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CONTENTS.

Abbreviated Notes on MILITARY ENGINEERING.

CONTENTS.

ROPES, SPARS, TACKLES, STRENGTH OF MATERIALS.
BRIDGING. FIELD DEFENCES.
CAMPING ARRANGEMENTS. DEMOLITIONS. ROADS.

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CONTENTS.

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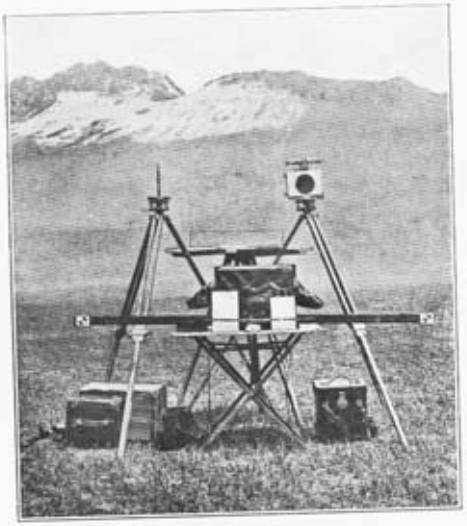
TRIANGULATION WORK IN THE PAMIRS.

Photographic Survey Equipment packed.



Photographic Survey Equipment laid out.

PAMIRS

THE JUNCTION OF THE INDIAN AND RUSSIAN TRIANGULATION WORK IN THE PAMIRS.

[From The Records of the Survey of India.]

(*Concluded*).

THE PHOTOGRAPHIC SURVEY.

By Lieut. (now Captain) K. Mason, R.E.

During the progress of the triangulation, a number of photographs were taken with the object of making a reliable map of the district on our return to India. The great advantage of this method of survey is that, whereas by ordinary methods an accurate map, based on triangulation, is almost impossible to produce during the triangulation, yet by photography, material can be obtained from which a map can afterwards be drawn, based on carefully triangulated points.

The method employed was that known as the Stereo-Photographic ; it had not been in use in India previous to 1913, but the method had been tested in Cumberland by its inventor, Capt. F. Vivian Thompson, R.E., and the apparatus had recently arrived in India.

It must be remembered that the topographical survey carried out on the Pamirs had to be considered as of very secondary importance compared with the more important work of the triangulation link ; no reconnaissance was possible, owing to lack of time ; most of the photographs had to be exposed at or on the way to or from triangulation stations, which were often quite unsuitable ; and Hingston, who took many of the photographs had had very little experience of reading topography, and none of surveying.

With any photographic survey a very careful reconnaissance is of the utmost importance. Whereas when surveying with a plane table the surveyor can see exactly how much ground he has covered, the use of photography introduces an element of uncertainty, and leaves a doubt as to whether the whole area has been mapped. In some negatives the same ground will be mainly a repetition of the topography obtained from other negatives, while without any reconnaissance some ground must inevitably be lost altogether.

Photographic survey is only suitable for mountainous country, and can never compete against plane tabling in the plains. It is admirably adapted to the survey of inaccessible parts such as the Pamirs, where it would not be worth while to send a topographical party so far for so short a season. The almost total absence of

vegetation and paucity of any artificial features render the natural features the only objects to be mapped, so that little is lost in this respect by the employment of photography.

The field equipment is very light, and with all developing materials and sufficient plates to take 60 pairs of photographs, can be arranged into three light coolie loads. For every additional 60 pairs and chemicals for their use, an extra coolie is necessary.

The camera is of the box pattern, similar to that in use in Canada, but adapted for the use of this method. It is arranged with a fixed focal length of approximately 6 in., and has a telescope mounted on the top which is capable of being moved into a position with its axis exactly at right angles to the axis of the camera. The camera is mounted similar to a theodolite, having a base-plate and foot screws, with a silver scale and vernier with which to read horizontal angles, while the telescope is fitted with an arc and vernier for determining the inclination of the stereoscopic base.

The apparatus is supplied with two tripods, which are set up at either end of a base approximately 300 ft. long, arranged roughly at right angles to the direction in which the photograph is to be taken. Having placed the camera at one end with its telescope aligned on an indicator which is mounted on the tripod at the other, a photograph is taken. The camera and the indicator are then interchanged on their tripods, the telescope is reversed in its supports, and after again carefully re-aligning the telescope on the indicator, another plate is exposed. By this means we have a pair of photographs taken on a base, which is measured by a subtense bar, and these two photographs may be placed in a stereoscope. Owing to the fact that the camera axes in both cases have been made parallel, stereoscopic accommodation is possible. By an instrument known as the "Thompson Stereo-Plotter," which consists of a stereoscopic microscope, with an indicator reading to $\frac{1}{100}$ in., a system of levers to transmit automatically the direction of any point observed in the right-hand photograph to a fixed drawing board, and a graduated drum which records the range of the point stereoscopically observed in the two photographs, which is a measure of the parallactic displacement of the two photographed positions of the point, a series of as many points as may be desired may be quickly plotted. This instrument also has another system of levers which give a reading of the heights of all points observed. It is perhaps unnecessary to go into any greater details of the instrumental adjustments and the plotting here, but it may be observed that while the accuracy of each point may suffer slightly in comparison with the Canadian system, yet by this almost automatic method, the far greater number of points that can be plotted without undue waste of time and with a due regard for the economy of the system, leaves the result more accurate and far quicker on the whole finished survey than the laborious plotting of

points by the older intersection method employed in recent years. The theory of the plotting has been dealt with in a Survey of India departmental paper, and once the observer has become accustomed to the work, he can work rapidly and accurately, a pair of photographs taking on the average from three to four hours.

It should perhaps be mentioned that the plotter has been designed to record photographs which have been taken on an inclined base up to 20 degrees, so that the difficulty of obtaining a suitable base in any required direction is much less than might be at first expected. The adjustment for inclined bases is an extremely simple one. The length of the bases adopted for the survey varied between 50 and 150 yards, the greatest ranges of course being obtained from the longest bases.

As regards the field work, a few points may be mentioned. The plates employed were Kodak Orthochromatic (Green Label), and a high power (×20) orthochromatic screen was used in conjunction with them. Burrough's and Wellcome's Exposure Meter was used to indicate the correct exposure, and was found satisfactory. "Tabloid" Metol-Quinol developer was the developer employed and development was carried on almost nightly in the field in a double tank, in conjunction with a changing bag. This system was found to be highly serviceable. The "Time" method of development was always used, and the negatives were taken out in subdued light and transferred to covered dishes containing a solution of hyposulphite of soda.

Owing to the cold, there were a few practical difficulties which call for mention. The developer was as a rule dissolved and brought to a temperature of about 75° F. But this rapidly fell when, as was usually the case, the development was carried on at night, and a rough mean temperature taken for the calculation of the time. Again, it was found extremely difficult to give the fixed negatives a sufficient amount of washing. Frequent changes were made of the water, but on occasions the water froze before the negatives were changed.

On one occasion, too, drying the washed negative was attended by considerable difficulty, for before the surface water could evaporate, it had frozen to beautiful but unwelcome fern-crystals, and these had to be dissolved off by a very dilute solution of hydrochloric acid. The water was never pure, and during the drying, dust was in nearly every case blown on to the film, and had to be removed later by a gentle sponging with cotton wool and dilute hydrochloric acid.

The negatives after cleaning and drying, were carefully packed in their own boxes, and I may here mention that not one single plate or developed negative was ever broken from the time of packing in Calcutta, till they were safely stored in Dehra Dun after the return of the expedition.

Though the dark slides were of a good pattern, it was found very difficult to keep out all light from the orthochromatic plates which, as is well known, are extremely sensitive, especially when we had work to do on snow, and one cannot be overcautious in this respect. We found the Gurkhas after a little training, capable of assisting to set up the camera at one end of the base, and of mounting the indicator at the other.

In nearly every case where the photograph was not taken close to a station or triangulated point, the position was resected by a prismatic compass or with the camera itself, by using it as a theodolite. Most of the views were taken to include several intersected points, and in addition the base was always measured with a subtense bar and the camera telescope. The average time taken in setting up, levelling the camera, measuring the base, taking both photographs and repacking the equipment was about 50 minutes. Owing to inexperience with the method, in some cases the intersected points included in the views were too far away to be of any use in the plotting, except for azimuth, and it was then found that the map plotted did not join up with the neighbouring sections as well as when two near well-defined points appeared in the photographs. During the construction of the map it was also found that the chief mistake in the field work had been the failure of absolute levelment of the camera or absolute parallelism of the camera axis in its two positions. In these cases the photographs were adjusted by means of known points in the view, which gave accurate enough results and, though it sometimes happened that the views were projected on planes that were not exactly horizontal, the error from this cause was practically negligible. In one case, during the plotting it was found that the axes of the camera in its right and left positions had not been absolutely parallel; I can only imagine that the camera moved at the last minute before one of the photographs was taken, owing to unequal thawing of the snow under the legs of the stand. This pair of views was almost useless, and was only used to plot a small section, which was adjusted afterwards according to the country adjacent to it. During the field work one pair of photographs was rendered useless owing to the plates becoming fogged, and in another case a pair was temporarily lost through the right and left photographs being taken on the same plate. In both these cases, it was possible to repeat the exposures owing to the fact that development was carried out almost at once and the errors discovered early.

Roughly speaking an average of about 10 square miles was plotted from each pair of photographs. In one favourable case, 24 square miles of complete map were obtained from one pair and this adjusted very well with the neighbouring section.

It was originally hoped that a fairly complete map would be obtained of the Taghdumbash Pamir, but the exigencies of other work; and the breaking up of the weather at the end of the season rendered

the completion of the work impossible. It was therefore decided to plot as much as possible on the 1-in. scale with contours at 200-ft. vertical interval, and reduce the map to a smaller one, adding as much of the omitted portions by eye from the stereoscopic pairs. These omitted portions generally consisted of the bottoms of valleys, of which the boundary hills could be seen, or of portions of country too distant to be plotted by the method. In the plotting, heights were estimated to the nearest 50 ft., and in all cases where two or more triangulated points appeared in the view, the plotted height agreed with the triangulated height within this amount. The contours of adjacent plotted sections in almost every case agreed easily in height to within 200 ft., there being a few exceptions in very steep ground, where the contours were very close together.

One other difficulty which was very apparent during the subsequent plotting was the great contrast of the high lights on the snowy hills and the dark ground of the valleys, and I found that though we had anticipated this to a certain extent and over-exposed the hills in order to get the utmost value over the whole picture, yet it was almost an impossibility to get sufficient detail in the valleys for plotting, when there were great high lights in the picture.

The photographic survey has added to and corrected portions of the existing map of these regions. The accuracy obtained may be considered as at least equal to any that would have resulted from a ½-in. plane-table survey, though the 1-in. plotted map is probably inferior to a detailed plane-table survey on this scale, which would however have been far more costly in time and money. This inferior comparison may be referred to the length of some of the ranges employed, which in some cases amounted to over 10 miles. This range however was never employed unless a triangulated point appeared in the distance.

I do not think that the method would prove of any great value in India itself. It seems to me that the plotting must be done by a responsible officer and that the difficulties of adjustment of the pairs of photographs in the stereoscope for slight errors in the field work would not admit of the work being done by a surveyor. Undoubtedly the method is a feasible and accurate one, and in certain cases a very valuable one; but these cases are the exception and not the rule. A traveller in the Himalaya, who had but little time on his way to make a map, could bring back photographs which would supply definite information on a disputed point, for example, the drainage of certain valleys, or the location of an uncertain pass. An officer who reached the frontier of a neighbouring territory into which he had been forbidden to enter, could increase our knowledge of the transfrontier without violating his orders. Finally, in the case when an accurate map is required on a small scale of a distant country, which is entered for other than topographical objects, when weather or other considerations considerably shorten the period

available for topographical work, this method of photographic survey will be found economical; because a practically negligible increase of expenditure while in the country in question will ensure a far larger section of mapped country, and though the expense of plotting after the return is practically entirely additional, if one arrays against this the cost of sending another expedition to complete the survey, or the cost of the upkeep of the detachment in the country until the conditions become more favourable, one will find that the comparison is all in favour of the photographic method.

CONCLUSION OF THE OPERATIONS.

Capt. Mason deals with the conclusion of the operations in the 13th chapter of the Records as follows:—

On the 14th August the Pamir detachment commenced its journey back from the Taghdumbash. Collins had finished the triangulation on the south, and assurances came in from McInnes that in a few days the Chapursān work would be completed. Even so it was with a feeling almost akin to regret that we said good-bye to our hospitable friends, the Begs, who came in to Mahomed's khourgas at Mintaka Akhsai to see us off. We distributed presents among them and Mahomed himself gave me his ancient sporting matchlock. Arzu, our invaluable Sarikōli-guide and interpreter, had come to me some days before and asked me to take him back to India "to see the world," and after some consideration I had agreed to do so. Hingston, the ardent hæmatologist, insisted on the condition that Arzu should supply samples of his blood on the way down to lower altitudes to complete his investigations into the behaviour of corpuscles with altitude, but by now, most of our friends had become used to his bloodthirsty tendencies, and agreed to be "stuck" without demur. However, when Arzu approached his father, Mahomed, the local Warden of the Marches, the latter refused to allow his son to accompany us further than Gilgit. Some hereditary distrust of the men of Hunza lurked in his bosom, and when we finally left his camp, the old man followed us some way, begging us to ensure his son's safe return.

Our last glimpse of the Pamirs was characteristically equal to the occasion. As we neared the summit of the Mintaka Pass, Hingston and I, who had halted to take a few final observations for the photographic survey, were caught in a violent snow-squall which drove all of us who were near enough, Baltis, Hunzakūts and Gurkhas, into the stone dâk-hut, where we had to wait until the storm subsided. We pitched camp at Gulquaja Uwin and on the 15th arrived at Murkushi, where we halted for a day, owing to the non-arrival of the extra baggage coolies.

