuade Germany to accept the proposals for a conference to be held with a view to the amicable adjustment of matters in dispute between Austria and Serbia. The Count points out that it would be useless for Germany now, by any manœuvre similar to that of the falsification of the Ems despatch, successfully to denounce France as the aggressor. The situation was too well understood throughout the civilized world for such an attempt to succeed. "Germany," he says, "is now of her free will wafted by her Destiny along the path she has chosen: she discloses, by the way, the secret designs which, for so many a long year, have been ever uppermost in the minds of her military chiefs and of the professors of Pan-Germanism. The question now before all Europe is whether the nations will bow down in submission to German hegemony. It is for the nations to give their answer."

Speaking of France, the Count continues: "Sure of her good right, she rises in her might, and free at last, by reason of this uncalled-for provocation, she who has for so long a time restrained her most just resentment, her unconquerable hopes, now holds out her hand to those brothers of Alsace and of Lorraine, who, for forty years, have cherished so dearly the memory of their motherland."

In an article entitled *À la Veille de la Action*, also dated 2nd August, 1914, Monsieur Clemenceau deals with the situation which was to plunge Europe into the most terrible war of all time. He points out that on five separate occasions since the date German soldiers were last in Paris, the peace of Europe has hung in the balance; on each of these occasions, without the slightest provocation, Germany placed her hand on the hilt of her sword preparatory to drawing the blade out of its scabbard.

France, by the exercise of considerable self-control, has on these occasions averted the catastrophe of a war.

He continues: "Yonder, on the far bank of the Rhine, dwells a nation, which has a right to live, but which has not the right to destroy all other life independent of herself in Europe; this nation is so obsessed with the idea of her own importance as to be no longer able to control herself if France dares to look up when she speaks."

Clemenceau points out that the Kaiser is infatuated with the mad idea of German designs to make an end of France, Great Britain and Russia, a task quite beyond his capabilities. "Germany," he says, "must succumb to the same inflexible law which laid Napoleon low, when he attempted to rise to still greater and greater heights."

Later in the article he continues: "Is the contest equal? Serbia did not ask for war when she bravely demanded the ultimate right to the dignity of her separate existence. We have, in regard to the negotiations, greater liberty of action. Moreover, we have at our command forces and other resources with which, it would seem, the infatuation of our adversary has not sufficiently reckoned. In spite of our past negligence in this respect, in which matter Great Britain and Russia have not been much less guilty than ourselves, we shall be able to bring on to the battlefield a sufficiently satisfactory force."

This article concludes with a brief reference to the assassination of Jaurés, one of whose last acts was to descend from his pinnacle of idealism in order to rally his friends in the cause of France.

In an article entitled *La Belgique en France* dated 16th October, 1914, Monsieur Hanotaux touches upon the unhappy condition in which Belgium found herself in the late autumn of 1914. He calls attention to the noble and touching proclamation of King Albert's Government to the Belgian people; a people at that time seeking the hospitality of another on whose behalf they had sacrificed themselves. He says: "Modern Belgium is the daughter of France and Great Britain; it is natural then that in the day of her dire distress she should seek asylum in the homes of her two mothers." France extended a hearty welcome to the exiles; she knew what was owing to King Albert and his people. There exists a relationship of old date between the peoples of France and of Belgium. The first kings of France came from Belgium; Clovis, the founder of France, belonged to Tongres and Tournay, and the second dynasty of France had the blood of the Pépins of Landen and Héristal in their veins. Hanotaux continues: "History teaches that all Europe is the debtor of the Low Countries. In the XVI. century, your forbears have known the meaning of the terms devastation, torture, burnt and pillaged villages, all those acts of violence by which pride of domination attempt even at the present time to tame the souls of the Belgian people of to-day. But their courage made them superior to all privations and maltreatment and the liberty of Europe dates from those times."

. . . .

