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"The Best Organisation for the Land Transport of the Brithish Army, Having Regard Both to Home Defence and Over-Sea Expeditions"

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GOLD MEDAL PRIZE ESSAY.

Subject :—

“THE BEST ORGANISATION FOR THE LAND TRANSPORT OF THE BRITISH ARMY, HAVING REGARD BOTH TO HOME DEFENCE AND OVER-SEA EXPEDITIONS.”

By Major ASTLEY H. TERRY, Army Service Corps.

“ Quot homines tot sententiæ.”

I.—INTRODUCTION.

LAND transport is necessarily as old as armies themselves; and from the difficulties of its organisation, the slowness of its movements, and its vulnerability to attack, has ever been a continual source of anxiety to generals in the field.

The Romans called things by their right names: they called the baggage, that is practically the train, of their armies, *impedimenta*—something that impedes or hinders. And if the Roman armies found their transport an embarrassment, how much more must we! The requirements of modern armies are far greater than those of their ancient predecessors; partly owing to increased civilisation, which demands greater luxury, but chiefly on account of modern methods, arms, and equipment. I do not suppose that as regards quantity the daily ration of the present-day soldier differs materially from his by-gone prototype: we can bear as much fatigue as could the ancients, and our food *necessities* are much the same as theirs. But in other directions:—in the care of sick, wounded, and prisoners; in regard to the supply of ammunition and warlike stores; in the hundred and one things essential to the efficiency of a modern army;—our requirements are infinitely greater than they were even a couple of centuries ago. Hence land transport has increased enormously in importance, and, as a necessary corollary, in size. It can no longer be improvised on the spur of the moment, but needs (perhaps as much as any branch of an army) careful preparation in peace to enable it to bear the strain of war.

Let us briefly consider to what end this preparation should be directed. Clearly the Army must be supplied with everything needful; while on the other hand the smaller we can make our transport the easier will be its organisation and the swifter its movements, and consequently the less the anxiety of the general concerning its safety.

What we have to aim at then is:—

- a. To reduce the wants of our armies in the field to a minimum compatible with efficiency.
- b. To ensure that everything necessary is at hand when wanted.

With the first point we have here nothing to do, the second depends on the efficacy of our peace organisation; and it is this organisation that we are now about to consider.

II.—RETROSPECTIVE.

Before proceeding farther it will be well to glance at the gradual development of our present system of land transport.

The first regular transport in the British Army appears to have been a "Corps of Royal Waggoners," which was raised as a combatant body in 1794, and disbanded at the end of the war.¹ I cannot, however, trace this corps in the Army Lists of the period (1794-99). In 1799 the Royal Waggon Train—also a combatant corps—was raised. This corps does not appear to have had much, if anything, to do with the carriage of supplies, but (according to Sir John Burgoyne) to have been mainly employed in "the conveyance of sick and wounded, ammunition, regimental baggage, and everything brought within range of the enemies' fire." It has been alleged that at the time of its being disbanded in 1833 the Royal Waggon Train was incapable of carrying even its own baggage without assistance, in which case its disappearance from the Army cannot have been a matter for regret, though it had previously performed excellent service in the Peninsula and Waterloo campaigns. Then came a long period, during which we had no regular transport at all; and in this state of absolute unreadiness we lightly embarked on the Crimean War. A rough awakening followed as a matter of course, and the Land Transport Corps was hastily raised under the guns of Sebastopol towards the end of 1854. At the conclusion of peace the Land Transport Corps was broken up, and replaced in 1857 by the Military Train. The mistake was made of placing this, a combatant corps, under the orders of non-combatant commissariat officers, with the natural result of causing a great amount of friction; so that when the Control Department was formed in 1870, the Military Train was replaced by the Supply and Transport Sub-Department, which arrangement lasted till 1875. Then came successively the Commissariat and Transport Department (till 1880), and the Commissariat and Transport Staff (till 1888), both non-combatant. December, 1888, witnessed the formation of the present (combatant) Army Service Corps.

Thus it is apparent that our "system" has been one of almost continual change; and that we have not yet arrived at a final solution of the problem may be inferred from the title of the present Essay.

I am unwilling to discuss, though I fear I cannot wholly avoid, the vexed question as to whether or not transport and supply should be one. Sometimes military opinion has answered this question in the affirmative, sometimes in the negative. Until quite lately, certainly, the two services were held to be inseparable; but if South Africa may

¹ "Records and Badges of the British Army," Chichester and Burges-Short, London, 1895.

be taken as a guide, the swing of the pendulum appears now to be committing us to the exact opposite. It is not strictly speaking a matter for discussion here: nevertheless it is necessary that (omitting the well-worn arguments for and against) I should state the conclusion arrived at before proceeding farther. The South African war has been in some respects abnormal, and the conditions under which the transport service has been administered do not of themselves appear to warrant so radical a change as the separation of transport and supply, although their disunion during the campaign may have been attended with beneficial results. Mr. Brodrick, quoting Lord Roberts in the House of Commons, said:—"My wishes were always forestalled with regard to supplies. It is true that the men did not always receive full rations; but that was caused by the length of the lines of communications and by the difficulties of distribution."¹ A system which was sufficiently elastic to produce such a result, in spite of so fundamental a change as the separation of its two component parts on active service must certainly contain much that is good. Adaptability is the essence of efficiency: and to recommend a change of such magnitude permanently, because under certain special conditions it proved a success temporarily, does not seem to be warranted by the facts of the case. Therefore in endeavouring to fix on the best organisation for our land transport, I shall take it as an axiom that in the future transport and supply are as now to be close allies.