Two days afterwards we reached Khodabad, McInnes' base. After leaving Misgar, we found that the bridge by which we had crossed the river on our northward journey had been swept away, and the only path which remained was a goat-track, which ran for

some distance along the east side of the river, and then crossed by a frail log laid on boulders in the stream. In places it had not been considered worth while to improve the track for mere mortals, as the river would soon subside and make the winter route again practicable. From the flat which we climbed on the right bank, we could see remains of old river terraces extending up to 2,000 ft. on the opposite side; this gives one some idea of the enormous cutting power of the Hunza River, and an interesting insight into the rejuvenation powers of mountain streams. There is a particularly formidable *parri* along this march on the summer route which we had to traverse; this is the one that avoids the long détour *viâ* the Kermin Pass. It is a case of almost hanging on by the eyelashes, and in places the track merely apologizes for its existence. There is for the most part no roadway of any description, not even one large enough to be supported on props or pegs, and this for a country which has a maximum width of about 2 ft. for its best hill roads is saying a good deal. Joints in crumbling shale, worn pockets in slippery granite, these constitute the alignment of this remarkable stretch.

We halted at Khodabad until the 21st, in order to make certain that McInnes would have no difficulty in finishing his work, and to assist in forwarding supplies to him. Here we received maps from Dehra of the Hispar-Biafo route into Baltistan. We had obtained permission to return by this way, but the lateness of the season (we should not be able to start from Hunza till September), and the continual bad weather which was experienced all August, finally caused us to abandon the scheme.

All down the road, people were most hospitable; probably they were glad to see the last of us, for, however much we may have tried to lighten the burden of our existence in this country, it must be admitted that an expedition of such a size must cause a good deal of inconvenience to the inhabitants, however well paid they may be. At Khaibar, where we spent the night of August 21st, the lumbadar practically stripped his trees of apricots for us; and this kind of hospitality existed all the way to Hunza.

There is not much of interest to mention between Kahaibar and Aliabad. The track at times ceases to exist, but the only really sensational portion is a 3-mile stretch just north of Atabad. The path zigzags up a cliff, which it traverses on pegs and props, about a thousand feet above the seething chocolate-coloured torrent. One cannot help feeling a distinct concentration of attention on footholds. Failing this concentration, the glance is apt to stray to the waters below, while the imagination commences to calculate distances and depths, which I believe causes the desire in some people to throw themselves down.

At Gulmit, I found a man who had been to Raskam in the old raiding days, and he was able to corroborate and amplify the information which I had received on two former occasions as to the

Raskam route into Baltistan. Raskam has never been repopulated since the Hunza raids which ceased over twenty years ago. My informant explained that he did not follow the route which he described, but that the way was pointed out to him by a man who had accomplished the journey. Apparently it was not a summer or autumn route owing to the amount of water that fills the river during these periods. The details he gave me were as follows :—Pasu to Shingshal, 3 marches ; from Shingshal onwards down the Raskam Shingshal River, 4 marches ; here a *nala* enters the valley from the south which has to be followed to a pass at the head. The man was unable to give me any precise information as to where the route led to on the Baltistan side, but he was quite definite when he asserted that the *nala*, which was pointed out to him, left the Shingshal Valley before the latter reached the Oprang. From this it appears that the route must either enter the Biafo or Punmah Glaciers. Apparently the route was occasionally used by men from the Pamirs *en route* to Baltistan, who travelled *viâ* the Pamir Oprang and the Raskam Shingshal.

The Pamir detachment reached Aliabad on August 25th. Collins had already arrived, and the paying off of permanent men and general settling up of the affairs of the expedition was commenced. McInnes arrived on the 30th, having completed the work in the Chapursān, and we all enjoyed a few days' rest before leaving for Kashmir. On the 2nd, Hingston and I definitely abandoned the idea of returning by Baltistan owing to continued bad weather.

The detachment was again divided into two parts for the journey back, and the leading portion reached Gilgit on September 5th. Here we found that the Resident, the Hon. Mr. Stuart Fraser, had arrived the same morning, while all the British officials were in the station.

From Gilgit we travelled to Kashmir with Major Webb and Capt. Moore, *viâ* the Kamri Pass, which gave us a variation from our previous route. All the way we had perfect weather until we reached Gurais, when a bad spell set in. The Rajdiāngan Pass was crossed in a snow blizzard and Bandapur was reached on the 15th.

While waiting for the arrival of the second detachment, Hingston and I went into Srinagar, where we had the pleasure of meeting Dr. de Filippi and the other members of his expedition which was on its way to winter quarters at Skardo.

The detachment returned to Dehra Dun in October. Every man was in perfect health. During the whole of the time during which the expedition had been away, there had been only one casualty, which happened to a coolie on the road north of Hunza. This man apparently lost his nerve on a *parri* or bridge, became dizzy, fell into the river, was swept away and drowned. With this one exception, there were no accidents and no cases of more than very temporary sickness among any men connected with the expedition.

MESOPOTAMIA.

By Capt. F. C. Molesworth, R.E.

Description of Country.—The country now (October, 1916) in occupation of the Mesopotamia Expeditionary Force may be said to lie between the mountains of Luristan* and the sandy desert south of the Euphrates. Its length is about 250 miles and its extreme breadth about 120 miles. Nearly the whole of this country consists of silt brought down in past ages by the rivers Euphrates, Tigris and Karun. The delta of these rivers is extending seaward at the rate of about 80 yards a year; hence the farther one goes back in history the greater is the extension of the Persian Gulf north-westwards. Thus, old Basrah was a seaport in early Muhammadan times; when Alexander the Great invaded the country the head of the Gulf was a few miles above where Qurnah now stands; while "Ur of the Chaldees" (see Gen. 11. 31), the ruins of which are south of Nasiriyah, was a seaport about 2000 B.C. It is believed that in very recent geological times the Gulf extended almost to the Mediterranean.

From these considerations, the leading characteristic of the country is obviously its flatness. Baghdad is not more than 100 ft. above mean sea level. Between this place and the sea the only rises of ground met with are artificial. Much of the country is permanent marsh. The Tigris and Euphrates are flooded from February to June (owing to melted snow in the mountains of Armenia) and overflow their banks. Villages, date groves and crops on low-lying ground have then to be protected by clay *sadds*. The rise of the Tigris owing to floods may amount to about 20 ft. at Ali-al-Gharbi, a considerable portion of which may occur in a few hours. At Basrah the rise owing to floods is 6 or 7 ft., sudden rises being infrequent.

The tide is felt up the Tigris about as far as Ezra's tomb, its rise and fall at Basrah being about 3 or 4 ft. at spring tide.

The Tigris is fringed by date groves on both banks from its mouth to a few miles above Qurnah. There are isolated groves higher up the Tigris and also on the Euphrates. The date palm is useless for

* These mountains are commonly called "Pusht-i-Kuh." This, however, is the name of a district of Persia, the word meaning "beyond the mountain." There is apparently no vernacular name for the series of mountain ranges in the district "Pusht-i-Kuh."

engineering purposes, except for revetments, crib-piers, etc. Other trees are very scarce.

Country other than marsh or cultivation is usually a light soil, sometimes covered with camel-thorn or tamarisk scrub (there is little grass). After rain, or after being flooded, the soil becomes a very tenacious mud, in which it is impossible to ride or bicycle and very difficult to walk. It remains in this condition for several days.

Basrah is a large town situated up the Ashar Creek 2 miles from the Shatt-al-Arab (the name given to the Tigris and Euphrates after their confluence). There are a great many shops in Basrah and Ashar, where most necessities of life are obtainable—hardware, crockery, cutlery, tinned and bottled provisions, whisky, etc. In fact, one seldom now needs to send to India for anything. There are some branches of well-known Bombay firms of outfitters, where ready-made uniforms are obtainable, as well as most articles of camp kit. There is a branch of the A. & N. Stores in Ashar, which, however, keeps a small stock only, but will procure articles from Bombay at Bombay prices plus Customs duty. Local shops include watchmakers, tinsmiths, etc. There are some Indian *dirzis*. There is a club in Basrah, started by the British residents before the British occupation, which all officers belonging to the Force are kindly allowed to use. There is also a free library with a good selection of books, and there is a daily paper, the *Busra Times*. Besides the services taken by chaplains attached to the Force, an undenominational service is held on Sunday evenings in the American Mission Church.

The usual method of progression in Basrah is by *ballam*, a sort of gondola which can be poled or rowed by two men. Tariffs can be seen on a notice board near Whiteley Bridge on the Ashar Creek. There are also victorias for hire, but these are little used except for driving between Ashar and Basrah city.

Magil has grown up almost entirely since the British occupation. It lies 5 miles up river from Basrah. There are as yet few shops, but Basrah can be reached by motor ferry which plies several times a day between the two places. The journey can also be done by *ballam*, which costs Rs.1. 8. 0 each way and takes longer.

Amarah has a better climate than Basrah and is altogether a more agreeable place. There is a *bazar* where provisions can be obtained. A club has been started. Amarah is a compact place and most of the military locations can be reached in a few minutes by walking from the river front.

CLIMATE.—The temperature varies from below freezing in winter to 120° F. or even more in the shade in summer. From November to February the nights are very cold, and frost is not uncommon;

during this period it is warm in the middle of the day unless cloudy; up river a piercingly cold wind sometimes blows for days on end; as this wind is mixed with dust it is very unpleasant indeed. Rain occurs at intervals, the greater part of the annual rainfall (8 to 10 in. at Basrah) falling during this time; rain occurs most frequently when a S.E. wind (up the river) is blowing.

During March and April the temperature increases and 100° F. in the shade may occur in the latter month. Rain is less frequent, but showers may fall even in May, after which there is no rain until November.

May and June are very hot months. The temperature rises to 115° or even 120° or over, and often does not fall below 100° for days on end. There is very little wind. Where the climate is moist, *e.g.* at Basrah, the weather conditions during these months are very trying indeed.

The severity of the hot weather is mitigated by the *shimāl*, a N.W. wind, which begins about the end of June and blows with varying force for about forty days. During this period, though the temperature still remains very high, the air is in motion and the humidity less, consequently it feels cooler.

After the cessation of the *shimāl* the weather is again very trying, and remains so throughout August and the beginning of September. Then the temperature drops gradually.

October is perhaps the pleasantest month of the year, as the nights, if not the days, are cool and there is no rain.

Bad as the climate is, it is probably not as bad as many parts of India (the Derajat for example), but the conditions inseparable from field service make it more trying. Officers accustomed to the breathless nights in the hot weather in the north of India will find the nights in Mesopotamia much more agreeable, for there is always a drop in temperature and very often a breeze. It is possible to sleep on a roof in comfort without a fan every night, except perhaps three or four, in the summer. It is not necessary to shut up houses, as in India; in fact it is often cooler with all doors and windows open.

A few words may be added regarding the insect pests of Mesopotamia, which are probably unequalled anywhere. Flies are prevalent in spring, and later on during the date harvest (September). Mosquitoes abound during summer and sand flies during autumn. But they are by no means confined to these seasons and are only entirely absent in the very coldest weather. Their absence is compensated for by the activity of fleas, a very large and efficient variety of which inhabits houses formerly occupied by the Turks or their late subjects. There are few white ants in Mesopotamia, and such as there are are not nearly as destructive as the Indian species. Scorpions are plentiful, especially in Amarah.

INHABITANTS.—Most of the inhabitants are Arabs; the remainder are mostly Chaldeans, who may roughly be described as the non-Musulman inhabitants of the country. The neighbouring Persian province of Arabistān is also largely inhabited by Arabs. There is a considerable number of Jews.

One comes in contact mostly with the lowest type of Arab—small traders, coolies, artificers, etc.—a type which in no country represents the best of a people. The coolie is lazy, but develops astonishing energy when employed on piece-work. The artificer class has more self-respect.

Arabs are Muhammadan in religion (*Shiahs*), but are not fanatical. Coolies often take a day off on Friday.

The non-Musulmans, called Nasrani (*i.e.*, Nazarenes) by the Arabs, are traders, clerks and sometimes blacksmiths. They lack stamina and force of character—defects due to having been systematically sat on by the Musulmans for centuries. Their religions include Chaldean, Armenian (isolated relics of early Eastern Christianity), Roman Catholic and Greek Church. This section of the people received the British with open arms.

The language of the people (Arabs and Nasranis alike) is a dialect of Arabic. It differs from standard Arabic in the pronunciation of some consonants and the addition of many words, chiefly Persian; but the written language is practically the same. I do not think that anyone who had learned Arabic in Aden or Egypt would have much difficulty in picking up the local dialect. The Arab works much better for an officer who knows even a little Arabic, and when addressed in that language makes an effort to help the speaker, and does not use his natural stupidity as a weapon of offence, as the Indian is apt to do when confronted with a learner of Hindustani. The only work on Basrah Arabic is a small pamphlet published by the General Staff in Mesopotamia. The system of transliteration employed in it is difficult for students used to the Hunterian system. "Arabic self-taught" is not of much use as it deals with Syrian Arabic.

There is an exam. in Arabic known as the "Field Service Test" held quarterly at various places in Mesopotamia, for passing which a reward of Rs.300 is given. It is entirely colloquial, consisting of conversation with local people on military or general topics.

Besides Arabic, Persian is sometimes useful, and a knowledge of Hindustani is spreading among the classes mostly in contact with members of the Force. Occasionally one comes across a petty contractor who speaks French only among European languages, but a knowledge of English is spreading among these people.

The better-class houses are two-storeyed, built round a central courtyard, with one big door opening into the lower storey. Officers living in Basrah, Amarah, etc., live in such houses. A large number

of reed huts, or composite huts with corrugated iron roofs and reed sides, etc., have been made for officers and men.