"The Germans announce that Antwerp is become their base of operations against England. So much the better! England well knows what her duty is in this matter; menaced by the pistol aimed at her heart, she will not lay down her arms until Belgium is completely delivered from the invader and is strong enough to form a rampart against German ambitions."

"As for France, she is doing her duty; she it is who is holding in check the terrible machine of death launched against the world. . . . No sufferings dishearten her soldiers, no fatigues wear them out; theirs is the confidence which will win victory."

Amongst other articles in this number is one entitled *La Guerre et la Vie de Demain* by Leon Bourgeois, in which he points out that the present war shows that the French soldier has not lost any of the qualities for which he has been famous in the past; the men of 1914 are the true descendants of those of 1792 and 1814; and after the War the men of 1914 will be as worthy of admiration as they have been at any time since the 4th August, 1914.

In this number are also included speeches by Messieurs René Viviani (delivered on 14th April, 1915, at a fête given in Paris to wounded soldiers and sailors), Paul Deschanel (delivered on 2nd May, 1915, at a second fête given in Paris to wounded soldiers and sailors) and Ribot (delivered on 25th June, 1915, at a meeting of the Chamber of Deputies).

The final article in this number is entitled *Paroles Russes et Allemandes;* it is dated 3rd August, 1915. It is pointed out in this article

that a comparison of the manner in which Russia and Germany commemorated the first anniversary of the declaration of War contains much to give comfort to the Entente Powers. No discouraging symptoms were discernible in Russia owing to the strategic retreat of the Grand Duke Nicholas. On the other hand, in the proclamation addressed on this occasion by the Kaiser to his faithful subjects, it was noticeable that its tone was not so emphatic or so confident as that used by him only a month previously; he made no allusion to the irresistible forward movement with which he proposed to crush France and Russia successively.

The 80th number contains 30 articles. The first article in this number is entitled *Acte de foi;* it was written by Monsieur H. Lavedan on the 25th August, 1914. The article opens with the statement: "Our general offensive has not enabled us to break through the German lines."

"We have been obliged to retire and it will be necessary for us to await a better chance." Lavedan then proceeds to recite his articles of faith as follows:—

"I believe in the courage of our soldiers, in the science and devotion of our chiefs.

"I believe in the power of right, in the crusade of civilized peoples, in France, eternal, imperishable and irreplaceable.

"I believe in the price of grief and in the efficacy of hope.

"I believe in confidence, in devotion, in daily labour well done, in good order, in militant charity.

"I believe in the blood flowing from wounds, and in the holy water in the stoup, in artillery fire and in the light of the spluttering candle, in the rosary.

"I believe in the sacred vows of the aged and in the depths of ignorance of the young.

"I believe in the prayer of women, in the heroic vigil of the wife, in the pious resignation of mothers, in the justice of our cause, in the unspotted glory of our flag.

"I believe in our historic past, in our magnificent present, in our glorious future.

"I believe in my countrymen of to-day and I believe in our dead.

"I believe in the mailed fist and I believe in the hands clasped in prayer.

"I believe in ourselves, I believe in God. I believe, I believe."

There is reproduced in this number the address given by Monsieur Henri Bergson on the 12th December, 1914, at the annual public meeting of the Académie des Science Morales et Politiques. As might be expected Bergson dealt largely in his address with questions relating to Germany. He drew attention to the universal execration called down on Germany by the crimes she has so methodically committed. "Civilization on previous occasions has," he tells us, "unfortunately experienced a return to the forms of barbarism now exhibited by Germany; but this is the first occasion on which there has been such a strong combination of Powers for the purpose of combating this evil."

In dealing with the growth of Prussia, Bergson points out that it is largely by shady methods that provinces have been acquired or conquered by her. Her methods of administration are mechanical. Mech-

anical is also the army on which the Hohenzollerns have concentrated so much attention.