What in fact is wanted is not a new system, but rather the strengthening and expanding of the one we have got. The importance of the train to the Army is vastly greater than formerly; the question of supply—and that is after all what it amounts to—like everything else, is gradually, one may say, being reduced to an exact science.

It would no doubt be highly interesting, if not particularly instructive, if we could go back a few hundred years and meet a mediæval army on the march. We should probably see very little "transport" in the modern sense—a motley collection of heavy country carts following higgledy-piggledy in rear would probably represent the "Train"; for the armies of the middle ages followed the system which Napoleon afterwards perfected, that of making war support war, and of living on the country occupied. This system had its advantages; it gave to the individual soldier great freedom and range of action, and largely reduced the amount of transport necessary. It must be remembered, however, that the armies of the middle ages possessed no mobility at all in the modern acceptance of the term. Until quite recently, indeed, opposing armies always went into winter quarters; they manœuvred and fought only during the warm weather. Think of the difference that must have made in the duties of the train compared with its responsibilities in a modern campaign! All that has been changed; and now a growing humanisation, and the imperative demands of an increased and increasing mobility forbid the adoption of Napoleon's system in its entirety, and leave us face to face with the absolute necessity of providing a well-organised and ample train.

On the other hand modern science is on our side, railways very largely assist road transport; but when we come to the distribution of supplies to the troops in the field, we find we must still rely mainly

¹ *The Times*, 18th March, 1902.

on animal transport. The matter of supply on a big scale is, as regards transport, not a very difficult undertaking in these days of fast steamships and railways; it is comparatively easy to pour material into the base. But the after distribution presents far greater difficulties, and that is when we want "transport" in the ordinarily accepted sense of the word.

III.—WHAT IS REQUIRED.

The Army Service Corps company is the unit of our land transport, which at present (October, 1902) consists of 62 service (horsed) companies, the establishment having been largely augmented since the commencement of the South African war. Abroad (with the exception of South Africa), and at several home stations, where there are no transport companies, the transport work is carried out entirely by contract or by local establishments of a semi-military character. The railway companies necessarily play an important part in our transport arrangements, even at stations where Army Service Corps companies are quartered. India has its own Supply and Transport Corps, which has nothing to do with the Army Service Corps, and which is constituted on a somewhat different basis.¹ Our home system on the whole works economically and well, and therefore I am opposed to any fundamental changes in its present organisation.

The title of this Essay would suggest perhaps that we require two separate, or at least distinct systems of land transport, one for home defence, and the other for active service abroad. This is so, I think, only in matters of detail; with regard to broad principles of organisation we want one system (exclusive of India) which shall be suitable both for home defence and for over-sea expeditions; that is to say one which shall be sufficiently elastic to fulfil all possible conditions.

Briefly stated, what I propose then, is:—

- a. To increase the strength of the Army Service Corps for war so as to provide sufficient transport for an over-sea expedition on a large scale, without denuding England of regular transport companies.
- b. To create a Volunteer transport to assist the Regular transport for purposes of home defence.
- c. To organise "2nd Line," i.e., civilian transport as a further assistance in the event of invasion.
- d. To provide Reserves of suitable transport horses at home and abroad.

Let us now proceed to examine this scheme in detail.

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¹ During 1901 the transport service in India has been to some extent reorganised. The name has been changed from "The Commissariat Department" to "The Supply and Transport Corps." The establishment of British non-commissioned officers has been increased, and the pay and prospects of the officers improved. Cadres of pack mules, camels, and pony carts, capable of rapid expansion in war, have been formed, and a reliable census of suitable transport animals throughout Northern India is in course of preparation. "These measures give a nucleus of efficiently organised transport, which, though very small when compared with the total needs of the Army, is, nevertheless, superior to anything which India has previously had."—JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION for May, 1902, pp. 712-715.

i.—REGULAR TRANSPORT.

I want at starting to make it perfectly clear why, in organising our regular land transport for active service abroad and for home defence, we require one system only, and not two.

In the first place, it is impossible to draw a hard and fast line, and to say we want so much transport in case of invasion, so much for a possible over-sea expedition. True, we must decide on some fixed establishment for our regular land transport, and this must be based on our *probable* requirements at home and abroad; it must also be capable of rapid expansion at short notice, and of adapting itself to circumstances in any part of the world. The most likely time for an attempted invasion of this country will be when a large part of our Regular Army is already engaged abroad;¹ and we must bear this steadily in mind. But it may well happen that the circumstances of the hour require the greater part of our Regular Army to be thrown into an enemy's territory, and yet invasion be, for the time, practically out of the question. Or *vice versa*, we may want every man we can lay hands on to resist an invader, and so keep all or nearly all of our regular troops in England. In the former contingency it would be absurd if regular transport organised for home defence were not to be available for service abroad; and, in the latter, it would be even worse if a proportion of our land transport (intended primarily for foreign service) were organised in a manner that limited its usefulness for home defence.

In the second place, two systems side by side, so to speak, could never work, even in peace, with the homogeneity which is essential to true efficiency and economy.

It is not necessary to argue the matter further; indeed, I fancy I may have laid myself open to the charge of setting up a figure of straw for the pleasure of knocking it down. However, I am convinced that at least no harm has been done in insisting at the outset that one system of land transport, and one system only, is what the British Army requires.

We have now to consider the amount of land transport which should be maintained in peace, so that in war we may have enough for an over-sea expedition, in addition to what may be considered necessary for home defence. We must not reckon on what is apportioned to meet the one case being available for the other.