In certain parts of the country officers have suffered a great deal from thieves—in some cases the entire contents of a tent have been removed while the occupant slept.

KIT.—As far as I am aware, no restrictions are made as to the amount of kit one is allowed to carry by transport from India. The amount one is allowed on river steamers may be restricted, but in any case if one were moving up-river, one would leave a certain amount at the base. One can hardly have too many shirts, etc., as in the hot weather, owing to dust and perspiration, they become dirty very quickly, and opportunities for washing them may be few and far between.

In the following paragraphs no attempt is made to include everything that an officer will need on field service, but only necessary additions and modifications to one's Indian kit owing to conditions in Mesopotamia.

Head-Dress.—The ordinary khaki helmet is too thin for the hot weather and a Cawnpore topi is essential. An extension to cover the back of the neck is also needed. These can be obtained from the S. & T.

Shirts.—In the hot weather, nearly everybody discards coats and wears shirts only—no ties. Patterns with pockets and removable shoulder-straps are most useful. If a shirt is worn without coat or vest, a spine-protector (obtainable from S. & T.) *must* be worn.

Coats.—Ordinary drill are perhaps the most serviceable. Home pattern khaki is very much used in winter. *Pagri*-cloth coats are useful in the hot weather. A coat British warm is necessary, as also is a light waterproof.

Leg-Wear.—In summer shorts have to be discarded owing to the many insect pests with which the country abounds. Riding breeches make one uncomfortably hot. Trousers should have loops for a belt. Thick drawers and socks, etc., are necessary in winter.

Boots.—The wear on boots is agreeably small owing to the absence of stones in the soil. An old pair of Wellingtons is useful after dark in the hot weather to prevent mosquitoes from biting through one's socks. A pair of deck shoes is useful.

Swords are practically never worn. Warm gloves are useful, but not essential. Goggles are almost indispensable.

Bed.—Bring two mosquito nets, and a bed fitted with poles for nets. The mesh should be very fine, in order to keep out sandflies.

Bedding.—A useful kind of quilt, known as a *lihāf*, can be bought for four or five rupees in Basrah. This can be sewn into a fleabag in winter. Besides this, at least four blankets will be wanted in the depth of winter.

Although you will probably live in a Mess (there are R.E. Messes at Basrah, Magil, Amarah and with most of the larger units up the river) you will need crockery and cutlery, etc., of your own and cooking vessels. A *sigri* is useful on river steamers. As water for washing up is sure to be dirty bring a supply of permanganate of potash for the purpose, and see that your servant uses it. It is useful too for baths and for water for cleaning teeth, etc. A little goes a long way—a pound will last for a month or two.

Bring a very large supply of insect powder. Most preparations for keeping off mosquitoes, flies, etc., if used at all, have to be used in such large quantities as to be very unpleasant.

An electric torch is very useful. As batteries deteriorate very rapidly, you should arrange for a supply of fresh batteries periodically. Batteries for some torches can be obtained in Basrah.

A tent is of course necessary, although if you are stationed on L. of C., you will find accommodation in a house or reed-hut.

A bicycle is useful in most places. It would be quite worth while bringing a motor bicycle or even a light car, but if your job entails much travelling about, it would generally be possible to get a Government car.

Small weighted pieces of muslin for covering drinks, etc., are very useful.

SERVANTS.—It is necessary to bring with you from India a bearer and a sais. They should be very carefully examined medically before being sent to Mesopotamia; too much stress cannot be laid on this point. They will probably ask for a large advance before leaving, and it is advisable to send the bulk of this yourself by money order to their relatives. As the best class of Indian servants is disinclined as a rule for service abroad, and you will probably have to engage new ones, it is best to possess yourself of their chits and to deposit them with your agents.

As regards pay, I believe the rates of Rs.30 a month for bearers and Rs.25 a month for saises have been officially sanctioned. They get free rations in addition, and will probably ask for free clothing. This is usually given and should include duplicates of everything washable and a warm coat, also blankets. Each should be provided with a mosquito net. Needless to say, the bearer should be able to cook for you.

The local Arab does not make a good servant as a rule—he is quite unused to sahib's ways and is very casual. Arab servants are undesirable for political reasons in certain districts. Indian servants may be picked up in Basrah, but they are naturally not the best.

Servants should be provided with identity discs which they must wear always. A servant unprovided with a pass is not allowed access to the *bazar*. Don't forget a tent for your servants. Most servants

on reaching Mesopotamia make an attempt to wear the ends of their *pagris* loose. Needless to say this habit should be jumped on.

Some sweepers are obtainable locally in addition to those in S. & M. units, etc.

There are a few Indian *dhobis* in private practice. As this practice is extensive you cannot count on getting your clothes back within a fortnight, and so have to calculate your quantity of clothes accordingly.

HORSES.—These can sometimes be obtained from the Remounts, but it would be advisable, if time permits, to enquire before you leave India. In any case a sais is necessary. Rations for the authorized number of chargers are drawn free.

If you take chargers from India, have them registered (*i.e.*, their age, description, value, vet.'s certificate, etc., taken) and send the register to H.Q. of your unit or divisional C.R.E. in India. This is useful in case you lose your charger.

The Remount Depôt in Mesopotamia purchases chargers of officers killed or invalided.

A warm blanket is needed in winter, and a network *jhul* for the fly season. Shoeing can be done by any mounted unit in the neighbourhood.

PROCEDURE ON ARRIVAL.—The voyage from Bombay to Basrah occupies five days; that from Karachi to Basrah four days. During the monsoon the first two or three days will almost certainly be rough. The latter part of the voyage is extremely hot in summer. Chargers should be provided with 7 to 10 days' rations before leaving India (in the case of a transport these are obtainable on board). Messing for yourself is arranged for on board and is free.

If your steamer is of deep draught it may be necessary to transship to a smaller vessel at the Bar outside the mouth of the Shatt-al-Arab.

Steamers proceed to Basrah or Magil. At the former place they anchor in mid-stream; at the latter they sometimes go alongside piers. In either case they are boarded by a member of the Embarkation Staff, who tells officers where to go to get orders. Both places are full of signposts and maps on boards showing the principal offices.

If joining an appointment or unit up-river you will probably have to spend some days in Basrah or Magil before accommodation in a river steamer is available. There are rest camps at these places.

A journey from Basrah to the front by river steamer may occupy 8 or 10 days when the river is low, so rations must be taken accordingly (there is usually time to go ashore at Amarah and draw fresh

rations if necessary). Officers have to make their own arrangements for cooking and messing on board these steamers. In the more difficult reaches of the river, the steamer often bumps the bank, which gives opportunity to your servant to buy fowls and eggs from the villagers, who gather round to sell them. Clean water is always obtainable on board and sometimes ice. A few of the steamers have cabins, but on most you have to make shift on deck. In the worst parts of the river steamers tie up to the bank at night; opportunity is thus given for exercise ashore.

At the front steamers are met by military landing officers, who direct officers where to go.

PAY, ETC.—Family allotments can be made to India or to England or to both. The O. i c Clearing House, The Strand, Basrah, will give all information about allotments.

Indian currency notes, silver, nickel and copper are current and are accepted everywhere. English notes and silver could probably be exchanged at a F.T.C.O.'s. Small Persian coins up to a *kran* (4d.) are met with and Arabs frequently use these in computation. A few Turkish nickel coins of small value are sometimes found. In calculations with petty contractors the *lira* or Turkish pound (Rs. 13. 8. 0) is often used.

Rs.200 a month for personal use (Mess bill, servants' wages, etc.) will about see you through.

HEALTH.—Too much consideration cannot be given to details conducing to good health. Various recommendations are published from time to time by the medical authorities *re* preventive measures against diseases. It is as well to be inoculated, before leaving India if possible, against enteric and cholera.

Food.—It is as well to supplement one's rations by fresh vegetables whenever possible. Lettuces, a kind of coarse turnip, beans, cucumbers and many other vegetables are grown at Basrah and Amarah. Attempts were made to grow them higher up in 1916, but were frustrated by locusts. Excellent grapes are obtainable in July and August. Dates are available all the year round, but no one who has seen the local method of packing dates is likely to eat them again. Fowls and eggs are procurable in towns. Fish is also to be got, including, in the summer months, an excellent kind of sole. Weighted muslin or similar covers to protect food from dust and flies are essential.

Drink.—Chlorinated water is usually available for messes. River water, often the only kind available, is muddy and of course remains so when boiled. River water chokes Berkfelt and other filters very rapidly. A supply of powdered alum for sedimentation of water should be carried. Milk is generally obtainable on L. of C.—needless

to say it should be boiled. Soda water is manufactured in the larger stations. Ice also is made.

Clothing.—In the hot weather many cases of heat-stroke occur. As a preventive, the head and spine must be adequately protected from the sun. For this purpose, spine pads and extensions for helmets are served out. Goggles are very useful. Ties are not worn in the heat of the day. In summer R.E. officers are allowed an Arab coolie as umbrella-bearer. Shorts should not be worn in summer unless your knees are impervious to insect bites. In winter it is rather too cold to wear them at night.

Sleeping.—A mosquito net is absolutely necessary for eight months in the year. About May it becomes necessary to sleep out of doors. The dews are very heavy and, if the top of your mosquito net is unprotected by another covering, sometimes drip through and wake you in a most unpleasant manner.

A pocket medicine case (*e.g.* Burroughs, Wellcome & Co.) is useful. Quinine should be taken regularly and also given to one's servants.

Mr. Dexter Davidson, a well-known Indian dentist, has sent a representative to Mesopotamia, and there is at least one local dentist in Basrah.

AMUSEMENTS.—Naturally there is little time at present for amusements, but the following notes may be useful :—

Shooting.—Small game is fairly plentiful, chiefly duck, partridge, snipe and sand-grouse. There is no big game. If you bring a gun, bring a whole season's supply of cartridges, as they are unobtainable in Mesopotamia, and it takes time and trouble to import from India.

Fishing.—There is plenty of fish in both rivers, the largest being 50 lbs. in weight. A large *mahseer* rod is therefore useful. *Atta* is the bait most generally used.

There are tennis courts at Basrah and Amarah. Polo has been played in one or two places. The desert is suitable for polo almost anywhere with very little preparation. The same remark applies to hockey, which is also played.

Bathing should be very cautiously indulged in owing to under-currents. In mid-stream the current is usually much too rapid, and near the banks the mud renders bathing very unpleasant. The creeks are seldom deep enough and are usually the main sewers of the locality. Sharks are met with in the hot weather at least as far as Qurnah.

There are lots of pig in the marshes, and pig-sticking has sometimes been got up.

MISCELLANEOUS.—Postage to India and home is at present free, except for parcels and registered articles. Letters from home take

about a month to arrive in Mesopotamia. Mails arrive once a week and there are occasionally interim mails to and from India.

There are two photographers in Basrah who will develop photos; one of these gets all films passed by the Censor.

If parcels are sent to you from home or India remember that anything in the nature of cake or sweets, even in hermetically sealed tins, is likely to spoil in the hot weather.

As far as I am aware, there is no comprehensive history of Mesopotamia from the earliest times to the present day. The Chandos Classics in the volumes on Persia and the Saracens deal with the periods when the Persians and the earlier Muhammadan rulers reigned.

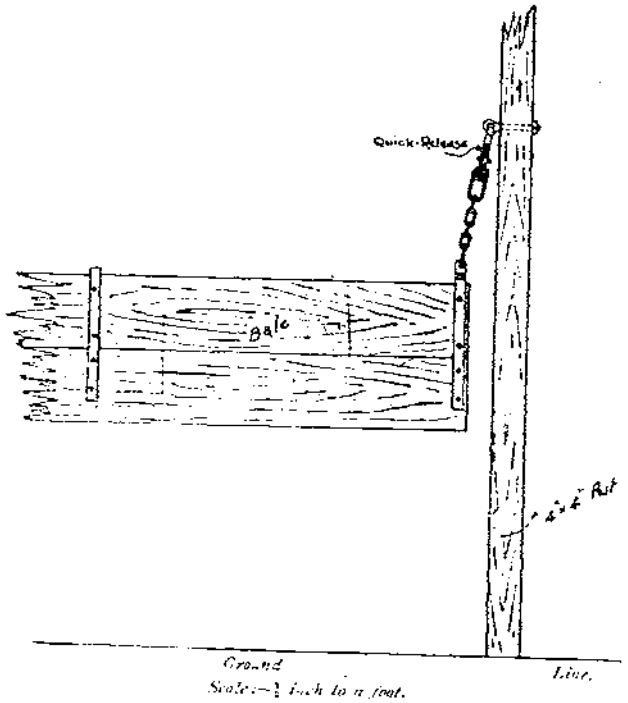
QUICK RELEASE FOR STABLE BALES.

By 2ND LIEUT. E. MARTIN, R.E.

THE following are the details of a quick release for stable bales in hutment stables which may be of value as a suggestion to anyone who has had trouble with horses getting their legs over the standard fixed bale usually provided.