Germany has been spoilt by her rapid success during the past half-century. Her latter-day philosophy has caused an aberration of mind in her people; and they have become imbued with an insatiable and perverse ambition. If the Teutonic race are the chosen people "then," says Bergson, "they are the only people who have an absolute right to live; others they may tolerate." It is this tolerance which would be known as a state of peace if Germany could win. Dealing with Germany's method of conducting war, he proceeds to explain her policy in the following terms:—"But on the day when Prussian militarism —now become German militarism—joined hands with industrialism, it was the enemy's industry and commerce, it was the sources of the enemy's riches, it was the enemy's riches itself against which war had henceforth to be directed, at the same time, as against the enemy's military power. It became necessary to destroy the enemy's factories, in order to remove the possibility of competition; it also became necessary definitely to impoverish the enemy and to enrich one's self, to make the enemy's towns pay ransom, to pillage and to burn. Above all things, the War had to be short, not only in order that the economic life of Germany might not be put to too great inconvenience, but for the further reason, and, above all, because her military power did not find, within the scope and provisions of a law superior to that of force, the means required to maintain and recuperate itself."

Such is the explanation of the acts of Germany of which so much have been heard these last two years. "Scientific barbarism," "systematic barbarism," some have called these acts.

In conclusion Bergson predicts that when peace reigns once more, France will continue to march forward, always in the same direction and always towards higher planes, always towards just and true ends, always protecting the interests of humanity as well as her own.

In an article entitled *La Guerre et la Vie de Demain*, dated 16th—23rd January, 1915, Monsieur Emile Boutroix sets out the lessons of the War; very briefly they are as follows:—

1. No nation can afford to go to sleep; satisfied, by reason of pure laziness, that it is secure against attacks.

2. The defence of a country can no longer be looked upon as some special requirement, devolving solely on a particular class in a nation.

3. It is impossible for any Power whatsoever, be it big or small, to become absorbed in local politics and its own internal life and to relegate to a secondary position questions affecting its foreign policy.

Whether we like it or no war is still something that every nation must reckon with if it desires to continue its existence as a separate entity, formulating its own polity, retaining its old privileges, possessing weight in the councils of the nations of the world.

Monsieur Boutroix next points out that Germany has, in recent years, strayed far from the ideals held by her in the days of Goethe and examines the intellectual evolution which has been taking place in recent times in that country. The consequences of this evolution are that Germany has attempted to show the world as well as herself that, owing as much to her science as to her power, she has been called

to inherit, upon this earth, the Kingdom of God. During the apotheosis of Germanism, which France has seen with stupor to be taking the place of the doctrines inculcated by Leibnitz and Goethe, she has jealously retained her classic ideals of long ago.

In a short and interesting article entitled *La Guerre française* (dated 29th July, 1915) Monsieur Gabriel Séailles contrasts the French and German methods of making war.

Among the other articles contained in this number is the order of General Joffre, dated 10th September, 1914, eulogizing the VII. French Army for their glorious conduct during the fighting in the early days of the War.

A short letter of thanks from General de Maud'huy to the men and women employed at Creusot's work is also published in this number, which concludes with the address delivered by the President of the French Republic on the 14th July, 1915, on the occasion of the transfer of the remains of Rouget de Lisle to the Invalides. In this address the President recalled the circumstances under which de Lisle composed the French National Anthem, a hymn which gives vent to the cry of vengeance and of indignation contained in its stirring verses. Many a deed of valour, he tells us, has been done during the present War to the accompaniment of its soul-lifting strains. In conclusion he added: "Let us, gentlemen, let us finish our holy work; the French levies are opening up the road to victory and to justice!"

The 82nd number is entitled *Mines et tranchées*. It contains a brief history of the origin and development of trench and mine warfare. Many personal incidents in connection with the trench fighting, and mining and countermining operations, during the present War, are recorded in the pages of this number. Incidentally it may be mentioned that the trench warfare of 1914 was predicted in 1902.

The 83rd number is entitled *Nos Marins et la Guerre* and contains, in diary form, all the more important incidents of the War at sea during the period 3rd April—14th August, 1915. In an appendix are reprinted statutes and regulations dealing with the recently-instituted *Croix de Guerre*, and also short articles on naval subjects.