The first point to be determined is the probable strength of the army we may send over-sea. Obviously this is a question which can only be answered approximately. At one period of the South African war we had enough men within the theatre of operations for 6 army corps, although previous to the war 2 army corps at most were all we anticipated being able to place in the field abroad. Now I believe we are to be able theoretically to send 3 army corps abroad without interfering with our arrangements for home defence. But does anybody suppose for a moment that in a war with one of the great Powers 3 army corps would be enough? We might want 6, or we might want 12; and, given a little time, I believe we could get them. But the country is not going to pay for the maintenance of 12 army corps in peace, nor even for the transport of 12 army

¹ And granted always that we have, at least temporarily, lost the command of the sea.

corps; and so we must make the most of what we can get and be thankful for small mercies. We can reasonably ask for land transport enough for the 3 army corps available for foreign service, and for at least one of the 3 remaining for home defence; and we must organise it in such a manner that it can be very largely increased at short notice. Here I am confronted by a serious difficulty. The peace strength of a transport company on the higher establishment is 62 of all ranks:¹ the war strength is—what? There are two official publications dealing with this matter, “War Establishments” and “Manual for Field Service, Army Service Corps.” The latter is the older (1889), and is besides under revision, therefore we need not consider it. There is one notable difference between the two books. In the former the tables show the “Distribution of 1 *Company*, Army Service Corps, employed with . . . . .”; while in the latter the term *Supply Column* is substituted. Each supply column includes the head quarters of a company, and therefore it may be urged that the distinction is merely theoretical; but I submit that the principle underlying the change of terms is a most important one. It amounts to this: that in the field the transport company is no longer a tactical unit, and that therefore its war strength need not depend on the particular duties it may be called upon to fulfil in any one supply column. No doubt the older scheme—that of having a complete transport company for each division, brigade, etc., etc.—has been abandoned with regret; in theory it left nothing to be desired, but in practice it meant having many war establishments, and was altogether too complicated to render mobilisation easy. Besides, supposing that each company were sent abroad exactly according to its establishment, how long would that last? After a few weeks’ campaigning the companies would be all sorts of strength, bearing very little resemblance to their original establishments. This is theory: how does it tally with practice? At the beginning of the South African war we sent out a complete army corps from home. Here was a chance for the transport companies to complete to war strength. But they did nothing of the sort! Directly war was declared, practically the whole of the transport branch of the Army Service Corps—ridiculously weak for its work, especially in officers—was hurried out to South Africa *on a peace footing*. Possibly there was no time to complete the elaborate arrangements laid down by regulation, or the expected duration of the campaign was held to render them unnecessary; in any case reservists and reserve equipment were alike left behind. It is not within my province to criticise what took place:² I merely wish to emphasise the fact that the regulations contained in the “Manual for Field Service” were allowed to remain a dead letter.³ I do not think then that logically I shall be guilty of exaggeration when I suggest that if there had been a fixed war establishment for the transport company, irrespective of its particular duties, such establishment could and would have been quietly completed without any time being wasted.

¹ See Table A.

² It was surely a little rash to send the Army Service Corps out in one ship. I often wonder what would have happened if the “*Bræmar Castle*” had gone down, or had even been delayed.

³ To some extent they were followed later, in Natal at any rate, but only by the employment of natives.

At any rate I maintain that in a European war we shall require transport companies of considerably greater strength than 62 of all ranks; and that a fixed war establishment is absolutely necessary.

It must not be overlooked that the strength of a supply column depends, not only on the number of troops which it has to feed, but on the number of days' rations per man (and horse) required to be carried; and this last depends on many things—the nature of the operations, character of the country, distance from base, etc., etc. So that it seems to me impossible to lay down that the strength of a supply column with (say) a cavalry brigade shall be so-and-so, and with an infantry division something else. By all means let "War Establishments" be used as a guide under normal conditions; but let it be thoroughly well understood that the more elastic we make our transport, and the less we tie it down to hard and fast rules, the easier will the task of feeding troops in the field become.

My conclusion then is this: that while the supply column, subject to certain general rules, must vary in strength according to circumstances, the Transport Company should have a fixed war establishment just as every other unit of our Army has.

Now what is this establishment to be? Before we can answer the question there are one or two points that require consideration. In any unit where the difference between the peace strength and the war strength is considerable, the number of officers' and non-commissioned officers in the former must be relatively large. Also, as supply columns will vary greatly in strength, the transport company should be capable of being split up, if necessary, into several bodies, without the whole losing cohesion as an administrative unit.

According to "War Establishments," the strongest supply column—I am of course only concerned with the transport portion of it—is that for "Corps Troops," with a total (exclusive of officers) of 129 of all ranks;¹ and the weakest is "An Infantry Divisional Supply Column," with a total of 82. But stronger and weaker respectively are "A Transport Section of a Supply Park," 173;² and "A Bearer Company," 36. Now for reasons which will be presently apparent, I shall increase the 173 to 236. I divide my company of 236 of all ranks (including officers) into four divisions (sections is as good a name as another), each section after allowing for a "company staff," being 58 strong.³

Let us see how such a company would adapt itself to the requirements of "War Establishments."

Corps Troops Supply Column requires	129 of all ranks, ⁴ say $174^5 = 3$ sections.
Infantry Divisional Supply Column requires	82 of all ranks, say $116 = 2$ sections.
Infantry Brigade " " "	103 of all ranks, say $145 = 2\frac{1}{2}$ sections.