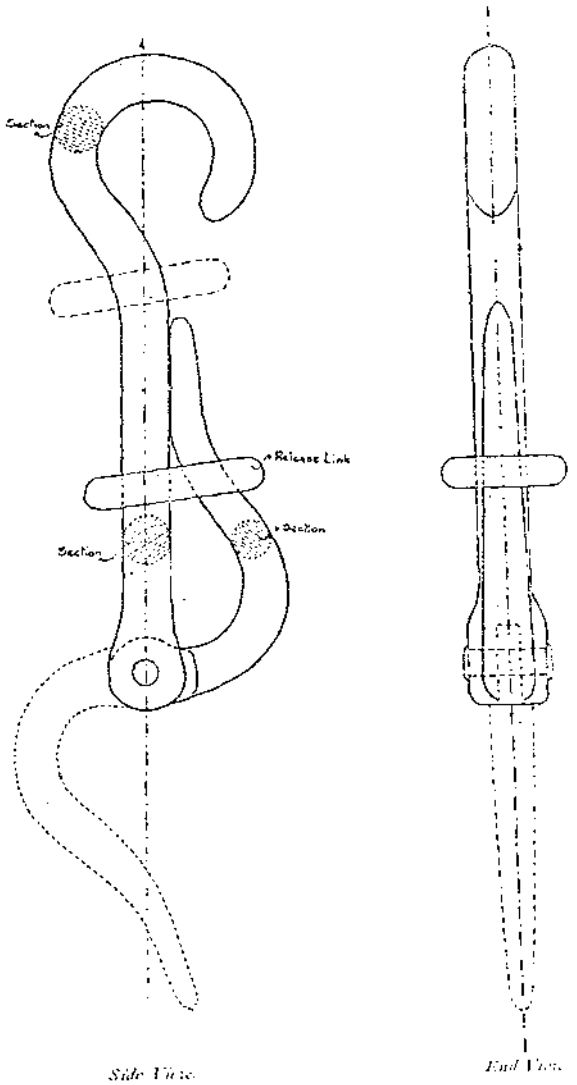
The figures will, I think, fully explain the working of this release, which consists of a hinged hook with a sliding ring to keep the hook closed when the bale is in position. To release the bale the sliding ring is raised, the hook immediately opens by the weight of the bale, which is thereupon released.

This form of release has proved so successful that entire stables are being fitted out with them.



Sketch showing Bale held in position by Quick-Release.

QUICK-RELEASE.
(Half-size).



Side View. *End View.*

KEADBY BRIDGE.

A PAPER was recently read by James Benjamin Ball, M.INST.C.E., at the Institution of Civil Engineers which described an important bridge over the River Trent at Keadby, about 14 miles north of Gainsborough, which the Great Central Railway Company have just completed. The chief feature is a lifting span, built on the Scherzer principle, which claims the distinction of being the heaviest lifting bridge yet constructed in Europe. The new bridge replaces the old swing bridge at Keadby which has carried the railway for over 60 years, and in addition carries a public highway in satisfaction of a long-felt want.

The new structure consists of a combined railway and roadway bridge of five spans of the following dimensions:—Two fixed river spans of 135 ft. each; a lifting span of 160 ft., giving a clear waterway of 150 ft.; a track span of 40 ft., on which the lifting span rolls, and an approach span of 70 ft. on the east bank of the river.

The bridge has a width of 53 ft. 6 in. between the centres of the outside girders, of which 29 ft. 3 in. is occupied by the railway and 24 ft. 3 in. by the roadway; each span consisting of three main girders, the centre one dividing the roadway from the railway.

The river piers, of which there are four, are faced with granite and founded on rectangular steel caissons filled with concrete and sunk under compressed air to a depth of 50 ft. below low water. The largest of these caissons has an overall length of 94 ft., a width over cutting edges of 20 ft. and a permanent height of 32 ft.

Difficulty was encountered in the early stages of sinking through one of the caissons tilting forward and moving bodily towards the river, which threatened serious results, but steps were taken which proved effective in arresting any further movement, and the caisson was finally righted during sinking in the new position it had taken up.

The two fixed river spans are similar in design, the main girders being of the ordinary N type, 17 ft. in depth, divided into ten panels and counterbraced in the two centre bays. The cross girders are suspended from the vertical posts below the bottom booms and spaced 13 ft. 6 in. apart; between them ordinary roadway and railway stringers carry the deck plating.

The top booms are connected by portal bracings at each vertical post, intersected by diagonal wind-bracing, and provision for

longitudinal expansion is made at the junction of the spans by means of cast-steel bearings mounted on groups of rollers. The total weight of steelwork in each of these spans is 540 tons.

The three main girders of the track span form a path on which the lifting span rolls, and together have to sustain the weight of the lifting span, which is nearly 3,000 tons. These girders, which are of very heavy construction, have an effective length of 40 ft. and a depth of 10 ft., and carry on their upper flanges cast-steel plates, 3½ in. thick, on which the teeth are formed, engaging with corresponding slots in the segmental girders of the lifting span.

Considerable attention was given in the design of the bridge to the question of the contact pressures obtaining between the segmental girders and the track plates upon which they roll, and for the purpose of determining the probable arc of contact, careful experiments were made, particulars of which are recorded in the Paper.

The lifting span consists of three main trusses spaced at the same distances from one another as the main girders in the fixed spans, and taper from a depth of 36 ft. at the rear end to 18 ft. at the fore end. Cross girders, spaced 19 ft. 8½ in. apart, with longitudinal stringers between them, carry the deck plating of the road and railway respectively, whilst the upper booms of the trusses are connected together by substantial overhead portal bracing on each of the vertical posts, which, together with the wind-bracing above and the floor members below, tie the trusses together, thus securing rigidity in the span as a whole.

The lifting span is counterweighted at the rear end in order to secure balance at all angles of lift, the counterweight consisting of a rectangular steel shell extending across the full width of the bridge, and heavily braced internally by lattice frames and strengthening girders. Its internal capacity is 24,780 cubic ft., and it contains 1,800 tons of concrete.

Between the rear ends of the trusses and the under side of the counterweight, compound plate-web segmental girders having a radius of 28 ft. are provided. These girders have a central depth of 10 ft., and on their bottom flanges are bolted segmental plates of forged steel 3½ in. thick, provided with slots to engage with the teeth of the track plates on which they roll.

On either side of the lifting span heavy frames are built up alongside the track girders and anchored down to the supporting piers of the bridge. These frames at their upper extremity carry horizontal girders to which are bolted the main operating racks.

Between these frames sufficient clearance allows the span to move freely as the bridge is raised or lowered.

The position of the racks coincides with the centre of the rolling circle of which the segmental girders form part, and the rotation

of the pinions attached to the gudgeon pins of the moving leaf as they travel horizontally along the racks, rolls the leaf backwards or forwards, so opening or closing the bridge. A horizontal platform at the level of the fixed racks is constructed on the leaf itself, and on this platform the lifting machinery is accommodated.

The total weight of steelwork in the lifting span is 987 tons, exclusive of the machinery and gearing, and the total weight of the moving span, together with its counterweight, is approximately 2,920 tons.

The lifting span is worked electrically by means of two 115-h.p. direct-current motors, carried on the leaf itself, the power being transmitted through trains of gearing to the main pinions on each side. The angle of maximum elevation of the bridge when fully open is 81°51, and the time taken to open or close it by electrical power is less than 2 minutes.

Owing to the absence of power in the neighbourhood, a special plant for the generation of current had to be put down, consisting of two direct-coupled petrol engines driving two 50-kilowatt continuous-current machines, the current being delivered at the switchboards at 220 volts. A large storage-battery is provided, capable of supplying the motors with current for about 30 operations of the bridge before recharging is necessary.

Two sets of electric brakes are provided, and at the fore end of the span two heavy forged steel bolts, worked electrically from the control cabin, engage with castings anchored down to the pier, so locking the bridge when in the " Down " position.

To prevent the too rapid descent of the leaf as it comes down on to the bearings, a pneumatic buffer is provided at the front of the span, whilst at the rear end bumping-clocks are provided on to which the counterweight comes down when the leaf attains its maximum elevation. Adjacent to these blocks, hydro-pneumatic buffers are fixed, the rams of which, coming into contact with the counterweight, bring the bridge gradually to rest as it reaches its final position.

In order to meet the requirements of the Navigation Authorities, the lifting span was erected in a vertical position, ten months being occupied in this work.

Electrically operated gates are provided for the protection of roadway traffic, which are interlocked with the railway signals, which latter, it may be observed, are what are known as three-position signals, and are the first to be installed as a complete scheme in this country.

Work was commenced in August, 1912, and following the Board of Trade tests which were carried out in March and April, 1916, the bridge was opened to traffic on the 21st May.

REVIEWS.

PAGES D'HISTOIRE, 1914—1915.

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

An announcement was made in the *R.E. Journal* for February, 1915, that the Librairie Militaire Berger-Levrault of Paris were publishing a series of interesting pamphlets in connection with the Great War; and in the *Journal* for that month and in subsequent numbers, reviews were published of pamphlets (numbered up to 40) belonging to this series. A further batch of these pamphlets, in continuation of the numbers already reviewed, has recently been received; the contents of the majority of these numbers are of as great interest as that of many of the numbers which have preceded them.

The 41st number of the series is entitled *The Poets of the War*. The poems, many of which have already appeared in the French Press, are preceded by a preface in verse by Hugues Delorme. The nature of the contents of the little volume may be gathered from the following lines of this preface:—

"Vers d'espoir, de deuil, de révolte,
Toujours sincères et touchants,
Nous en avons fait la récolte
Glanant parmi de vastes champs."

The volume contains some 60 poems, covering a wide range of subjects.

In a short poem entitled "Nos Alliés les Anglais" Maurice Allou tells us that before the War the Britisher knew not France and the Frenchman understood not the spirit of wild gaiety of the Briton. But since the days when the British and French commenced to fight side by side, the best that is in the souls of these two peoples suddenly revealed itself and enabled those of the island Kingdom and those of the great Republic to understand one another.

A poem by Emile Bergerat entitled *Jusqu'au bout!* contains a scathing denunciation of the modern Teuton, and in it is also expressed the determination of the Allies to persevere in the present struggle until victory is theirs.

Lucien Boyer in a few sarcastic lines entitled *La Dernière du Kaiser* deals with the propensity for prevaricating and telling downright untruths exhibited by German officialdom during the progress of the War. In the country of the Crown Prince and the Agence Wolff, says the poet, lying is a sport in the same way that golf is a sport in London. In a few lines addressed to His Majesty Albert I. the same poet tells of the honourable part played by Belgium in meeting her obligations as a Neutral State.

Jean Rameau, in a short poem entitled *La Croix de Fer*, throws ridicule on the Iron Cross in view of the nature of deeds which have been deemed worthy of reward by its bestowal.

As might be expected, the now famous French "75" is specially honoured in verse. Two short poems, one entitled *Le Soixante-Quinze* and another entitled *Au "75,"* appear in the collection, which concludes with a poem entitled *Les Belges* by Miguel Zamacoïs the last two verses of which are as follows :—

"Petit peuple martyr, pour ton apothéose
Tes ruines serviront de glorieux chantier :
Chacun t'apportera sa pierre, car ta cause
Est la cause du monde entier !

"En échange de tant d'héroïsme et de gloire,
Ta résurrection et ta prospérité,
C'est, payable comptant aussitôt la victoire,
La dette de l'Humanité ! "

The 42nd, 45th, 49th and 53rd numbers contain the official communiqués, etc., sent to the Provincial Authorities by the Central Government ; they are the VIII. to XI. Volumes (inclusive) which deal with this subject—each of them covers the events of a complete calendar month commencing with February, 1915, and ending with May, 1915. Each of these volumes contain appendices, in which are given summaries of the principal events of the War during the month covered by the communiqués contained in the same volume.

The 43rd and 52nd numbers deal with mentions in despatches, and awards of the Legion of Honour and the Médaille Militaire, they are the IX. and X. Volumes of the series relating to these awards ; the 43rd number covers the period 26th November to 1st December, 1914, the 52nd number the period 2nd to 7th December, 1914, and the 56th number the period 8th to 11th December, 1914.

The 44th number of the series is entitled *German Hatred* (of the French) and contains impressions of Germany formed by Paul Verrier (of the Sorbonne), who tells that circumstances have permitted him to study the German thoroughly in his own home, since he has, during the past 30 years, paid many visits, extending from 2 to 17 months at a time, to Germany. During his sojourns across the Rhine, M. Verrier has come into close contact with Germans in all classes of society, but more particularly with the professors and undergraduates at the German universities. He tells us that he has never made enquiries from Germans as to their intentions or their feelings towards France, as this would have been futile, the adoption of such a course could only have ended in mutual deception. On the other hand, M. Verrier has been keenly observant in regard to matters concerning his own country coming under his notice ; the impressions created in his mind, during his intercourse with Germans, have enabled him to form a pretty shrewd opinion on their mentality. He tells us that when he first left his own home for Germany, in 1878, his sympathies inclined strongly in favour of that country ; fostered no doubt by the study

he had made of German literature, such as *Faust*, *Werther*, *William Tell*, *The Brigands*, etc. The War of 1870 caused no bias in M. Verrier's mind against the Germans, as he had been brought up to believe that the war in question had been caused by the insatiable ambition of Napoleon III.

He claims too that he is an out-and-out Socialist, an anti-militarist and an internationalist, and further tells us that he consoled himself with the idea that some day Germany would repent her act of annexing Alsace-Lorraine and voluntarily restore these provinces to her neighbour.

The last sentence describes M. Verrier's frame of mind in 1884, when he set out again from France to take up the post of language master in an English school at Heidelberg. He took advantage of his stay in the town last mentioned to matriculate at its University, and at the same time joined one of the well-known Students' Associations. M. Verrier speaks of the drinking bouts and duelling habits of the 'Varsity students in no approving spirit; indeed, he appears to have been most unfavourably impressed with the manners and conduct generally of his fellow students.

Some years later (1892—1893) M. Verrier, having won a travelling scholarship, revisited Heidelberg to study the various German dialects. He describes the unpleasant experiences he went through when attending, by special request, meetings of the Students' Associations. On these occasions, the strong anti-French feeling which existed in Germany was forcibly brought home to him. He sought an explanation of this attitude from one of the professors of the University, who had been a fellow student with him in 1884—1885. He was informed by the professor that there was no real patriotism in Germany, so that in order to foster the unity of the German Empire the idea had been hit upon to make it dependant on a hatred common to all its people. This was unfortunate, but it was necessary.

