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THE FRENCH RAILWAY CORPS.

By Captain W. A. H. HARE, R.E., D.A.Q.M.G.

By a Ministerial Circular, published in the latter end of July, 1884, the 20th Battalion of French Engineers, quartered at Arras, was converted into a second battalion of railway workmen or *ouvriers de chemins de fer*, and the French Railway Corps was thus increased to eight companies. General Camponon, who was War Minister at the time, is thus to be congratulated by the French nation, on remedying a want which was sure to produce dangerous results in case of war.

Colonel Hennebert, in the preface to his work "*L'Europe sous les Armes*," points out with perfect truth that "the great difference in the system of massing large armies now-a-days and that formerly resorted to, is entirely owing to the use of railways, and that the existence of railways obviates the necessity for the lengthy preparations that were necessary in bygone days before a blow could be struck. Railways enable armies to be rapidly changed from a peace to a war footing, and woe betide the army that is backward in this operation, it may be almost said its fate is sealed. This being a fact beyond dispute, there is again the enormous use of railways in rear of an army in the course of operations, admitting that the army has been enabled to change from a peace to a war footing, concentrate, and take the field without a hitch or check. The immense scale on which war can be carried out, and its wants supplied from home or other sources, is again entirely owing to the use of railways, and this is a second fact equally beyond argument."

But this work of supplying the wants of a huge army in the field requires, says von Goltz, in his work "*Das Volk in Waffen*," "endless labour, a perfect knowledge of the work, and immense resource. Duties of the kind can only be expected from a disciplined body recruited and organized as a military force, and perfectly trained with anxious care beforehand in peace."

The question is a serious matter for a great military Power, and certainly deserves the closest attention in France.

The railway transport in question may be divided into transport on the *near* and *far* sides of the base of operations. Now the railway companies of the country concerned can always undertake the former, they know their own lines perfectly, and have large quantities of rolling-stock and plenty of well-trained servants at their disposal. There is consequently no necessity whatever for a trained military corps to carry out this part of the work. It is on the *far* side of the base of operations that this is wanted. Here the conditions are very different. Movements by rail now take place on the very scene of the struggle, on the very battle-field itself it may almost be said, and are exposed to all the risks and chances of war. Men to carry out such work must be soldiers, and what is more, strictly trained and disciplined as such. This necessitates a Railway Corps.

Going more closely into detail, the work required of a corps of this kind may be classed under two headings. Under the first the work would be on a small scale and practically confined to small detachments accompanying the cavalry scouting in front, with a view to rapidly repairing the lines that were found cut or destroyed by the enemy; but under the second the work would be

¹ From the "*Avenir Militaire*," and "*Journal Officiel*."

on a much larger scale, and would mean completely restoring and getting working order the destroyed or abandoned lines of the enemy, or even some cases, actually laying out and constructing certain lengths of new as was done, for instance, by the Germans in the last war before Metz.

Heavy work of this description requiring system and method would in France be entrusted to Military Railway Commissions, called *Commissions Militaires de Chemin de Fer de Campagne*, and to this effect the Central Railway Direction, or *la Direction Centrale des Chemins de Fer de Campagne*, divides the railway system of the theatre of operations into divisions. Each of these zones would be allotted to a special Railway Commission, called in France a "*Commission Militaire*," and in Germany, a "*Beinspektion*," or traffic inspection.

Both in the German and French regulations the functions of these Commissions, from a technical point of view, are moreover distinctly laid down the two systems consequently agree on this point. They are entrusted with the construction, repair, and maintenance of the lines, build and works; the choice and working of stations to be used in connection with the military transport; and the working of the trains either regular or special. To be equal then to the task that the military situation may at any time impose on it, the military executive personnel of a Field Railway Commission should comprise:—

1. Companies of Artificers (*Compagnies de construction*; Ger., *Eisenbahn-Compagnien*) intended to rapidly repair lines destroyed by the enemy, new lines, and destroy lines abandoned. These would be always well in front with the troops in the first line.