The 84th number is entitled *Les Alsaciens-Lorraines en France pendant la Guerre* and contains a number of newspaper articles dealing particularly with the situation in Alsace and Lorraine.

The 85th number is entitled *La Diplomatie française* (sub-title *L'Œuvre de M. Delcassé*). This volume, which is accompanied by a portrait of Monsieur Delcassé, is an appreciative biographical sketch of that statesman's career; a statesman to whom France owes much. To his perspicacity, to his tenacity of purpose, to his application to the duties of the high offices he held, to his readiness to sacrifice his own career in the interests of his country, to his self-command is it due that France found her preparations for self-defence as far advanced as they were when the Teuton hosts overran her northern borders in the autumn of 1914.

W. A. J. O'MEARA.

NOTICE OF MAGAZINE.

REVUE MILITAIRE SUISSE.

No. 11.—*November*, 1916.

MESOPOTAMIA AND THE DARDANELLES.

The *Revue* article opens with the statement: "If the German defeat on the Marne is attributable mainly to German vanity, it is correct to say that British vanity is responsible for the two serious checks to the cause of the Western Allies met with at Gallipoli and Kut-el-Amara."

The author of the *Revue* article calls attention to the fact that William II. spoke at the beginning of the War of crushing "French's contemptible army," ; nevertheless, it was this army which helped to save the situation on the Marne. On the other hand, the British have always affected a profound contempt for the Turkish Army, but it was this army which inflicted crushing blows on British troops at the Dardanelles and on the banks of the Tigris.

In both the situations last recited failure is clearly traceable to want of preparation owing to ignorance concerning the resources of the enemy. The bitter lessons of the Boer War, says the author of the *Revue* article, have taught British statesmen nothing, they are as much wanting now in perspicacity in relation to the conduct of a war as then. The British Army fighting, at the present time, in France has, as far as can be judged, been organized, it is said, with forethought and trained by men having knowledge of the conditions of a modern war. The Dardanelles and Mesopotamian Expeditions, on the other hand, were entered into with a light heart by dilletanti without any military experience. Magnificent troops have been carelessly sacrificed, and the result has been a retreat without glory in one case, and a shameful capitulation in the other.

The responsibility for these checks, says the author of the *Revue* article, does not fall on the British troops or their immediate chiefs, whose conduct could not have been surpassed, but on the British people who, for centuries now, have failed to pay attention to military matters, and on the British Government, which is quite ignorant of all that concerns war.

Turning to the Expedition in Mesopotamia, of which region a sketch-map is included in the text, the author of the *Revue* article says that it seems doubtful whether it was originally intended that the British Expeditionary Force should march on Bagdad. He calls attention to an article published in the *Journal of the United Service Institution of India* for October, 1915, in which it is indicated that the British Expeditionary Force was got ready in anticipation of a rupture with Turkey, in order primarily to protect the British residents at Basra and the petrol refinery at Abbadan (in Persia), near the mouth of the Shatt-el-Arab.

It is pointed out that as soon as war was declared on the 31st October, 1914, one Indian Brigade, at that time held in readiness for the purpose in the Gulf of Persia, was at once transported to the mouth of the Shatt-el-Arab. At this time the Turks had three Divisions in Northern Mesopotamia and one Division, reinforced by gendarmes and auxiliaries, in Southern Mesopotamia. A British force consisting of 3,200 rifles and 2 mountain batteries was sent against a Turkish force consisting of 8,000 rifles and 32 guns. The author of the *Revue* article remarks that it is a question whether one ought to admire most the boldness of the soldiers who dared to undertake the conquest of Mesopotamia with so small a force, or whether one ought to marvel most at the lack of foresight and at the ineptitude of those who sent them there.