Other aggravating incidents are referred to in connection with this and subsequent visits to Heidelberg in which M. Verrier, his wife (a German by birth) and a son (aged 14 years) experienced, at the hands of educated German people, the bitterness of the hatred against France, a hatred which appears to have been instigated and kept alive in Germany both from the pulpit and the professorial chair. M. Verrier reminds us that according to Arndt, "That is the German Fatherland, where every Frenchman is called an enemy."

M. Verrier gives examples of the manner in which the policy of engendering hatred of the French has been encouraged in Germany, by ridiculing the French in cartoons; by calling attention of the pupils in the schools to the alleged misdeeds of the French; by taking the opportunity, on the occasions of the delivery of patriotic speeches in celebration of the anniversary of German victories, of pointedly disparaging the French, etc.

He points out also that German school books are written with the deliberate intention of developing a chauvinistic spirit in the youth of the Empire; the doctrine that an obligation and a duty rests upon every German to work towards the attainment of German hegemony is openly advocated in these school books—the crushing of France,

being represented as the first step necessary in order to secure German supremacy.

M. Verrier also passes in review the general literature which has issued from the German Press during the past few decades; in view of the teachings contained therein there is little wonder that the mental balance of the German people has been so completely upset as to cause them to think that they had attained such pre-eminence as a governing Power as to entitle them to dominate the whole world.

The 46th number is entitled *Switzerland and the War*. The editors, in an introduction to this volume, state that the attitude of the "Little Sister Republic" in connection with the War has been an enigma to many Frenchmen. In the first days of the War, it was thought that Switzerland would throw in her lot with the Entente Allies on principle, in order to fight with those who were defending right and liberty. Later, it was expected that the Helvetic Republic would lodge a protest against the violation of the neutrality of Belgium. But nothing happened and the reason for Switzerland's silence and inactivity is explained by her leaders to be due to the fear that any protest which the Republic might have entered would certainly have been considered by the Germans as a sufficiently provocative act to justify the same treatment of Switzerland as was meted out by them to Belgium; further, it is argued, the Republic was under an obligation imposed by treaty to remain outside the conflict, unless attacked. Another reason for her attitude lay in the fact that no other neutral, neither the powerful United States of America nor the deeply concerned Italy, officially raised its voice on behalf of Belgium.

Switzerland also found itself faced with an internal crisis, owing to the sympathies of her people being divided, some inclining to one and others to the other belligerent group. The internal situation was so grave at one time as to jeopardize the very existence of the Republic, and it was only due to the perspicuity of true patriots that the Ship of State was steered into relatively smooth waters.

It is for these reasons that the Federal Council took no further step, in the first days of the War, than that of mobilizing 320,000 out of the 480,000 men enrolled in the Swiss Army.

In the volume under review, the editors have collected together a few characteristic contributions to the foreign Press; from a perusal of the contents some idea can be obtained of the difficulty of the problems which have faced the Swiss people and their leaders. The volume opens with the text of the declaration of neutrality issued by the Federal Council on the 3rd August, 1914; some of the views held in the French-Swiss and German-Swiss camps are next reproduced; the speech made by Mr. Henri Fazy, the doyen of the National Council, at its meeting held on the 6th December, 1914, follows; and the volume is brought to a close with a brief reference to the many ways in which the Swiss have come to the assistance of the victims of the War.

The contents of this volume show clearly enough that the outrageous acts of the German Army in Belgium have been strongly condemned, both in the French-Swiss and in the German-Swiss camps. On the other hand, the racial divisions in the Republic are an insuperable

obstacle to common action on the part of the whole people in a case which involves intervention in a quarrel to which France and Germany are parties.

The 47th number of the series contains the diplomatic correspondence, in relation to the crisis, preceding the outbreak of the present war, published in the Austro-Hungarian Red Book. The volume comprises 69 despatches, some accompanied by appendices, and covers the period 29th June to 24th August, 1914. These despatches are preceded by an introductory memorandum setting out Austro-Hungarian grievances against Serbia. Reference is made to the bitter feeling created in Serbia, in consequence of the annexation by Austria of Bosnia and Herzegovina, and it is alleged that since the advent of the Karageorgevitch dynasty on the Serbian throne deep-laid schemes, of which revolutionary intrigues have formed a conspicuous part, have been set on foot in Serbia with the object of inducing the Slav races resident in the southern territories of Austro-Hungary to break away from the Dual Monarchy.

The situation is said to have become so intolerable that it was no longer possible for Austro-Hungary to live in peace and on a neighbourly footing with Serbia, as was the case in the time of the Obrenovitchs. The despatches disclose that, in spite of the serious warning which was given to Austria, in July, 1914, by Great Britain and by Russia that the course she was pursuing in relation to Serbia would plunge the whole of Europe into a disastrous war, she pushed aside all offers of mediation. The despatches indicate that Austria and Germany were both well aware of the dangers of the situation created by the terms of the ultimatum sent to Serbia, quite apart from the warnings just referred to; however, it is probable that confident in the prowess of their armies and misled by outward signs of weakness in the political situation in Great Britain, France and Russia, the Teutonic Powers carried their "bluff" too far, and thus became responsible for the great calamity which has overtaken the world.

The 48th number is entitled *The Campaigns of* 1914. In a preface, the editors tell us that the contents of this volume are a reproduction from the *Illustration* of three articles by a distinguished officer, who writes under the *nom de plume* of Champaubert. These articles are illustrated with 23 sketch maps on which the positions of the contending armies, at various dates, are marked. The first of the articles deals with the Western Theatre of Operations; a very brief examination of the strategical relations of France and Germany is first made, attention being drawn to the circumstance that the measures adopted by the two countries since the new frontier between them was laid down in 1871, made it practically certain that in waging an offensive war Germany would attempt the invasion of France by causing the bulk of her forces to traverse Belgium and the Grand Duchy of Luxemburg. An outline is next given of the actual plan of concentration adopted by the British and French Armies on the front Condé–Binche–Maubeuge–Mezières–Toul–Mt. Donon–Belfort and by the German Armies on the front Aix-la-Chapelle–Metz–Strassburg–Belfort. The early engagements in Belgium and France are referred to and the difficult position in which

Castelnau found himself on the 20th August, 1914, when attacked not only on his front by the German Army under the Crown Prince of Bavaria, but threatened also on both flanks (from Metz on the left and by the VII. German Army under von Heeringen on the right) is touched upon. Castlenau, as is well known, prudently decided to retire, and finally fought the Germans to a standstill on the line Grand Couronne (Nancy)-La Montagne. In dealing with the general retirement of the British and French Armies to conform with the rearward move of the 3rd and 4th French Armies, when they were pushed back by powerful German columns in Belgian Luxemburg, Champaubert points out that it was open to the French generalissimo, at that time, to have chosen to make a stand in an entrenched position either behind the Meuse or the Aisne. Joffre was clever enough fully to realize that the adoption of a commonplace expedient of this kind would only delay the hour of eventual defeat and wisely decided on the bolder course of falling back behind the line Paris-Verdun, so that when the Germans had heedlessly followed him into the gap between the two places named, the Allied Armies came to a stand and turned vigorously on to their assailants, both of whose flanks were now threatened from the fortresses between which they had penetrated without due precautions. The victory of the Marne and the fighting on the Aisne is next briefly described. This article concludes with a reference to the so-called Battle of Flanders and the comparative calm which succeeded it.

The second article is entitled *Six Months' War in Poland*. It opens with some remarks on the military organization of Russia. It is pointed out that the reorganization of 1910 provided Russia with 27 Army Corps (in place of 24 Army Corps as was the case previously); it should be noted that at the same time the number of Army Districts was increased from six to seven—the headquarters of these districts being located at Petrograd, Vilna, Warsaw, Kieff, Odessa, Moscow and Kazan.

The Eastern Theatre of Operations and the plans of campaign are next described. It is pointed out that the Great General Staff at Berlin had decided to leave three Army Corps on the eastern frontier of Germany to act as a defensive force during the first weeks of the War, whilst the whole of the Austrian Army, not detailed for the operations against Serbia, was intended to take the offensive against Russia and to attack her vigorously in order to interfere with the mobilization of her Army. The Russian Army early in the War had to act in such a way as to compel Germany to transfer a large part of her Army employed in the Western to the Eastern Theatre; this required prompt and vigorous action against Germany. The same urgency was not necessary in relation to the action to be taken against Austria; it was sufficient to contain the Austro-Hungarian forces until such time as Russian troops from the more distant parts of the Muscovite Empire could be brought to Poland.

The early operations in Prussia are touched upon; in that region the Russians effected the purpose the Russian General Staff had in view in invading German territory, although unfortunately the Russians had to withdraw after von Hindenburg's success at Tannenburg, towards the end of October, 1914.

The operations in Galicia are next briefly described and short accounts are given of the first offensive stroke against Warsaw and the second invasion of western Poland by the Teutonic Armies. This article concludes with a description of the situation in this theatre in June, 1915.

It is pointed out that at this time Russia had succeeded in drawing against herself one-third of the German Army and three-fourths of the Austrian Army Corps and by far the greater part of the Turkish Army. To the effect produced by Russia's blows was it due that internal dissensions were created within the Dual Monarchy and that the Germans were obliged to suspend their march on Paris and Calais.

The third article deals with the campaign in Serbia. It is pointed out by Champaubert that Count Bertchtold talked nonsense in accusing the Belgrade Government of complicity in the Sarajevo crime. Had Serbia really wished to provoke an enemy to extremes, she could not have chosen a worse time than that of the murder of the heir to Austria's throne for the purpose. The two wars she had recently waged had completely impoverished her in men, material and money, thus making her quite unfit to prosecute a third war within a decade. A scheme had been prepared for doubling the Serbian Army, *i.e.* of increasing the divisions from five to ten, but little progress had been made with the reorganization in question; so that the delivery of the Austrian ultimatum took Serbia completely by surprise.

A short description is given of the Serbian and Austro-Hungarian Armies. In the case of Serbia the Army consisted of :—

(*a*). The first Ban (men between 21 and 30 years of age) which comprised five divisions (of all arms), one cavalry division, together with mountain and heavy artillery.

(*b*). The second Ban (men between 30 and 38 years of age) which also comprised five divisions (of all arms); the divisions were however weaker than those of the first Ban, viz. :— three regiments of infantry instead of four and 12 guns instead of 36.

(*c*). The third Ban (men between 38 and 45 years of age), which was only a militia; each military district furnished one regiment of infantry and one squadron of cavalry.

(*d*). The Comitadjis, which was an irregular Corps.

On mobilization the Serbian Army numbered 400,000 all ranks.

The third Ban of the Serbian Army was distributed along the rivers Drina, Save and Danube and formed a strategic outpost line covering the main body about Aranguelovatz—this town is midway between the two probable theatres of operations in which the Serbian Army was likely to be engaged.

Two-thirds of the Army of the Dual Monarchy was obliged to proceed to Galicia. The Austrian plan of campaign contemplated demonstrations along the Danube and lower Save by the VII. Army Corps and units of the Honved Army and of the Landstürm, at the same time the real attack was to be delivered from the line of the Drina and the region where this river joined the Save. Five Army Corps were detailed for

the real attack, whilst a part of a sixth Army Corps was to remain as a reserve in the fork of the Drave and the Save.

A short description is given of the Battle of the Iadar in which the Austrians were driven back towards the Drina. Mention is next made of the fighting on the Drina and of the Battle of Roudnik; the Austrians were successful in these operations, and, in view of the risk the Serbian Army ran of being enveloped, its commander decided to retire eastward. During this retirement, the Serbians frequently halted and turned on their pursuers, generally with success. However, they finally evacuated Belgrade and on the 2nd December, 1914, their line extended from the heights of Drenie (on south bank of the Danube) along the heights of Kosmaï and Roudnik to the left bank of the Morava near Pojega. On the day following that last mentioned, the Austrians ran into the Serbian Army, which was hidden by a mist, at Roudnik and were badly beaten and driven back to the Drina. On the 15th December, 1914, King Peter re-entered his capital and on that date not a single armed Austrian remained within his kingdom.

The 50th number is entitled *Our Sailors and the War* and deals with the War at sea in diary form; this volume covers the period 4th August, 1914, to 27th March, 1915. In an appendix there have been included a series of short notes on matters of special naval interest, such as the fate of the German Colonies, the submarine in modern war, the Allied fleets in action, the North Sea Battle, the German naval bluff (*i.e.* the submarine blockade of the British Isles) and the submarine attack on the *Jean-Bart*.

The 51st number of the series is a reproduction (in French) of the Second White Paper issued in connection with the War and consists for the main part of the despatches which passed between the British Foreign Office and the British Ambassador to the Sublime Report in relation to the attitude of Turkey. These despatches cover the period from 3rd August to 4th November, 1914, and begin with a despatch from Sir Edward Grey to the British Representative at Constantinople requesting him to inform the Turkish Government that the British Government had decided to take over the warship *Osman I.* which, at that time, was under construction for the Turkish Navy in the yards of Messrs. Armstrong, Whitworth & Co. Subsequent despatches deal with the arrival of the *Breslau* and *Goeben* in Turkish waters, the steps which the British Government took to prevent Turkey falling completely under the control of Germany and Austria, the interference by Germany, as well as by Turkey, with British shipping in neutral waters, the intrigues set on foot by these two Powers to jeopardize the position of Great Britain in Egypt and other Mohammedan countries, and finally, the acts of war carried out by Turkey against Russia at Odessa and Theodosia, which eventually caused the rupture of diplomatic relations and resulted in the Turkish Army becoming a tool in the hands of the Teutonic Powers for the purpose of continuing their policy of World Conquest.