2. Traffic companies (*Compagnies d'exploitation*; Ger., *Eisenbahn-Compagnien*), intended to work and keep in repair lines in the immediate vicinity and rear of the army.

3. Companies of workmen (*Compagnies d'ouvriers de chemins de fer* or *Eisenbahnarbeits-Compagnien*), intended to furnish trained men for loading and unloading trains either with warlike or other stores, as well as men as storemen, &c.

An army operating in the field must have then, beyond all doubt, a railway corps permanently organized as a military force, and trained uninterruptedly in peace time in the technical and other duties that would be expected in war. Nothing but this can ensure the proper working of the railway transport in rear of a large army, and its importance cannot be overrated.

All authorities on military matters have come to the same conclusion: unfortunately in France there has been so much to be done in the reconstruction of the Army since the disasters of 1870-71, that the subject of a railway corps has not till recently received the attention it deserves. France has been a long way behind other nations in this important matter. While the French Army could only show a railway corps of 4 companies, Russia had one of 5 battalions, and Austria-Hungary a railway regiment of 2 battalions, styled a "*Railway and Telegraph Regiment*" (*Eisenbahn- und Telegraphen-Regiment*), and capable when mobilized of producing 8 artificer and traffic companies. But the disadvantage on the French side was still more striking when we compared her modest 4 companies to the large and well-trained Railway Corps of the German Empire, and this is a point which still requires a somewhat closer examination from a French point of view, for reasons to which we need not allude.

The Railway Corps of the German Empire consists of a Prussian regiment and a Bavarian company, the latter being precisely like a Prussian company in every respect.

The Prussian Railway Regiment (*das Eisenbahn-Regiment*) is organized with a regimental staff and 2 battalions of 4 companies each. A company is

time consists of 4 Officers, 18 non-commissioned officers, and 100 privates. The regiment is for excellent reasons, for all purposes of training, placed immediately under the General Staff. It is only by being constantly in immediate contact with the best and most selected Officers of the German Army that the Officers of the Railway Corps can be expected to know and learn what is required of them. They are thus able to know the slightest alteration taking place in German and foreign railway matters, as well as every change or innovation in foreign armies. They have, moreover, immediate access to men in high authority, and can thus at once make known their ideas in quarters where they can take effect without delay.

The *matériel* given to the Prussian Railway Regiment is very considerable, and is a striking contrast to the parsimony in the use and expenditure of stores generally practised in the German service, thus [showing the great importance attached to the efficient training of this new branch of the Army. The regiment, in fact, actually possesses and works by itself a line from Berlin to the artillery practice ground near Lutterbach, some 30 English miles long. It has been given in addition a large practice ground, with every facility for training recruits. Here the latter are taught laying sleepers, rails, and telegraph wires, destroying and repairing lines and engines, in fact every kind of railway work, and bridges have been built to train men in the repair of broken arches, &c., and destroyed railway works of every kind.

The regiment has an ample supply of rolling-stock of engines, passenger carriages, goods vans, trucks, &c. There is thus every facility for training men to act as porters or unskilled workmen in the loading and unloading of warlike and other stores, and teaching non-commissioned officers and artificers engine driving, the care and repair of engines, the duties of firemen, pointsmen, shunters, &c., and finally the duties of railway guards, or the management of trains and regulation of traffic.

The strength of the Railway Regiment, large as it is in peace, would be enormously increased were it mobilized for war. Before the second battalion was raised, Paris and Helledorf put the strength of the German Railway Corps, when mobilized for war, at 8 companies of artificers, 4 traffic companies, and 2 companies of unskilled workmen (*Bau-Betriebs- und Arbeiter-Compagnien*). This has, of course, been very much added to by the creation of the second battalion in 1875, and we should not be much out if we reckoned on these numbers as now doubled, certainly as regards the traffic companies.