At first things went well with the British force, which effected a successful landing on the 6th November, 1914, at the mouth of the Shatt-el-Arab and proceeded up the river as far as Abbadan, which was reached on the 8th *idem*. Abbadan being in Persia, the British force was landed at and occupied Sainych, opposite to it on the right bank. About this time the main body of a Turkish Division occupied a position between Sahil and Balaniyeh. On the 14th *idem* the British received as reinforcements another Indian Infantry Brigade, 3 batteries of artillery, 2 squadrons of cavalry, and 2 companies of Sappers & Miners.

Heavy fighting took place on the 17th *idem* which resulted in the Turks abandoning Sahil and retiring on Balaniyeh. The Turks left 2,000 dead on the field and lost 50 prisoners and also 2 mountain guns. Three days later the British advanced to attack Balaniyeh, but the Turks, refusing an action, retired from their position. On the 22nd *idem* the British column reached Basra without having been again engaged and on the following day hoisted the Union Jack there.

The first objective of the Expeditionary Force was, therefore, reached in less than three weeks. It would have been wise, says the author of the *Revue* article, for the British to have been content to consolidate themselves at Basra, some 62 miles from the sea, before advancing further. Although the Arabs in this region are not friendly to the Turks, they bear the British little love. Everything indicated the necessity for prudence. However, the British thought otherwise and pushed on, reaching Kurna at the beginning of December. Some Turkish troops were dispersed at the latter place, and a Turkish divisional commander surrendered himself with 42 other officers and 1,000 men.

A concentration of Turkish forces was reported a few weeks later, at Rotah, to the north of Kurna. A British column was, in consequence, sent forward to reconnoitre towards Rotah, at the same time the Turks at that place fell back; insufficient information concerning the enemy was obtained, neither the numbers of the Turkish force nor the positions occupied were ascertained. Mirage always renders reconnaissance work difficult in country of the nature in which the operations in question were in progress; aeroplanes would have proved a valuable adjunct, but none accompanied the British reconnoitring force.

By degress the Turks began to display greater activity and showed an intention of reoccupying Basra. Probably in order to entice the British to divide their forces the Turks commenced to threaten Ahwaz

in the Karun Valley; this territory was at that time in the possession of the Sheik of Mohammera, a British Ally. A British detachment sent towards Ahwaz did not achieve any decisive results.

On the 11th April, 1915, a considerable Turkish force attacked Basra; fortunately a British Brigade had just arrived in Mesopotamia from Egypt. At this time the British force in Mesopotamia consisted of five Infantry Brigades; probably half this force was in the immediate vicinity of Basra. The Turks were, it is thought, in slightly superior force. The battle lasted until the evening of the 14th April; the Turks were beaten and retreated at nightfall and did not halt again until they had reached Khamasie, situated nearly 100 miles further inland on the right bank of the Euphrates.

The author of the *Revue* article gives extracts from the article in the *Journal of the United Service Institution of India* referred to earlier; by way of introduction he remarks that this semi-victory was more creditable to the British troops engaged than to their Higher Command. In this battle the victors wheeled right round and at the end of the fight were back at their old camp grounds, whilst although the vanquished retreated in wild confusion, yet they managed to save all their guns.

Once Basra was out of danger, General Gorringe's Division was sent into the Karun Valley and hunted down the Turks, without however being able to bring them to action. The main body of this Division returned to Basra towards the middle of June, 1915. One Brigade was moved from Ahwaz on Amara, as a concentration of Turks was reported to be in progress at the latter place. About the same time General Townshend's Division was also directed on Amara along the Tigris. The British now for the first time made use of aeroplanes and learnt from their aviators on the morning of 1st June, 1915, that the Turks were retreating. Townshend rapidly pushed forwards some troops in a steamer and arrived at Amara on the morning of the 3rd June, 1915; with the assistance of only 22 men, General Townshend made 700 Turkish regulars prisoners. The main body of Townshend's Division arrived at Amara on the following day and a fortnight later a Brigade from Ahwaz also reached Amara.