The 54th volume is entitled *The Economic Causes of the War*. The contents of this volume are from the pen of Christian Cornélissen, a well-known Dutch Sociologist. An Introduction to this volume by

M. Charles Andler of the Sorbonne deals with the German menace to Holland. A brief reference is first made in this Introduction to Cornélissen; we are told that he was at one time a teacher of Natural Science at Gertruidenberg, but in 1891 renounced teaching for journalism. Cornélissen has since the date mentioned associated himself closely with the cause of Labour, and, in order to study closely the lot of those whose cause he had espoused, followed the trade of a painter and decorator. He has been settled in France for some time and is the author of a number of works on Social Economics. In dealing with the German attitude towards Holland, M. Andler points out that Germany covets those regions in Europe in which lie the delta of the Rhine, as also the Dutch Indies and Dutch Guiana. Moreover Holland is guilty of a grave wrong, in Teutonic eyes, in that she no longer forms part to-day of the German Empire as in the days of the Holy Roman Empire. It has been the dream of several eminent publicists—some of these are quoted by M. Andler—to constitute in their own day a powerful confederation, in which it was desired to unite with the present German Empire, Austro-Hungary, Switzerland, Belgium and Holland. The formation of such a Central European Confederation met with the approval of the German Socialists, some of whom further have made it no secret that it was the aim of International Socialism to upset the dominant position occupied in the affairs of this world by Great Britain.

Cornélissen was not willing to be a party to these mad schemes. He looks upon the Western people as a force united into one vast Syndicate for the promotion of freedom, and, in consequence he has espoused their cause and has been engaged in the propagation of his own belief on this subject among his Dutch compatriots.

M. Cornélissen's contribution is divided into four sections, the first of which deals with the causes of the War. It is pointed out that all visitors to Germany, in recent years, have noticed the remarkable change which has come over the people of that country in the last few decades and the rapidity with which the country has developed economically. It is said that Germany recovered from the acute crisis of 1907—1909 more rapidly than the United States of America—figures to prove this are reproduced from the *Frankfort Gazette*.

The rapid increase of the population of the German Empire during the present century has been a powerful factor contributing to its economic expansion. And at the same time, it was this increase of population which was also responsible for the desire which had grown in Germany for territorial expansion, a desire which has been pointedly referred to in the phrase: "Antwerp and Rotterdam are the lungs of Germany in the west."

Those who had made a careful study of the economic situation in Germany were convinced that it was one which tended to provoke a war of conquest. It is pointed out that Germany found herself, just before the War, in a situation analogous to that prevailing in Great Britain at the time that machinery was introduced into the latter country and she went in search of new markets in which to dispose of the products of her factories. Great Britain, however, being first in the field, was able to monopolize the markets of the world without having

to push out any rivals. Germany, on the other hand, had not only to compete against Great Britain, but also against the United States of America, which is to-day first and foremost in commercial and industrial enterprises, as well as against France, Russia, Italy and Austro-Hungary. In every direction Germany has found obstacles which have prevented her from having a free hand in placing the output of her factories.

Cornélissen points out that the Press of the world has dinned it into our ears during the past few months that the present war is a fight between Great Britain and Germany for world domination in the fields of commerce and industry. Those who express themselves in these terms reduce into simple language an extremely complicated situation, but they forget to lay stress on the fact that Great Britain is acting on the defensive in order to retain a position she has already won and that she possesses colonies all over the world with which she has close commercial relations; and therefore it has not been from Great Britain that the dangers of a world-wide war threatened Europe during the past decade. Events have also proved that France was not ready for a great war. On the other hand, Germany has wanted to supplant her rivals, on the right hand and on the left, in international markets. Consequently, although the attitude of Great Britain has been defensive that of Germany has been distinctly offensive.

The question is next discussed as to whether the last financial crisis in Germany may not have accelerated the date for the outbreak of the war which is now in progress. The conclusion arrived at is that the economic situation in Germany was not, during the first half of 1914, altogether favourable to a declaration of war by her and therefore it must have been political and technical considerations which induced her to adopt the course she took in July, 1914. Cornélissen is of opinion that it is a mistake to attribute the outbreak of war solely to the German capitalists as a class; he points out that capitalists were well aware that a declaration of war by Germany against France and Russia would mean the ruin of thousands of their own class; the possibility of personal losses had to be faced by each of them.

The second section of the volume deals with the economic struggle; the racial struggle; and the battle of governmental régimes. Cornélissen states that those who desire to probe for the causes of the Great War must not confine their attention exclusively to the material gains which are likely to benefit certain individuals or certain classes. Taking it for granted that Germany had a greater responsibility than any other nation in bringing about the present war, it is less clear, says Cornélissen, that this responsibility can be placed solely on the shoulders of some of the great capitalists interested. All the wars of recent times, it is true, have been waged in the interests of capitalists, but the present war is one rather in the nature of a *racial struggle* and a *battle of governmental régimes* rather than a *war of material interests*. The assassination of the heir to the Austrian throne and his consort was, it is quite evident, only used as an excuse for justifying the adoption of a course already decided upon for quite other reasons. The struggle for the supremacy of Germany in Europe is not limited, Cornélissen tells us, to domination in the sphere of economics alone, but extends to domination in matters

affecting politics, as also those affecting the intellectual and moral outlook of the peoples over whom it is desired to establish German Overlordship. It is further intended that the hegemony of German "kultur" shall embrace the whole of Europe.

Had not the Trades Unions in Germany, or at least the Labour leaders, been almost all Pan-Germanists and Imperialists it would not be possible, as is really the case, for anyone to speak of the "bankruptcy of International Socialism." The workmen of Germany and their leaders were evidently of opinion that their interests were as closely bound up in the extension of German domination and in the policy of colonial expansion as that of the ruling classes.

The third section of the volume deals with *The Duties of Western Europe*. The present war, says Cornélissen, imposes a double duty on the democracies of Western Europe; firstly, they must oppose a war of conquest, a war waged to bring about an extension of the territories of the industrial states of Central Europe; secondly, they must fight against the continuance of autocracy and against the Pan-German reaction in these same States which have led them into the present conflict.

Cornélissen points out that intellectual and moral Pan-Germanism constitutes a dire peril for countries enjoying the advantages of democratic government.

The fourth section of the volume deals with *The United States of Europe*. Cornélissen urges that the peoples of Western Europe should continue their resistance against the avalanche of the Austro-German Armies with energy and to the bitter end, in order that the defeat of Prussian imperialism and militarism may enable us to advance another step towards the creation of the United States of Europe; in Cornélissen's opinion, the European Powers ought to form themselves into a Confederation in which the autonomy of the different nationalities would be respected and where arbitration would be substituted for armed conflicts to settle disputes between the States forming the Confederation.

Although a century may elapse, Cornélissen thinks, before Republics can be founded in Germany and in Austria, yet in his opinion the armies of France can at least establish in Central Europe the principles of the supremacy of the civil power over that of the military, of lay and democratic influence in place of the sway of the priest and the squire.

He has little doubt in his mind, if this were done, that the armies of the Western Allies would be received with open arms by the vast majority of the more intelligent among the German peoples; he is even convinced that with a little goodwill on all sides a situation could be brought about in Europe which would secure permanent peace by the removal of all disturbing causes likely to bring the economic and other interests of the several States of the Old World into conflict.

The 55th number of the series contains the diplomatic correspondence published in the Italian Green Book dealing with the circumstances which led to a rupture of relations between Italy and Austria-Hungary last year. The despatches, of which there are 77, cover the period 9th December, 1914—4th May, 1915. The first despatch of this series

gives the text of the instructions sent by the Italian Minister for Foreign Affairs to the Italian Ambassador at Vienna. In this despatch the latter is directed to inform Count Berchthold that the Austro-Hungarian attack on Serbia was an event which made it necessary for the Italian and Austro-Hungarian Governments to discuss preliminaries in accordance with Article VII. of the Triplice Treaty. The Article in question, he was directed to point out, rendered it obligatory on the Austro-Hungarian Government, even in the case of a temporary occupation of territory outside the limits of the Dual Monarchy, to enter into an agreement on the subject with the Italian Government and at the same time to settle what compensation the latter should receive. Further, the attention of Count Berchthold was to be called to the fact that Austria-Hungary had, in virtue of the provisions of Article VII., restricted the operations of the Italian Army during the Italo-Turkish War; and in the case of the Italian naval operations in the Dardanelles, the Dual Monarchy had entered formal protests. The Italian Ambassador was also requested to explain that Italy considered it a matter of paramount interest to her that the territorial integrity and the political and economic independence of Serbia should be completely preserved, and that Article VII. gave Italy a right to compensation even in the case where the advantages obtained by Austria-Hungary did not consist in new territorial acquisitions. The state of public feeling in Italy on this matter was to be made clear and at the same time the desirability of removing every pretext for regrettable incidents and suspicions as to the designs of the Dual Monarchy was to be urged.

The despatches show that, from the first, Count Berchthold was not prepared to discuss the question of the interpretation of the terms of Article VII. with the Italian Government, and an attempt was made by him to differentiate between the situation of Italy at war with Turkey and that of Austria-Hungary at war with Serbia so far as the applicability of the provisions of Article VII. were concerned.

In a despatch from the Italian Foreign Minister to the Italian Ambassadors at Berlin and Vienna, dated 20th December, 1914, the former announces that Prince von Bülow had paid his first call at the Foreign Office, Rome; the object of von Bülow's visit to Italy, at that juncture, was stated to be a desire to familiarize himself with the mentality of the Italians, and to make the same known to the German Government. Von Bülow, it would appear, led the Italian Foreign Minister to believe that, in the controversy which had begun between Italy and the Dual Monarchy, he was of opinion that the former country was in the right. However, after much correspondence the two Powers were not arriving near any basis of agreement. Austria-Hungary had it was true accepted the principle of territorial compensation to Italy in return for an undertaking that the latter should remain strictly neutral throughout the War. But the territories which were to be assigned to Italy by Austria-Hungary belonged to third parties and not to Austria or Hungary, and therefore there was no guarantee that the Dual Monarchy would ever be able to carry out her bargain, even if Italy were prepared to agree to her terms, which as a matter of fact she was not.

On the 4th March, 1915, the Italian Foreign Minister telegraphed to the Italian Minister at Vienna that it appeared to be useless to prolong the discussion with the Austro-Hungarian Government on the question of territorial compensation on the basis of Article VII. In this despatch the negotiations which had already taken place between the two governments are summarized in the following terms :—

1. That no military action should be commenced by Austria-Hungary in the Balkans until an agreement had been arrived at with Italy on the subject of compensation; Italy would hold Austria-Hungary strictly to the provisions of Article VII.

2. That every breach by Austria-Hungary of the principles laid down in the preceding paragraph would be considered a flagrant violation of the Triplice Treaty, leading to a denunciation of the Treaty by Italy, in order that she might resume full liberty of action for the protection of her rights and interests.

3. That no proposals or discussions regarding compensation on the part of Austria-Hungary would be considered by Italy unless the same related to the cession of territory forming part of the Dual Monarchy.

4. That, in view of the provisions of Article VII., Italy demanded compensation by reason alone of the fact that Austria-Hungary had undertaken military operations in the Balkans, and quite apart from the results which might follow upon such action.

5. That the compensation to be awarded Italy in respect of the military operations commenced in the Balkans by Austria-Hungary was not to be a matter to be kept secret, but must take effect in the immediate surrender to and occupation by Italy of the territory ceded.

6. That Italy was not prepared to enter into the discussion of any question of compensation to be made by her to Austria-Hungary in respect of her occupation (at the time of the Tripoli Campaign) of the Dodecanese Islands and Vallona—this matter had been raised as a counter-claim by Austria-Hungary.

Negotiations, however, were not at once broken off by Italy. The Italian Foreign Minister with infinite patience and admirable skill renewed the Pourparlers; during these further discussions von Bülow from time to time appeared on the scene, but was not able to divert Italy from her purpose. It was not till the 3rd May, 1915, that the patience of Italy was finally exhausted and instructions were sent from Rome to the Italian Ambassador at Vienna to leave with the Austrian Foreign Minister the copy of a despatch reviewing the circumstances in which Italy had entered into an alliance with Austria-Hungary as a mutual measure of defence and for the purpose of securing peace. The violation of the terms of the Treaty of Alliance by Austria-Hungary is referred to in the despatch in question; the despatch concludes as follows :—

"Under the circumstances, the Italian Government must give up all hope of coming to an agreement in respect of the matters in dispute and feels bound to withdraw all the proposals put forward by it as a basis of agreement.

"It is equally useless for Italy to endeavour to maintain the appear-

ance outwardly of an Alliance, which can only result in dissimulating the existence of mutual distrust and daily differences.

"For this reason Italy, having confidence in the justice of her case, affirms and proclaims that from this time forth she resumes her entire liberty of action and declares her Treaty of Alliance with Austria-Hungary annulled and of no effect."

The concluding despatch is one from the Italian Ambassador to the Italian Foreign Minister dated 4th May, 1915, reporting that he had carried out the foregoing instructions.

W. A. J. O'MEARA.

STRESSES IN WIRE-WRAPPED GUNS AND IN GUN CARRIAGES.

By LT.-COL. COLDEN L'H. RUGGLES.—(London: Chapman & Hall, Ltd.).

The fact that a second edition of this work has been found necessary, shows that it supplies a considerable demand, and we are sure that the ordnance student, as well as the practical designer, will find the book of much value. Probably it is more specifically adapted as a class-book for the cadets at the United States Military Academy, for whom it was originally written. As to the engineer capable of following the mathematical discussions in Chapter III., the first part of Chapter IV. dealing with Bending Moments, Moments of Inertia, etc., and the greater part of Chapter V., would be a mere repetition of familiar theory.

Chapter I. deals with stresses in "Wire-wrapped" guns and is based on Lissak's *Ordnance and Gunnery*. We are glad to note the inclusion of a fully-worked example which is made particularly clear by excellent diagrams.

Chapters II. and III. are devoted to the determination of the forces in the parts of a 3-in. field carriage and a disappearing gun-carriage respectively, but a working knowledge of the calculus is necessary to follow the mathematical parts in the latter chapter.