Sub-Lieutenant Naville of the Swiss Engineers, in a report which he presented to the Swiss Federal Council in 1875, estimated the total strength of the German Railway Corps at some 20,000 men, including men in the Reserve and Landwehr. It is a well-known fact that all men belonging to the two latter categories, and employed on railways or belonging to trades connected with the same, are borne on returns carefully checked, and in case of war would be at the disposal of the Railway Regiment.

A field equipment of tools, appliances, &c., and wheeled transport to take the road, should the work be off the line of railway, is kept in store in a large building on the practice ground of the regiment. This building is divided into as many distinct stores as there are companies in the regiment.

Finally, directly the order to mobilize has been wired throughout the country, the large railway companies are bound to supply a train complete with engine (31 carriages in all) to each company, for the purpose of conveying it with its *personnel* and *matériel* to the scene of operations.

Seeing the way in which the subject had been dealt with in the German, Russian, and Austrian Armies, a French military man might well look with concern at the half-hearted way in which it had been treated in his own. In fact, until July, 1884, the French Railway Corps was confined to merely 4 companies, or 1 to each regiment of Engineers. The peace strength of

these companies was much the same as in the German Service, that is to say it was 4 Officers, 10 *sous-officiers*, 12 corporals, and 100 privates.

For purposes of training, these companies were attached to the School Military Engineering at Versailles, and for purposes of pay, rations, discipline, &c., they were attached to the 1st Regiment of Engineers quartered there.

The choice of Versailles as a training station was a good one. Close to the War Office and the offices of the great railway companies in Paris, the Officers of the Railway Companies had every facility for improving their knowledge in their new duties and calling. The great practice ground in the plain of Satory, together with the existence of a large railway station with numerous lines of railway, and containing a large amount of rolling-stock and stores of every kind, were again advantages of no mean kind.

The men then, who in 1873, 1874, and 1875, commenced a new era in the French military organization were certainly right in choosing Satory as a training place for the nucleus of the new French Railway Corps. Unfortunately it was but *en embryo*, and nothing more, and it remained for those who came afterwards to develop this embryo and give it real life. The constant change in the office of War Minister, and other questions of military reorganization considered for the time being of a more important and graver nature, were doubt causes which detracted from this matter until recently, the serious consideration it certainly deserved. Anyhow it must be admitted, the subject had certainly been treated in a feeble and half-hearted way.

The actual total number of men that the 4 French Railway Companies could have produced on mobilization was in fact a subject kept dark by the French War Office authorities for reasons probably best known to themselves but we may certainly assume that it was far short of the number the German Railway Corps could produce. The only increase in the cadres, in case of mobilization, provided for by the Law of the 13th March, 1875, was an additional reserve Sub-Lieutenant, 2 sergeants, and 4 corporals, to each company. As regards men, the only men allotted by the Ministerial Circulars were those who had actually served in the companies, or certain men of the Engineers who had been annually allowed to go on renewable furlough (*congé renouvelable*) to work on the railways, and lived in the *circonscription réserve* of the company.

In fact the inferiority of the French Railway Corps was so far admitted that the authorities that the six great French railway companies were called up to furnish in case of war, 8 field sections of railway artificers, workmen, &c. (*sections techniques d'ouvriers de chemins de fer de campagne*). This was done; it is known, in conformity with Article 25 of the Law of the 13th March, 1875, the Regulations of the 23rd December, 1876, and the Decree of the 18th July, 1878. Each section was divided into 3 divisions for traffic, line, and rolling-stock and engines, respectively. The total number of men enrolled in each section amounts to 1,165, or 459 for traffic duties, 429 for work on the line, and 277 for work connected with rolling-stock, engines, and matériel generally.

The personnel of these sections are bound to wear a special uniform as soon as they enter on their functions, that is to say, directly the Army has been concentrated, and, at first sight, the creation on the whole appears to be a good one. Besides, by the Regulations of the 23rd December, 1876, the men are not only liable to the punishments inflicted by the by-laws of the railway companies they belong to, but are, when the sections are formed in war, under military discipline with all its powers and penalties.