¹ I have not included "*personnel* detached" for obvious reasons.

² The transport of "an Auxiliary Company for Lines of Communication" is larger, but only when civilians are included.

³ See Table B.

⁴ Exclusive of officers.

⁵ Includes officers and additional non-commissioned officers and men.

Cavalry Brigade Supply Column requires	104 of all ranks, say $145 = 2\frac{1}{2}$ sections.
One Section Supply Park	„ 173 of all ranks, say $232 = 4$ sections.
One Section Field Bakery	„ varies slightly, say $29 = \frac{1}{2}$ section.
Bearer Company	„ 36 of all ranks, say $58 = 1$ section.

Other "units," such as "Personnel detached," could be treated in a corresponding manner; while to avoid waste or to make up deficiencies men could be transferred from one section to another without difficulty. In short it will be found that a transport company, composed of 4 sections, each 58 strong, will readily adapt itself to tactical requirements without disturbing existing administrative arrangements.

Table B shows in detail the proposed war strength of a transport company. The numbers of the different ranks, of the horses and wagons, are based on its probable duties in the field according to the requirements of "War Establishments." That is to say one company could furnish transport for:—

- a. Supply Park, one section, *or*
- b. Corps Troops, and one Bearer Company, *or*
- c. Two Infantry Divisional Supply Columns, *or*
- d. Cavalry (or Infantry) Brigade Supply Column, Field Bakery (one section), and Bearer Company, *or*
- e. Field Bakery (eight sections), *or*
- f. Four Bearer Companies, etc., etc.¹

exclusive of staff and supply officers, and of supply non-commissioned officers and men.

What in short is recommended, is simultaneous mobilisation of transport and supply companies independently of one another; a fixed war establishment for both; their distribution on the spot instead of previous to mobilisation; more margin for waste; a simple administration; and far greater tactical elasticity. It must never be forgotten that, owing to the ever-changing problems of war, more transport may be required for the several units than is provided for in "War Establishments." In theory, however, and allowing for a margin over and above that given in "War Establishments," the suggested alternative duties could be carried out by a company 236 strong.² This strength is based upon several considerations:—

- a. The maximum which it is considered could be conveniently treated as an administrative unit.
- b. The minimum which could be most readily split up as already described without undue waste; bearing in mind that all companies should have a common war establishment.

¹ There are many "details" for which transport is required in the field, and for which it is impossible to arrange except as the necessity arises.

² The company head quarters would be with the strongest supply column, and therefore in many supply columns there will no longer be "company head quarters" as now detailed. A saving in officers is thereby effected.

- c. An increase in the number of non-commissioned officers and men which experience suggests as advisable.¹

The recent formation of "mechanical companies" is another disturbing factor in calculating the war strength of an ordinary company. Is it intended to employ the former in the 1st Line? and, if so, with which supply columns and to what extent? These questions are not yet ripe for solution—probably the answers to them will always depend to some extent on the exigencies of the moment—but in any case they seem to me to furnish another argument as to the hopelessness of attempting to fix the exact strength of a supply column beforehand.

A few words of explanation as to the manner in which the additional numbers for war are to be obtained will here be necessary.

Officers.—At present a transport company in peace very frequently has only one officer instead of its proper establishment of two; this undoubtedly is a mistake which, it is to be hoped, will be rectified in future. Supposing, however, that a company is up to its proper peace establishment, three additional subaltern officers will be required on mobilisation, and these can be drawn from those carrying out supply and barrack duties at home stations, the vacancies thus made being filled by retired Army Service Corps officers and by retired quartermasters of other branches of the Service.

Warrant Officers.—Three additional per company will be required. Can be obtained partly by calling in all those not already employed with the service companies, and partly by promoting senior non-commissioned officers. It is to be noted that mobilisation means at the present time, and always must mean, increased promotion to warrant rank as well as to all grades of non-commissioned rank. It is, indeed, to a great extent by promotion, as well as by drawing on the Reserve, that we must look to completing our establishments for war.

Non-Commissioned Officers.—A comparison of Tables A and B shows that the following will be required additional on mobilisation:—

Sergeants	...	...	...	...	7
Corporals	...	...	...	...	5
Second and lance corporals	...	...	...	...	7
Artificers, staff sergeants	...	...	...	...	4 (or 5)
Corporals	...	...	...	...	5 (or 4)

As just stated, these must be obtained by promotion and from the Reserve. For a "little war," when only a certain number of companies may be required, the companies remaining at home might be drawn upon; this is convenient, but the principle is a bad one. Good artificers are relatively difficult to get; fortunately the additional numbers required are small, and need not, I think, be increased. The number of sergeants given above includes 2 extra in place of a second company sergeant-major and company quartermaster-sergeant, 2 each of these last being required under (c) according to "War Establishments," but only 1 each (with the company head quarters) according to Table B. Further, it will be found that the total number of non-commissioned officers could be reduced to 20² (5 per section), provided that the numbers of the different ranks as given in "War Establish-

¹ Should there at any time be any excess of present requirements, it will not be difficult to find them useful employment.

² Exclusive of artificers.

ments" be disregarded; *i.e.*, that in certain cases sergeants do the work of corporals and *vice versa*; but experience has proved that *more* and not *less* non-commissioned officers are invariably required in the field. For this reason, therefore, I advocate the higher total (28); and also, as I have already said, the numbers given in "War Establishments" have only been taken as a general guide. Another point to be remembered is that we must be prepared for casualties; sickness is more to be feared than the enemy's bullets, even among the fighting portion of an army.