The latter section of Chapter IV. is concerned with a discussion on the "stresses in parts of gun-carriages" and again worked examples are used to make this clear. We consider this one of the best parts of the book.

Chapter V. deals with Toothed Gearing partly with reference to guns and Chapter VI. with "Counter-Recoil" Springs or, as more commonly called in this country, "Running-Out Springs" in which some useful information from the designer's standpoint is given.

The general get-up of the book is good and the text clear. We are a little disappointed that the author does not give more details for design but possibly in its present form it is better suited for the use of the student.

We can recommend the book to all interested in ordnance.

NOTICE OF MAGAZINE.

REVUE MILITAIRE SUISSE.

No. 9.—September, 1916.

IMPRESSIONS FROM THE AUSTRO-HUNGARIAN FRONT.

II.

In Serbia with General Kövess's Army.

The article under the above heading begun in the number of the *Revue* for August, 1916 (*vide R.E. Journal* for November), is continued in the number now under review.

The Capture of Belgrade.—The author of the *Revue* article points out that the attack made on Belgrade by the Austro-German heavy artillery on the 5th October, 1915, from the neighbourhood of Semlin, on the left bank of the Danube, took the Serbians by surprise; for a whole day the latter made no reply to the hostile artillery fire.

The progress of the Austro-German attack is briefly described in the *Revue* article. The first body of troops to get across the Danube was the 87th Austrian Regiment, which set foot on Serbian soil about 5 a.m. on the morning of the 7th October. No sooner was this regiment across the river when the Serbian batteries at Kalimegdan and Vracar at once opened fire on the enemy; some transports on the river were sunk, and the operation of crossing the Danube was interrupted.

On the 7th October, heavy artillery fire was brought to bear by the Austrians on the defences of Belgrade. As a result the four 150-mm. French guns at Kalimegdan were silenced one by one and the Serbian searchlights were also put out of action. In order to provide a substitute for the searchlights, the Serbians purposely set fire to factories near the railway station: the conflagration caused thereby brilliantly illuminated the banks of the Danube and of the Save for two days.

However, in spite of the violence of the Serbian bombardment, Austrian and German troops succeeded in forcing the passage of the river and in entering Belgrade; finally, the Serbians retired in a southerly direction and took up a position on the heights north of the line Zarkovo-Dedinje-Veliki-Vracar.

The Siege of Belgrade lasted five days. The Serbian General Staff had remained completely in the dark concerning the concentration of General Kovess's Army between Semlin and Orsova. The three French aviators, who had been stationed at Belgrade, had been sent to Salonika in September; the Serbian detachments along the Danube and the Save had not reported that anything unusual was happening on the banks of these rivers held by the enemy.

The Serbians had counted on considerable assistance from the Western Allies, but all they received was one battery of artillery from the British and one from the French.

In spite of the disadvantages under which the Serbians found themselves they fought with great heroism, and stubbornness.

In spite of the fact that the old citadel of Kalimegdan was antiquated —having been constructed on the Vauban system in the 17th century— it proved a considerable obstacle to the Austro-German advance until it was finally reduced by artillery fire.

The writer of the *Revue* article speaks in high terms of praise of the fighting qualities of the Serbian Army. The Serb, he says, makes a first-rate soldier. Further, he has often heard Austro-Hungarian officers speak in high admiration of the military qualities of the Serbian soldier. The Serb is generally a man of medium height, of a blonde type with a tanned skin ; a Slav of the south, he is quicker witted and more free and easy than his Russian cousin. Serbian soldiers possess all the qualities of a peasant race, namely, untiring patience, faithfulness, bump of locality, respect for authority and a devotion to their native land that leads to the performance of heroic deeds.

It is said that between the victorious campaign of 1914 and the less fortunate one of 1915, the quality of the Serbian soldier had deteriorated. This alleged deterioration has been attributed to the following causes :—

(*a*). The epidemic of typhus which carried off 30,000 soldiers.

(*b*). The losses in the campaign of 1914, which have not been made good by the 120,000 recruits of the 98—99 class since enrolled ; 60,000 of these recruits were of the newer nationalities incorporated into Serbia, *i.e.* Macedonians, Bulgars, Albanians, Turks. The recruits last referred to fought without enthusiasm, many surrendering whilst others deserted.

(*c*). During the 1914 campaign, the casualties in the ranks of the officers of the active army amounted to 60 per cent. of their number. These losses had to be made good by calling up Reserve officers, who had received little military instruction.

(*d*). Four years of continuous war had exhausted the country.

(*e*). The numerical superiority of the enemy opposed to them.

(*f*). The lowering of *morale* caused by the failure of the Western Allies to come to the assistance of Serbia in her hour of great need.

(*g*). The lack of heavy guns. The Serbs had only 6-in. guns with which to reply to the terrific fire of Austro-German 12-in. and 16·5-in. guns.

(*h*). The lack of aviators.

The effective strength of the Serbian Army was, in October, 1915, about 220,000 men.

The Pursuit of the Serbians.—After the fall of the Serbian capital General Kövess's Army attempted to push forward at once as quickly as possible in order to make the bridge crossings over the Danube and the Save secure and to prevent a Serbian counter-stroke against Belgrade.

The Austrian and German forces having joined hands, they attempted to seize the heights of Avalla—about 12½ miles from Belgrade and separated from it by a plain, which is highly cultivated but devoid of woods. Owing to the resistance of the Serbian army many days elapsed before the Austro-German troops could take possession of the heights of Avalla. In their further progress southward the troops of the Central Powers were stubbornly opposed by the Serbians, who made excellent use of the ground to delay the advance of the Austro-German forces.

The Serbian soldiers were very indifferently armed and equipped. They were armed with Mausers, rifles captured from the Turks in 1912, Russian rifles, etc.; the regiments of the first ban had proper uniforms and equipment, but in the case of the second ban, the men had been issued with a variety of different uniforms, some men were wearing French jackets, others had on British greatcoats, etc.

The Serbian artillery was handled with great skill and boldness. However, the effect produced by the heavy shells of the enemy on the Serbian defences was so crushing that nothing could stand up against them. Entire companies were suffocated by the displacement of the atmosphere caused on the bursting of the 12-in. and 16½-in. shell.

Close contact with the Serbian forces was maintained by the pursuing cavalry; the distance separating the two hostile armies was at no time great.

The supply services of the Austro-German forces had to contend with considerable difficulties. For three weeks the whole of the supply wagons had to travel along the Belgrade-Mladenovac-Topola-Kragujevac road, at that time much broken up; the ruts were 18 in. to 2 ft. deep in some places; afterwards when the Austrian Engineers had effected the necessary repairs to the track the Belgrade-Nisch railway was also used by the pursuing troops for forwarding supplies.

Civilian transport was used almost entirely on the Austrian Lines of Communication, as all the army wagons were required with the troops in the fighting line.—(*To be concluded*).

BULLET AND BAYONET.

After calling attention to the article entitled "Some of the Precepts of the War" which appeared in the *Revue* for April and May, 1916 (*vide R.E. Journal* for July and August, 1916), the author of the *Revue* article states that he proposes to strike a somewhat different note to that sounded by Major Cerf, the author of "Some of the Precepts of the War."

Major Cerf found, it is said, in Major André's *Le Tir pour Vaincre* many ideas which appealed to him strongly as a musketry enthusiast. In consequence, in his own *Revue* article he has given a modern battle, it is suggested, too much the appearance of a Bisley Meeting or a pheasant *battue*. No saying is more true than the maxim: "Skill will beat mere brute strength," but the contents of Major Cerf's article do not correspond to the ideas which this maxim represents. After reading what Major Cerf says in his article those who share his convictions will, it is said, be tempted to exclaim: Skill at musketry will beat all things else.

The writer of the *Revue* article is of opinion that it would be dangerous for the views contained in Major Cerf's article to be adopted, without reservation, in the Swiss Army and points out that since Major André wrote with the French Army in view, an army in which musketry training had been seriously neglected, it was permissible for him (André) to emphasize the value of rifle fire. But as in Switzerland rifle shooting had, at all times, received marked attention, Major André's arguments do not apply to the Swiss Army, where, unfortunately, too many already think that a good rifle-shot must necessarily be a *good soldier*.

The writer of the *Revue* article expresses the opinion that so long as nations go to war, the most important factor on the battlefield will be the man himself—*the man behind the gun*. If this man is lacking in courage and discipline, the most perfect rifle and the most modern appliances of war will not win victories, even where they are handled with skill.

Both what Major André has to say as well as Major Cerf's article prove that the soldier must know how to shoot, but, according to these two officers, it would almost appear that the soldier requires to know nothing else. The writer of the present *Revue* article considers that this view does not represent the true teaching of modern wars.

Major André, it is pointed out, wrote his work, *Le Tir pour Vaincre*, when the impressions caused by the battles of August, 1914, were still fresh in his mind, and at a time when the superiority of the fire of the German infantry had been an important factor in securing victory. At that time little experience of trench warfare had been gained.

The experiences of 1915 and 1916 certainly provided confirmatory evidence, if any was wanted, to show how important it is for soldiers to shoot well, but, at the same time, it also became very evident that rifle fire is far from being the only means of conducting an infantry fight. In the trenches, the infantryman to-day is using not only the bullet, but also the bayonet, the rifle grenade, the hand grenade, the revolver and the knife. And in addition, there are in use trench guns of various kinds, machine guns, asphyxiating gases, liquid fire, etc.; these are, as a rule, all being operated by specialists.

Musketry training is after all only one of the many branches of instruction which the infantry soldier must undergo; musketry is not, however, says the writer of the *Revue* article, proved to be the essential branch.

A Conference of British officers and N.C.O.'s was, it is said, held in October, 1915, when a lecture was given by an officer. Who this officer was, it is not known, but it is presumed he had recently returned from the Front. The lecturer did not by any means hold rifle fire in poor estimation, but he said little about it. In his view, the two principal factors making for the efficiency of infantry were physical development, and skill in handling the bayonet. There is a wide difference between these views and the teaching contained in the phrase, "Tir à vaincre."

Parts of the lecture referred to are quoted. The extracts given tell us that the lecturer pointed out that even centuries ago the ancient Greeks attached considerable importance to a man's physical qualities and, if anything, in the present war the need for physical strength has been shown to be greater than in past wars. In order that a man may

be able to keep up a rapid and accurate rifle fire against any target his brain and muscles must be properly trained for the purpose. To execute a bayonet attack active and powerful men are required. Battles last long nowadays and troops are constantly exposed to all sorts of vagaries in the weather, etc. Heavy shells, mines, machine guns, grenades, night fighting destroy the nerves of all but seasoned soldiers.

In the present war, generals of the higher formations can exert little immediate influence on their commands. It is a fight of man against man, in which junior officers, N.C.O.'s and privates are playing the leading parts. And if a man does not possess a sufficiently robust frame and constitution, he soon breaks down and becomes unfit.

However, physical vigour is not everything, a soldier must also have an active brain and presence of mind; body and mind must act in co-operation.

Moreover, each man must have confidence in himself and in his subordinates. The three factors making for success are physical aptitude, co-operation between mind and body, and confidence.

The writer of the *Revue* article states that considerable progress has been made in the Swiss Army in respect of the matters just referred to, but as in every army raised on a Militia basis, the task of training it is similar to that imposed upon Sisyphus.

Passing to the bayonet, the writer of the *Revue* article says that both Major Cerf and Major André appear to hold this accessory to a rifle in poor estimation. Nevertheless Major Cerf admits that a bayonet is useful on occasions and recognizes that the training of an infantryman is not complete until he can use a bayonet skilfully. Continuing, he states that he is in hearty agreement with the British lecturer already referred to. The lecturer in question pointed out that there was no braver soldier than the German soldier, but he lacked initiative and aggressiveness. Excellent at long-range fighting, where discipline counts for much, the German soldier is at a hopeless disadvantage in a hand-to-hand fight; he cannot face the bayonet. The British soldier is the very opposite of the German soldier; the combative spirit is inborn in him; in long-range fighting, he, at times, fails to rise to the occasion, but when he sees red, he is the very devil himself. The lecturer holds the view that a warlike spirit without skill is of little value; further, that knowledge as well as willingness to fight is necessary. His views are briefly as follows:—It is necessary in war to kill not only at long range but also in hand-to-hand combat. To acquire skill with the bayonet, a longer and more continuous training is required than that necessary to handle a rifle expertly. If a man misses his target with a rifle on the battlefield, there is still a chance he may obtain a hit with his next shot; but when it comes to a bayonet fight the man who fails to deliver his first thrust dexterously he is almost sure to be a dead man before he can recover himself for his second thrust. Physical strength is necessary in thrusting with a bayonet to enable a man to drive it well into an adversary's body and to withdraw it again quickly. Rapidity in handling a bayonet is as important as rapidity in firing a rifle; it is essential not only that a man should be able to strike down his own opponent, but also that he should be able

to render help to his comrades. Trenches must be "cleaned up" as quickly as possible in order that the counter-attack, which is sure always to follow, may be met with undivided attention; otherwise, the attack is likely to be a failure. The more a man feels that he has mastered the use of his bayonet the greater will be the confidence with which he will advance to the assault. A man should feel that he can take on three of the enemy single-handed.

The writer of the *Revue* article points out that others beside the British hold the bayonet in high esteem, and calls attention to the fact that Capt. Laffargue in his *Étude sur l'attaque dans la période* whilst expressing a preference for the bullet, by no means disparages the value of the bayonet.

To sum up, it is recommended that every infantryman should be able to use his rifle equally well for thrusting as for shooting. On the other hand, bombing and stabbing should be entrusted to specialists, who should be specially trained in the use of grenades and daggers in the same way that machine gunners and telephonists are trained in their own particular crafts.

A New Year's Reception, Generals and Policy.