In practice, however, the power to inflict military disciplinary punishment would meet with so many restrictions, that the men of the eight sections would to all intents and purposes be practically exempt from military discipline. In fact, they would be under the *Commissions Militaires de Chemins*

de Fer already alluded to, and would only be called upon to obey the military commandants of the places they happened to be stationed at. The power of punishment really would rest with the Board of Directors (*Conseil d'Administration*) of each company alone. The connecting link between these sections and the army in the field they are intended to serve would then be anything but strong when put to the test. It would in fact be found to be faulty in first principles.

Again another important consideration. These sections will, until the day of mobilization comes, have existed entirely on paper. Now the French say, "promises on paper are too apt to be like the promises of a Gascon," in other words, empty.

From what has been said it may be inferred how vastly superior the German Army has been until recently to the French on this particular point, and had the French authorities drawn comparisons with the Russian or Austrian Armies, the state of affairs in their Army would have appeared in no better light. The organization of the Railway Corps in these three countries was superior to the French in every way.

The French had no official manual or handbook defining precisely the various duties of every military Officer or *employé* engaged in railway transport work on the far side of the base of operations, as had the Germans or Austrians. They had no line of railway devoted to and exclusively worked by their Railway Corps, enabling Officers and men by constant daily practice to acquire such practical knowledge in the working of trains as can only thus be acquired. In the French Corps there was no rank of Officer commanding a battalion to which the Officers commanding companies could look forward to, thus stimulating their zeal, and producing senior Officers of long practice and experience in the corps. And there were again very few non-commissioned officers and trained men in the reserve on which the companies could reckon, and a very poor show of supplementary formations to fall back on in case of mobilization. There were, as regards the latter point, technical sections, it is true, but these were imperfectly acquainted with the wants of combatants and the requirements of an army, and their military spirit might well be doubted. This was how matters stood in France till July last.

Now if we consider for a single moment the enormous importance of the transport question of an army during active operations in the field, and the various difficulties in the way of a proper and efficient railway system, we can well imagine the feelings of a French military man when he compared his own feeble organization on the subject with the great resources in *personnel* and *matériel* of the German, Austrian, and Russian Armies.

The conversion of the 20th Battalion of Engineers into a battalion of *ouvriers de chemins de fer* did not come a bit too soon. Some such step was urgently required, and it distinctly shows a move in the right direction. The French Railway Corps will now at any rate possess about as many units of mobilization as those of her neighbours, and it is to be hoped that in the course of time it will have the same resources and supplementary formations to fall back on as have the German and Austrian corps.

General Campenon was supposed to be in favour of handing over a distinct line of railway to be exclusively worked by the eight companies of the Railway Corps, as is the case in Prussia. The idea is an excellent one, and it would be a certain method of imparting to both Officers and men such practical instruction as could not otherwise be learnt. The "*Avenir Militaire*" took up the subject warmly, and proposed the line from Châlons-sur-Marne to Rheims, a length of some 36 English miles, this being a copy of the system adopted in Germany, and admitted on all points to be excellent.

There remains, however, one point in which the French Railway Corps is still inferior to the German or Austrian, and this requires remedy at no distant date. It should be formed into an independent regiment with Officers of the

rank of *Chef de Bataillon*, Lieutenant-Colonel, and Colonel, so that service may become a special one with cadres of training and experience. It is necessary in fact that Officers of the Railway Corps should constitute a body of Officers on a solid formation, and they should therefore be given their own professional line, the prospect of promotion to the higher and more coveted ranks, as is done in other arms and branches of the service, and without which it is hopeless to expect that professional zeal which is a sure stimulant to efficiency.

The bad state of French finances, of course, is a consideration that cannot be ignored, and the French military authorities must not be in a hurry to spend for too much. The creation of the additional four companies is a step which is to be congratulated on, and the subject must, we suppose, be allowed to rest at this stage for a while.