Men.—Supposing a company to be distributed as *d*, the numbers of artificers, exclusive of non-commissioned officers (with whom I have already dealt) will, according to "War Establishments," be—

Wheelers.	Collar Makers.	Shoe and Carriage Smiths.
5	6	13

These are the numbers I have suggested¹ for the war establishment of a company, because in all other cases except *d*, a substantial increase is thereby shown in the numbers of artificers now considered sufficient, and I have not thought it necessary to increase these numbers for the one exceptional case. Only one trumpeter will be needed: with the company head quarters.

It will be observed that with regard to drivers a considerable increase is recommended; for the two following reasons:—

- a. The present numbers do not, in my opinion, allow sufficient spare men to replace casualties.
- b. There should be sufficient men to defend the wagons and stores from desultory attacks by small parties of the enemy, who may elude the usual escorts (which would ordinarily endeavour to fight at some distance from the convoy or laager).

Incidentally, I consider that the rank and file ought to be armed with the rifle instead of the carbine, and that much more attention should be paid to musketry instruction. A few men trained as signallers would often be found of great assistance on convoy duty.

The additional men required on mobilisation would be drawn entirely from the Reserve.

Horses.—It should not be a difficult matter to obtain the extra horses required on mobilisation. There are plenty of firms in this country employing a large number of animals suitable for draught work who would, no doubt, on payment of a small annual retaining fee, agree to supply a given number of horses when required for war. If a proportion, at any rate, of such animals were employed annually at manœuvres, so much the better. I believe that a system of this kind, though it would add a little to the Estimates in peace, would save the country a lot of money in the long run, besides greatly facilitating mobilisation.

I should like to see remount depôts established in our principal possessions abroad, in addition to those at home, so that in the event of an over-sea expedition, a company could complete its establishment on disembarkation with animals used to the climate and conditions of that part of the world. The waste of horseflesh on active service is

¹ See Table B.

necessarily very great, and the transport must be kept well supplied, or the soldier will suffer in proportion.

Vehicles.—Little need be said about vehicles and equipment. There must be enough of both forthcoming on mobilisation, and this is chiefly a matter of money. Probably for a European war our general service wagons would be found suitable for transport of the 1st Line; certainly they are the best military vehicle for this country. For an over-sea expedition, however, other kinds of vehicles would almost certainly be required; and it would be well therefore to form reserve stores of wagons or carts built on the lines of those in ordinary use in various possessions abroad, for Imperial as well as for local needs. Such vehicles would be suitable for use in the neighbouring foreign States; and so we should be equally well prepared for an over-sea expedition operating from no matter what base, or for home defence.

One other point: Wagons and harness (the latter especially) deteriorate by being kept continually in store, however well cared for. Therefore, I strongly advocate that the reserves of both in mobilisation stores should be used (preferably on manœuvres), not less than once a year, whenever possible; if not by the unit to which they properly belong, then by some other. An annual "turn-over," though it might result in a little paint being scraped off and minor damages, would not only prevent deterioration, but would also discover weak points; better now than when face to face with the enemy.

I have devoted considerable space to the organisation and strength of a transport company, because in the general scheme for our land transport which I am about to put forward, the company is, as now, to be the administrative unit; and therefore it has been absolutely necessary to decide in the first place the part it will play on mobilisation. I confess that this, the foundation of my scheme, makes somewhat dull reading, depending as it does, to a great extent, on figures which are only tentative, and which are indeed largely a matter of opinion; nor is the result, as briefly set down, at all commensurate with the labour involved. What I have tried to prove is the necessity, or at any rate the advisableness, of a fixed war establishment expanding from a fixed peace establishment; and I have based the former on existing regulations with certain modifications suggested by experience, and always with the proviso that the numbers of the different ranks can be modified without affecting the principles they illustrate.

I do not pretend that this is a perfect scheme, far from it; but I do assert that it is based on sound principles. Its advantages, perhaps, can be best gauged by a comparison with the present system. By that system each transport company must be allotted to its field unit *before mobilisation*, as the strength of each varies accordingly, and there is little or no margin for unforeseen circumstances. If my suggestions are carried out, mobilisation will be greatly simplified, and the distribution of the companies will rest—as it surely should—with the general commanding the army in the field.

Another point: A transport company under my scheme will be composed entirely of transport personnel: the supply companies will contribute contingents to the different columns as required. This does not imply a separation of the two branches of the Army Service Corps; but by making each, up to a certain point, independent of the other, greater elasticity will be given to the whole.

The more one reads military history the more one must recognise the necessity for an ample train. Commanders of all nations and in