In an introductory paragraph the editor of the *Revue* states that since the commencement of the War the archives of Pangermanism have been extensively searched in order that the causes of the War and its prime instigators might be definitely ascertained. It is pointed out that this research discloses that the propaganda in favour of a bigger Germany and the hegemony of the German Empire and of the Hohenzollerns was older and had been much more systematically pursued and was more widespread than people had thought to be the case during the period of peace preceding the outbreak of war, since, at that time, a soporific calm unfortunately prevailed to deceive the world. The fact that the whole of the German people, including the Socialists who, outwardly, were rabid anti-militarists, ranged themselves so unhesitatingly in support of the Great General Staff, proves conclusively that the present war was *their war*. Their attitude also provides evidence that the precipitation by Germany of the Great War caused the German people satisfaction and fulfilled all their expectations. The fact that such complete unanimity was shown in the matter by the German people and that the inhuman excesses of the Teutonic soldiery met with very general indulgence, not to say approbation, at the very outset, shows how deeply the canker of Pangermanism had contaminated the subjects of the Kaiser. It was the propaganda in question which was responsible for the ready acceptance of the theory that he who had Might on his side need pay no regard to Right.

An account, which appeared in the Munich *März* for February, 1909, is given later of an incident in the Pangerman Campaign. It deals with what passed at the reception of general officers held by the Kaiser on the 1st January, 1909. On that occasion Wilhelm II. called the attention of those attending the reception to an article on Military Policy which had appeared in the *Deutsche Revue*. The article in question

related to the Pangerman Campaign and to the policy of aggression which was at that time being advocated in German military circles in opposition to the views held in the Chancellery of the Empire. This intervention of the Kaiser in a matter connected with military enterprises raised a storm in what up to that time had been Liberal Germany.

The following is a brief summary of the *März* article in question. This article states that it was shown, in a striking manner, on New Year's Day (*i.e.* 1909), how the Imperial Court treats certain questions, and how the ruling caste bring about confusion in matters which require unity in direction. What passed at the reception of the generals has become a matter of great perplexity to the German Press, which does not like unpleasant incidents to follow one another in close succession. Unquestionably the Kaiser, as Supreme Head of the Army, has an undeniable right to discuss military and policy matters with his generals. It is rather a question, how far these discussions are opportune and serve the interests of the Empire. Facts must, in this case, be allowed to speak for themselves.

The article proceeds: there has appeared, in the January number of the *Deutsche Revue*, an article entitled, "War at the Present Epoch." This article was contributed anonymously, but its contents betray that it has been written by someone having an inner knowledge of military matters. But the article has not attracted the attention it deserves, since the *Deutsche Revue* has not a wide circulation.

It is to this article that the German Emperor drew the attention of the generals attending the New Year's Day reception. On this occasion the whole article or extracts therefrom were read out by the Kaiser. Later, it came out that Count Schlieffen was the author of the article and that it had been submitted to the War Minister before publication. Since Count Schlieffen had, only a short time previously, been the Chief of the Great General Staff, it may be assumed that the article in question if not actually an official memorandum, nevertheless represented the views of the higher military authorities. It deals with questions of strategy and of policy; in the technico-military part, from one end to the other, the discussion of considerations affecting policy is closely mixed up with that relating to the purely military aspects of the subject.

The purely military part of the article makes interesting reading for lay folk. Unfortunately it is not possible to reproduce in the *R.E. Journal* all that Count Schlieffen has to tell us in his article, but the following are among the interesting matters touched upon by him. He points out that for 40 years conscription was a form of military service exclusively resorted to by Prussia, and no one envied her in this respect. However, since the experiences of 1866 and 1870, all the Powers have taken advantage of this method of raising armies, wherein lies the secret of the success which leads to victory. To make the most of this form of military service, it is necessary to reduce to the lowest possible limits the period of service with the colours. Germany, with a population of 62 millions, raises a contingent of 250,000 recruits annually, and a man remains liable for military service for a period of 19 years; whilst France, with a population of 40 millions, raises 220,000

recruits annually and in that country a man remains liable for military service for a period of 25 years. On the outbreak of war (at the time Schlieffen wrote) the German Army would have numbered 4¾ million men and the French Army 5½ million men.

In 1870, the German Army called up for service totalled 1½ million men, of these only half a million took the field, and it may be assumed that of the present German Army (*i.e.* at the time of writing) not much more than about a million men would take the field. Such an army is no doubt very large compared with that which last took the field and would throw a heavy responsibility on the generalissimo who would have to command it and direct the operations; however, in view of the superiority of its armament, the mere increase in numbers as compared with the army of 1870, is insignificant, if the present-day army can be kept sufficiently in hand for operations with a single objective in view. To gain victory on a battlefield, it is the completeness of the bonds which tie the several parts of an army that matters most, and not so much contact with the enemy at any particular place. Even with the best field glasses no general can nowadays survey, from the most commanding feature of a battlefield, the whole extent of front on which his troops may be engaged. A general's place should, in consequence, be far in rear of the battle-front where, provided with the telephone and telegraph and other means of rapid communication at hand, such as motor cars he can remain in almost instantaneous touch with his subordinates and having a truer perspective of the battle, can direct their efforts so as to produce the most advantageous results.

The modern Alexander seated in a comfortable armchair with a map of the battlefield will receive reports, as his prototypes before him have done. These reports will differ from those of former ages not so much in their contents as in their number. The essential task of a modern generalissimo will, as a rule, have been completed some time before contact with the enemy is established; namely, at the time when he issues to the headquarters of his several armies, the routes and direction of their advance and approximately the objective assigned to each for the day's march.

Battles will, to be sure, last longer, but will not be more sanguinary than formerly. A strategy which contemplates a long-drawn-out wearing down of the enemy is no longer possible where the maintenance of an army of millions of men costing millions of pounds has to be provided for. In order to obtain a decisive success, an attack at two or three points against the front and one or both flanks of an enemy will be necessary. An attack of this kind is relatively easy to carry through provided sufficiently large bodies of troops are available. Cost what it may, troops must act on the offensive. It is with this object that long-range magazine rifles have been invented; the amount of execution one of these is capable of is equal to that done in the past by a considerable number of the older types of gun in action at the same time.

In order to attack the enemy's flank, it is necessary to know where it rests. Hitherto the task of ascertaining this has been one of the duties of the cavalry. In future, it is hoped that a flotilla of dirigibles

will take over this duty and obtain the information required with greater certainty than cavalry have been capable of. In other respects there is likely to be very little change in the tactics of the several arms. In conclusion Count Schlieffen explains that H.E. projectiles, and even fortifications have been much improved and that the number of the fortified centres in France had been considerably increased; that to the north of France stood Belgium and Holland ready to come to her assistance; the former having barred the great road into Northern France by masses of concrete and armoured towers as well as by the impregnable fortress of Antwerp; that France had closed the passages across the Juras, and both France and Italy had provided defence works on the slopes of the Alps; that from the Zuyder Zee to the Mediterranean there had been built a Chinese wall; that Switzerland in barricading the St. Gothard Pass and the valleys of the Rhone and Rhine was also thereby assisting France; that Russia had put up fortifications directed against Germany and Denmark had seized control of the entrance into the Baltic Sea; that Great Britain, with the assistance of her "floating fortress," was assured of a port on the Jutland coast as a base from which to direct an attack on Schleswig; that the epidemic in fortress construction had reached such a point that Austria and Italy, although allies, had erected fortifications along their coterminous frontiers. The article in the *Deutsche Revue* ends with the statement: "The girdle of iron built up round Germany is provided with an opening only in the Balkans and this gap is about to be closed by Turkey, Serbia and Montenegro. In the centre, without any defence, stand Germany and Austria."

It is not the technical part of Count Schlieffen's article, in spite of its incursions into the domain of policy and the allegations concerning the hostile attitude towards Germany of neutral States, which at the time caused the serious misgivings, to which reference has already been made, but rather the conclusions which were to be drawn from the mischievous imputations concerning neutral countries contained in the statements made by the Count. Take for example, his introductory remarks in which he says: "The Peace of Frankfort between Germany and France is only a peace in appearance. Arms may have been grounded, but latently a war still subsists." Continuing the Count tells us that "France has never forgotten that in 1871 she swore to be revenged. And this idea of revenge, which is keeping all Europe standing to arms, has become the pivot round which every question of policy revolves." Again, "The powerful impetus which has been given to the industries and commerce of Germany have raised against her a second and irreconcilable enemy. British hatred is not likely to be diminished by any assurances of the sincere friendship and cordial sympathy which Germany is ready to give her." Turning to Germany's eastern neighbour, the Count states: "Russia continues to be fast bound to her old ally, owing to the hereditary antipathy of the Slavs against the Germans, her traditional sympathy for the Latin races and in consequence of her need for financial assistance; she is in the act of throwing herself into the arms of that Power of all others which can strike in the way to bring about the most direful results to her." Of

Germany's one-time ally, he remarks: "Italy considers that the expulsion of the stranger from beyond the Alps is not yet complete."

Had the Count's article been written by a non-official member of the German Navy League or some other black-coated member of the German community, there might have been little significance in it. But being written, as it was, by an ex-Chief of the Great General Staff the article at once acquired importance as soon as its true authorship was revealed. "It would have been in the best interests of Germany," says the writer of the *März* article, "if the author of the *Deutsche Revue* article had remained anonymous. But Wilhelm II. appears to have thought otherwise, and by his action caused greater importance to be attached to the views of an officer of high rank, whose name was then still unknown, than to the views of the highest authority in the State.

An attempt was made by the *Reichsanzeiger*, six days after the New Year's Day reception, to explain away what had occurred at the meeting of the Kaiser and his generals; it was said that purely military matters, to the exclusion of questions of policy, were discussed at the reception. These explanations, it is said, were not accepted in the Chancelleries of the European capitals, but were only looked upon as an official confirmation of the view that the German Emperor was in agreement with the views of the anonymous author of the article in the *Deutsche Revue*.

The *März* article concludes with the following remarks: "In order to bring about an improvement in the situation it is necessary that Field Marshal Lord Roberts and Count Schlieffen should learn to exercise more reserve, but it is further incumbent on the Kaiser to bear in mind that each one of his acts may become public property, and he should understand that only those of them are useful to Germany which can be made public at the time of their occurrence."

Notes and News.

Switzerland.—The turn of the Romand troops to come on frontier duty has come round for the third time. This fact has given considerable satisfaction in some quarters in Switzerland.

The newly organized machine-gun companies of the Swiss Army are proving a great success. Marked improvement in the self-confidence shown by the junior officers with these units has been noticed.

A brief reference is made to the left wing of the Allies' position between Nieuport and Dixmude. It is said that the Allied line along this part of the front lies on the enemy's side of the inundations in this region. Long foot bridges have been provided across the inundations to enable reliefs, etc., to be carried out. Communication services have received considerable attention on this part of the front. The telephone, the telegraph, wireless, lamps, heliographs and even the pigeon post are all playing a useful part there.

An incident in connection with an article entitled *Gang nach Canossa* which appeared in the *Gazette de Soleure* for 23rd August last has caused some little perturbation in Switzerland. Colonel Loys, commanding the 2nd Swiss Division, wrote a note to the author of the article and addressed it to the Editor of the *Gazette*, apparently not intending his remarks to

be published. The Colonel had approved of the sentiments in the article in question in somewhat unfortunate terms in view of the general situation in Switzerland. Owing to the public feeling aroused, the Federal Council had to take notice of the incident; in consequence, a severe reprimand has been administered to Colonel Loys. The disciplinary action taken in this case is thought by some to be too weak.

Portugal.—A special correspondent expresses the view that Germany has not looked with favour to the progress made by the Portuguese in recent times. The Germans, he tells us, have long coveted the Portuguese possession of Angola, and in the early days of the War provoked a quarrel by attacking the Portuguese troops in that colony. However, outwardly the two nations appeared to continue to live in peace. This did not satisfy Germany; she seems to have made up her mind to drag Portugal into the maelstrom. The requisitioning of the German ships in Portuguese territorial waters afforded the pretext for a rupture, although a similar act on the part of Italy, earlier in the War, was entirely disregarded by her. At one time, the Portuguese were desirous of keeping out of the War, but there has been, it is said, a complete veering round in public opinion on this subject. Military preparations which will allow Portugal to play an active part in the War are being pushed on with great vigour.

This number of the *Revue* concludes with a bibliography in which the names of many works dealing with the present war appear.

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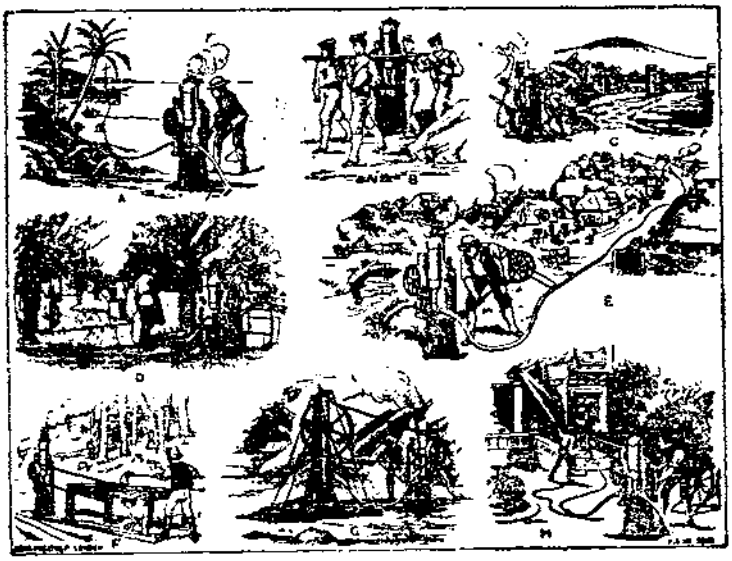

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