At the end of June, Gorringe, on his return from the Karun Valley Expedition, advanced on Nasiriyeh, at the junction of the Shatt-el-Hai and Euphrates Rivers. He occupied this place on the 25th July, 1915, after three weeks' stubborn fighting and thus completed the conquest of Southern Mesopotamia.

The author of the *Revue* article remarks that these operations were clearly necessary for the protection of Basra; they were conducted without haste, but with method. It would have been preferable for the British to have remained content with the progress thus made and not to have attempted to have pushed further into the interior; Amara and Nasiriyeh are both of them nearly 200 miles from the sea, and not even the half-way houses to Bagdad.

The British, however, allowed themselves to be deceived by their easy success, as did the Germans in the early days of the autumn campaign in 1914; probably the British Intelligence Service was also at fault. Only a few weeks after the capture of Nasiriyeh a new British

column was pushed forward towards Kut-el-Amara, nearly another 100 miles further inland.

The author of the *Revue* article calls attention to Colonel Yates' account of this expedition published in the *United Service Magazine* for June, 1916.

Townshend's advance to Ctesiphon is briefly described, a reference being made to the successful British attack on the Turkish lines on the 22nd November, 1915, and the vigorous counter-attack which followed and cost the British force so dearly, necessitating as it did the retirement of the British. Townshend was back at Kut-el-Amara on the 7th December, 1915, where the Turks quickly invested him.

The Bagdad Expedition, says the author of the *Revue* article, was undertaken with an insufficient force and failed pitiably in spite of the bravery of the troops and of the dogged energy shown by them. The relieving column, under General Aylmer, organized in great haste, had little chance of success from the first. After undergoing various vicissitudes it was brought to a halt before the Turkish positions at Es-Sinn and Sannaiyat.

A second relieving column which attempted to advance along the Euphrates met with as little success.

After making due allowance for the natural difficulties of the situation, the criticism is made that, with more foresight, it ought to have been possible, in the five months during which Townshend held out, to have relieved the force at Kut-el-Amara or at least to have revictualled the besieged garrison. But famine reduced the garrison and caused its surrender. Thus ended, after 18 months of heroic combats, an enterprise which was ill-conceived, and as badly directed, by politicians and amateur strategists. The Government of India, says the author of the *Revue* article, made impossible demands on the troops; it has reaped the harvest that it has sown. It would have been a joyful thing for the British to have entered the city of the Caliphs and to have hoisted the Union Jack to the strains of *God Save the King*, but to make this a possibility a desperate resistance on the part of the Turks to such a proceeding should have been anticipated and met by a proper organization.—(*To be continued*).

IMPRESSIONS FROM THE AUSTRO-HUNGARIAN FRONT.

IV.

On the Isonzo.

The first part of the article under the above main title was reviewed in the *R.E. Journal* for November, 1916; two other parts have appeared in subsequent numbers of the *Journal*.

The Carso.—A short description of the topography of the Carso is given, a sketch-map of the region being included in the text. The average altitude of this plateau above sea level is about 650 ft.; the summits of some of the hills, however, attain an altitude of 1,620 ft. above sea level. As compared with the temperature of Trieste that of this region is much colder.

The northern boundary of the Carso is the Vippaco Valley, the southern

the sea, the western the river Isonzo. On the east the plateau joins up with the lower slopes of the Carniolan and the Croatian Alps. There are only a few first-class roads across this plateau. On its western boundary, a distance of from 7 to 8 miles only separates the Vippaco Valley from the sea. The distance from Trieste to Duino is only some 13 miles. It was at the latter place that the Austrian left flank rested when the *Revue* article was written. As this region is absolutely waterless, extensive works had to be executed for the storage of water and for its distribution at a distance of from 35 to 50 miles from the catchment area. From the Doberdo Plateau, having an average altitude of 325 ft. above sea level, rise Mont San Michele (culminating point about 900 ft. above sea level) and Monte dei Sei Buşi (390 ft. above sea level); the western slopes of the Doberdo Plateau skirt the Isonzo River. After 14 months of heavy fighting the Italians finally wrested the Doberdo Plateau from their adversaries. Mont San Michele and the Monte dei Sei Busi played a prominent *rôle* in the first five battles of the Isonzo.