all ages have been hampered in their movements, and have seen their best laid plans miscarry owing to insufficiency of transport. Without transport the most powerful armies are deprived of their mobility, and in these days immobility spells defeat. In South Africa the other day when, as sometimes happened, our troops had not full rations, the reason was not that there was any lack of food in the country, but because there was either not sufficient transport to carry it to the troops, or else that the transport was not of good enough quality to keep up with rapidly moving columns. The transport of an army must be of good quality, and there must be plenty of it. Especially will this be the case if England is ever seriously invaded. As I have already shown, we must be prepared for an invader when a large portion of our Regular Army is abroad, and therefore we want enough transport for a large over-sea expedition, and a nucleus at least for our home-defence army as well. It seems a curious thing at first sight that, as a rule, the invaders fare better than the invaded with regard to supplies generally. The former have not of course so tender a regard for the susceptibilities of the inhabitants, and, moreover, they can make their calculations beforehand with tolerable accuracy as regards the number of men and horses they will have to feed. The defending forces, on the other hand, are very heterogeneous, becoming at length the manhood of the nation in arms. The difficulties of feeding great masses of undisciplined men become enormous, and the task set the transport almost insurmountable. So it was in the Peninsular War before Wellington took the offensive; and history repeated itself in the German invasion of France in 1870. If England were invaded we should experience much the same embarrassments. The greater part of our regular transport would (probably) be abroad, and we should have to rely on the small proportion left—a small proportion in any case compared with the large number of combatants to be fed. We should, in fact, under present conditions, not have nearly enough transport for our armies in the field; and it must be our business in peace, as far as may be, to diminish this serious deficiency. Now the only way in which any part of an army can be rapidly and largely increased on the outbreak of war is by the maintenance of a large Reserve. Our transport reserve at the present moment is not nearly large enough. The only way to create a large reserve from a comparatively small peace effective, is to make the period of service with the colours as short as possible, compatible with a high enough standard of efficiency, so that a large number of men shall pass through the ranks in a comparatively short time. At present our transport men are enlisted for 3 years with the colours and 9 in the reserve. With certain exceptions, to be considered later, I advocate the reduction of the former term to 2 years. I can fancy the indignation with which the reduction of colour service to so short a period will be received, especially perhaps by young officers of transport companies. Of course there are disadvantages: one must sacrifice something. Perhaps it will be well if I briefly consider the two most reasonable and likely objections to my scheme before describing the advantages I claim for it. First, I shall probably be told that with only 2 years' service we shall find it very difficult to get non-commissioned officers. I shall reply to this objection more fully later on; for the present it will be sufficient to state that a large number of young non-commissioned officers in the Army Service Corps do, as a matter of fact, extend their service in their second year. Then I shall expect to hear

that two years is much too short a time in which to train a man to become an efficient driver. To this I return an emphatic negative. If a man is not fit to take charge of a pair of horses after six months' training, he will never, in my opinion, make a good driver. I do not say that at the end of six months he is so quick at his work, can clean harness so well, or drive so well as he ought to be able to later on; but he will be (and is as a rule) good enough for all practical purposes.

I have already stated that more attention should be paid to the musketry instruction of the transport personnel. The course for recruits and for trained soldiers should be assimilated to that of the infantry, and it should be looked upon as one of the most important points of a driver's training—not as now, as something that can be (and often is) put on one side as a detail of little importance.

It is obvious that with shorter service and more musketry something must go. That something should be a great deal of the present drill, both mounted and dismounted. The former is useful as teaching men both to ride and to drive, and to keep their wits about them; the latter to teach them to hold themselves and move like soldiers; and both, of course, are not only necessary in quarters and in the field, but they are at the very foundation of discipline and of prompt and instinctive obedience to orders. But, without impairing their usefulness in any of these respects, both might be very greatly simplified by reducing the number of "movements" to a minimum, and by eliminating all that are of no practical value. I believe that the "Army Service Corps Drills and Exercises" is about to be revised, and I hope the opportunity will not be lost of cutting down the drill very largely.

I have referred to certain exceptions in the proposed 2 years colour service for our land transport: they are as follows:—

- a. Any man who, in the opinion of the officer commanding his company, is not, at the end of a year, an efficient soldier in every respect, should remain with the colours for a third year. Such men would be the exception because I would give officers commanding companies power to summarily discharge any man during his first six months' service who appears unlikely to make a good soldier.
- b. Any man who accepts a stripe should, by accepting it, become a "3 years' man": or the period might be increased to 4 years or longer with advantage. This would dispose of the difficulty of obtaining non-commissioned officers; for although, as I have said, many extend their service in the second year, yet even so it is not always easy to get sufficient men of the right stamp.
- c. Finally, artificers should be treated in the same manner as non-commissioned officers.

Put in another way, the period of enlistment would remain 3 years with the colours, except for drivers found to be thoroughly efficient at the end of a year—which, as a matter of fact, would be the case with the large majority. Hence it follows that the Reserve would be largely increased without loss of efficiency and at moderate cost.

At present, transport companies are moved every 2 or 3 years, at considerable expense to the country, and without, so far as I aware, any particular advantage. An officer is rarely more than 3 years in the same company, so that, as a rule, he does not move more than once with his company, often not at all. In any case, however, he gets a change of station not less than every 3 years at home: at most foreign stations the period is 5 years. Non-commissioned officers are usually moved on promotion, that is to say, promoted into another company. With men enlisted for 2 years some might experience one move, but certainly fifty per cent. would be discharged at the station to which they were originally posted from the dépôt. A company, on changing station, leaves its horses and wagons behind, and takes over both from the company it relieves at its new station. Practically, therefore, when a company moves, only a very small proportion of the personnel is the same as when it moved last. Why, then, move companies at all during peace? There is no reason for doing so, apparently, except custom; and I am of opinion that a far better plan will be to keep companies always at the same station. By doing so we shall reap certain solid advantages:—

- a. A company territorial system will be established.
- b. No interchange of horses and wagons between companies will be necessary.
- c. The mobilisation equipment and stores of each company can be kept at the permanent company head quarters.
- d. Reservists will know exactly where they will have to go on mobilisation.
- e. A considerable saving in the transport vote will be effected.

To consider these points in detail.

- a. The territorial system has proved a great success with the infantry, and its extension to the train is therefore recommended. Recruiting will certainly benefit, for men like to serve near home, with no fear of being moved to a distance; and the advantages of the Army will be brought in a practical form to the notice of many people to whom they have hitherto been a sealed book. Of course, if a man, for reasons of his own, prefers to serve away from home, there will be nothing to prevent him enlisting in some other company. Enlistment, in fact, will be for a particular company or for "general service"; and I think it may be taken for granted that sufficient men in the second category will be forthcoming to fill vacancies in companies which fail to attract enough local recruits.
- b. The present system of transferring horses and wagons from one company to another is a bad one. Human nature being what it is, neither officers nor men can be expected to take quite the same amount of interest in them which they would otherwise do.
- c. The advantages here are apparent. Mobilisation will be far quicker because far easier. The officer commanding the company should *always* be in charge of his own reserve stores and equipment, and will, consequently,

become personally interested in their condition and preservation. He will be able to make himself acquainted with all details concerning their issue on mobilisation, so that when that day comes it will find him fully prepared. The fact that his responsibilities will be considerably increased is, in my opinion, an additional argument in favour of my suggestions.

- d. I would have reservists belong to their late company, and not, as now, to the Corps generally. This, again, will assist mobilisation enormously, for every man will know exactly where to go, probably he will not have to go far; and the surroundings being familiar, even to the faces of old comrades, he will quickly fall into his old place in the company.
- e. The saving effected under this head will go towards meeting the increased expenditure due to shorter service.

The company territorial system which I have formulated will only be practicable, at any rate in its entirety, if no transport companies are normally stationed abroad. At present there are none abroad except in South Africa, but, for the late war, all would be at home. The abnormal state of affairs in South Africa, however, will probably continue, as regards the transport, for some time longer; and it will be well to see, therefore, if the accompanying disadvantages (*i.e.*, the necessity for keeping regular transport companies out there) cannot be avoided. I think they can. Native transport, as regards drivers, animals, and vehicles, is best adapted to the peace conditions of the country; and, in fact, the native element has been, and is, largely predominant. Army Service Corps companies, as we know them at home, would, in South Africa, be to a great extent useless, and certainly wasteful. The remedy is the formation of local transport companies under Army Service Corps officers, with a certain number of carefully selected non-commissioned officers. Even if it be considered absolutely necessary to keep some Army Service Corps transport companies in South Africa for the present, a beginning can be made with the territorial system at home.

I am of opinion that officers and warrant officers should remain at least 3 years with the same company, and junior non-commissioned officers should be promoted in their own companies as far as possible.¹

It will be apparent that if men are enlisted for 2 years, and go to the Reserve for 10 more, there will in time be more Reservists available than are actually necessary for completing their respective companies to war strength. Consequently, directly a company is mobilised and moves away to its destination, the remainder of its reservists can be called up and formed into a Reserve company, being utilised either to fill up gaps in its service companion as occasion may require, or in the case of invasion to take the field as a separate unit. The officers of such reserve companies would be taken from the Reserve of Officers; their commanders should, if possible, have served in the Army Service

¹ The necessity for promoting non-commissioned officers throughout the corps will to some extent weaken the territorial system, but it cannot be avoided. At any rate the practice will help to keep companies at different stations in touch with one another, in itself no small advantage.

Corps. A reserve company would ordinarily fulfil the functions of a dépôt; but as it would have plenty of time to shake down, there is no reason why it should not ultimately be fit for field service. Its horses and equipment would be supplied from reserve stores kept for that purpose, but such stores should be totally distinct from those of the company proper.

Existing dépôt companies should be quartered at stations by themselves; and each one should "feed" a certain number of, and always the same, service companies.

I submit that the foregoing proposals for the better organisation of our regular land transport do not upset existing arrangements, but merely adapt them to what I conceive to be our future requirements. I do not advocate any increase in the present peace establishment, but I insist on the necessity of providing a large and rapid expansion for war. To ensure this, I propose, with certain exceptions, to reduce the period of service with the colours from 3 to 2 years. This, while adding very largely to our war strength, would not sacrifice quality to quantity; and the net extra expense would be small. I believe the scheme to be both simple and practical, and to apply equally to our requirements for home defence as well as to over-sea expeditions.

It may be of interest here to note that in the German Army over two-thirds of the men of a transport company are enlisted for six months only. To a considerable extent quality is thus sacrificed to quantity; but the supreme necessity of an ample reserve for war is fully recognised, and hence the guiding principle is to pass a large number of men through the ranks in the shortest possible time.

ii.—VOLUNTEER TRANSPORT.

According to "War Establishments" the transport required for any army corps and one cavalry brigade is as under:—

—	Officers (transport only).	N.C.O's and Men.	Total.
Army Corps	32	2,155	2,187
Cavalry Brigade	2	164	166
6 Bearer Companies	—	216	216
10 Field Hospitals	—	210	210
Grand Total	—	—	2,779

This absorbs 13 transport companies, without providing for the bearer companies and field hospitals, which we may put down as requiring 2 more, making 15 altogether.