The Battles of the Isonzo in 1915.

The line of the Isonzo, extending from Monte Nero (altitude about 7,300 ft. above sea level) to the sea measures approximately 50 miles. The upper part of the valley is practically a mountain region; from Goritz to the sea, the river flows through a plain. Owing to the conformation of this region, the Italians were able to bring a cross-fire to bear on the Doberdo Plateau. The rocky nature of the Carso proved very disadvantageous to the Austrians and added to the losses suffered from the Italian artillery fire. Further, explosives had to be employed in connection with the construction of the Austrian trenches. The Italian artillery levelled the shallow Austrian trenches in this region in an exceedingly short space of time.

The absence of water was a most serious matter in the summer of 1915; many cases of madness were brought on in the Austro-Hungarian Army by thirst.

The line of the Isonzo was not a good line of defence for the Austrians; they could never have made any determined resistance on this line. As a matter of fact they abandoned the right bank of the river without firing a shot. A thin curtain of Austrian Landsturm troops alone held the bridgeheads and occupied the slopes of the Doberdo Plateau. At the end of May, 1915, this curtain proved sufficient to hold up the Italian advance and to cause the Italian Army to deploy for attack. In the meantime the Austrians moved up from 4 to 5 divisions to occupy the line Goritz-Monfalcone; these took part in the *First Battle of the Isonzo* at the end of June, 1915.

On the 9th July, 1915, the VII. Austro-Hungarian Army Corps was withdrawn from the Eastern Front and brought to the Isonzo in time to take part in the *Second Battle of the Isonzo* (18th July to 10th August, 1915). In connection with this battle 14 to 16 Italian Divisions attacked the Austrian front, Goritz-Monfalcone, the main blows being delivered against Mont San Michele and Monte dei Sei Busi. The Austro-Hungarians were obliged to abandon the salient opposite Gradisca, where their 14th Mountain Brigade suffered heavy losses and, in conse-

quence drew back the central portion of their line. Calm reigned from the 10th August to 16th October, 1915, and the opportunity was taken by the Austrians to strengthen their defences.

The *Third Battle of the Isonzo* opened with an intense artillery preparation, lasting from the 16th to 18th October, 1915. The subsequent operations fall into four distinct phases:—

1. From 18th to 22nd October: Attack on the whole front, as far as the summit of Monte Nero.

2. From 22nd to 26th October: Violent attack against Austrian centre in the region Monte San Michele-San Martino.

3. From 26th to 30th October: Repeated attacks in the northern zone, specially against the bridgehead of Tolmino.

4. From 1st to 3rd November: Attack against the bridgehead of Goritz.

The battle reached its culminating point on the 25th and 26th October. Seven Italian Divisions delivered an attack against the VII. Austro-Hungarian Army Corps. The Italians captured the trenches at San Michele, but were driven out by counter-attacks delivered at night; they suffered very heavy losses. Finally the Italians captured the Doberdo Plateau, with the key to this position, Monte San Michele. The *Fourth Battle of the Isonzo* took place on the 12th November. The Austrian preparations for the coming battle are described in this number by the author of the *Revue* article; he accompanied the Austrian Headquarters on this occasion.—(*To be continued*).

On Discipline.

In this article Capt. Frederich criticizes the views on the above subject contained in the number of the *Revue* for October, 1916, *vide R.E. Journal* for January, 1917. He states that discipline, as known in Switzerland, does not consist in "a collection of rules and laws," but in the quality of devoting the whole of one's physical and moral strength to obtain victory, to prepare for it and to obey those who are responsible for this preparation; a quality which every soldier should possess. "What is wanted," he says, "is to inculcate in every body of troops the sentiment of strict obedience and to habituate every soldier to put forth his whole energy."

The means which should be employed to attain these ends are diverse and of varying values. "Drill," says Capt. Frederich, "has been proved to be the most efficacious of all these means, especially for an army which like that of Switzerland must be trained in an exceedingly short time." Drill is not an end but only a means to an end, and its educative value lies in the demand it makes on a man's energy, physical as well as moral. Drill is a preventative antidote against fear.

Hygiene and Militaire Medécine.

A medical officer of the Swiss Army describes in this article a card record which he has been using since 1913, as a means of keeping himself in touch with the state of health of the men whose medical care has been entrusted to him.

NOTES AND NEWS.

Portugal.—A special correspondent deals in a short contribution with Portuguese events of current importance. He points out that at the meeting of the Portuguese National Congress on the 7th August, 1914, the following motion of the Government was accepted unanimously: "Portugal, the Ally of Great Britain, will, under all circumstances, fulfil all her obligations as an Ally." On the 7th August 1916 (just two years later), the same Congress passed a resolution undertaking "to give full satisfaction to the invitation of the 15th July last of the Government of His Britannic Majesty requesting the closer military co-operation of Portugal in the European War."

The public declarations made by the Portuguese Finance and Foreign Ministers, on their return from the visits paid to England and France, at the meeting of the Congress last referred to, were decisive and particularly flattering to the national *amour-propre.*

The British Government has, it is stated, agreed to advance to the Portuguese Treasury the necessary funds in connection with the prosecution of the War; Portugal will repay sums so advanced two years after the signing of the Treaty of Peace. Great Britain also undertakes to supply Portugal with ammunition at cost price.

The Portuguese Prime Minister in his speech at the meeting of the National Congress of the 7th August, 1916, stated, amid continued applause, that when Germany spoke of the Portuguese as *vassals* she intended to say they were a people *true to their word.*

The visit of H.M.S. *Suffolk* and H.M.S. *Narcissus* to Portuguese waters, a few days after the meeting of the National Congress just referred to, for the purpose of saluting the Portuguese flag has caused lively satisfaction, as affording further evidence of the sincere and intimate bonds of friendship and goodwill which unite Great Britain and Portugal.

Things appear to be going well in Mozambique; the Portuguese after occupying the Bay of Kionga crossed the Rovuma River at Nhica. Two Portuguese warships co-operated with the land forces operating near the mouth of the river. A despatch of the 21st September, 1916, announces the capture by the Portuguese of a naval gun, 40 Mausers and a large quantity of telegraph stores, and also that the Portuguese have occupied Tshydia and Vocoto. A further despatch of the 23rd September, 1916, states that the British and Portuguese forces have established connection with one another north of the Rovuma; it also mentions that Mikindane has been occupied, 50 rifles and some ammunition being seized there.

Now that the British and Portuguese troops have joined hands, there is little doubt that the Germans will be driven out of the territory robbed by them from Portugal a few years back.

This number concludes with notices relating to books recently published; the majority of them deal with the present War.

W. A. J. O'MEARA.

CORRESPONDENCE.

QUICK RELEASE FOR STABLE BALES.

SIR,

2nd Lieut. Martin's suggestion of quick release is somewhat antiquated; the device or something very like it has been used in troop stables for fifty years and probably many more.

Perhaps he needs reminding that when a horse gets his leg over the bale he usually kicks out, and it is not always such a simple matter for the stableman to get at the sliding ring.

The automatic release is more useful in such cases; the device commonly employed is to have one of the links in the short chain open, *i.e.* sufficiently closed to hold up the bale under ordinary circumstances, but easily forced sufficiently open to break the chain when the weight of the horse is added to the weight of the bale. This contrivance was used at Aldershot in my Troop days and proved efficient.

Yours truly,

W. H. SYKES,

Lieut.-Colonel.

Firfield, Merrow, Guildford.

The Editor, *R.E. Journal.*

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