In the scheme I have suggested we shall want:—

	Sections.
Army corps (including 6 bearer companies) ...	46
Cavalry Brigade	2½
Personnel detached (including 10 field hospitals) ...	14
Total... ..	62½

say 16 transport companies, representing some 3,776 officers, non-commissioned officers, and men. Both the above calculations are

approximate; but while the second only requires 1 more company than the first, the total of all ranks is very much larger, an increase in fact of 1,000. If this increase appears excessive, let two facts be remembered:—

- a. That the lesser total of 2,779 means companies of all sorts of strengths and supply columns, which a few casualties will reduce to dangerous weakness.
- b. That the higher total of 3,776 means companies of equal strength, an ample margin for casualties, and—most important of all—enough men left at the base to fill up the gaps which sickness and death will make all too soon.¹

Taking the lower of the two estimates, we require 15 transport companies per army corps and cavalry brigade; and consequently for 3 army corps (the force I have tentatively suggested as the strength of a possible over-sea expedition) we want 45, and this number is exclusive of depôts, hospitals, and duties on the lines of communication generally. If we add only 5 companies for those services, we see we may want at least 50 transport companies abroad; and as the total establishment of service companies at present is 62, we are left with but 12 for home defence—not enough for the 4th, 5th, and 6th Army Corps, to say nothing of the great proportion of the Militia and Volunteers. In case of invasion we shall certainly require more than 3 army corps at home, we shall want, in fact, every man we can lay hands on; and thus we are forced to the inevitable conclusion that we have not nearly enough transport.² I want to make this quite clear before suggesting a remedy, otherwise I may be accused of wishing to increase our transport unduly and without regard to what is really necessary.

We have only, I think, to consider for one moment the forces which we should necessarily put in the field in case of invasion to stand fully convinced of the crying need for more transport. It cannot be too often or too strongly insisted upon, that for home defence—as for an over-sea expedition—we require an army (or perhaps it would be more correct to say armies), and not a motley collection of armed men, however well trained. Yet, what are the facts? That our Militia and Volunteers are sadly deficient in cavalry and artillery; while transport (if we except Volunteer brigade bearer companies) is absolutely non-existent. I wonder if one Englishman in a hundred—or one in a thousand—realises what this means? It means that the bulk of our reserve and auxiliary forces, those forces to which is principally entrusted the defence of the United Kingdom, could not, as at present constituted, keep the field for 48 hours. That an army must have transport—regularly re-organised and properly equipped transport—to enable it to fight, is such a self-evident fact, that it is astounding matters have been allowed to remain so long as they are. There appears to be an impression that transport can easily be organised as required, a most dangerous fallacy; and that there is enough civilian transport in the country for all military requirements. The latter is, indeed, partially true: but apart from the fact that civilian transport cannot be used in the 1st Line, a great deal of preparation is needed to render it fit even for the 2nd Line. The

¹ See footnote to Table B.

² I have alluded only to the numbers of men as illustrative of my contention; equally we are deficient in horses and equipment generally.

utter confusion into which business in this country would be thrown if an invader ever set foot on English soil is, I fear, not sufficiently realised. I am firmly convinced that nothing short of a universal panic would prevail; and, assuredly, that will not be the time to begin organising one of the most vital parts of a modern Army. It is true that many, if not all, Volunteer battalions have—on paper—some civilian transport available on mobilisation, but in most cases this only consists of the promise of a few wagons or carts; and, at best, is “regimental” transport and, consequently, not available for general supply purposes. On the other hand it may be urged that the general dislocation of business consequent on invasion will render a large amount of transport available for military purposes. This is, I think, true; and I shall refer to it again when considering the provision of 2nd Line transport. But 1st Line transport will also be required, and, therefore, to supplement what we have, and which I have shown to be quite inadequate, I want to see Volunteer transport companies brought into existence without delay. This will not, I think, be difficult, nor need it be expensive: in any case it is *necessary*. If a man were to build a dam and, for the sake of economy, were to leave part of it so weak that a heavier flood than usual would break it down, we should call that man a fool. What then is to be said of a nation that maintains thousands of fighting men, but neglects to provide the means of feeding them during a campaign?

As a beginning, I would raise transport companies for certain of the Volunteer infantry brigades, and gradually extend this system until every brigade has its transport company. Whether these brigades would take the field as such in war is immaterial; the transport companies would be available for general duties as found necessary. I hold this to be a better plan than raising independent transport companies without any territorial or other connection, because, in the first place, I look to the brigade to supply many recruits for the transport ranks, that is to say many (the more the better) of the drivers will have had some previous military training; and in the second place because the brigade transport company can be more readily and practically tested in its duties in camp and on manœuvres, where indeed, by lessening the employment of civilian transport, its training will result in a saving of expense, and so reduce in part the cost of its maintenance. Short service for the Volunteers is not feasible, because in two years men could not receive anything like sufficient training in transport duties, and therefore I consider that no attempt to establish a Volunteer transport reserve should be made beyond registering the names of all men on retirement. If such men were made liable to serve in case of invasion for, say, 5 years after retirement, I do not suppose that recruiting would suffer in consequence; and a man with only a very small amount of military knowledge is better than a man with none at all. Practically, however, the Volunteer transport company will have to take the field at peace strength, and consequently it should be kept, within limits, as strong as possible in peace. Those limits should be the establishment of a regular company at war strength, *i.e.*, 236 of all ranks;¹ but I do not advocate treating the establishment of horses on similar lines. The horse question with Volunteers is never an easy one, and therefore the

¹ As an infantry brigade only requires 2½ sections, *i.e.*, five-eighths of a transport company (see p. 389) a total of 145 of all ranks, with fewer horses and vehicles, would suffice.

fewer horses we can get on with without sacrificing efficiency the better. I would give to the Volunteer transport company the same number of vehicles as a Regular company at war strength, with the exception of the ambulances, as bearer companies already exist.¹ The general service wagons should be allowed 2 horses each, the other vehicles 1, thus making a total of 80 horses per company. A few spare animals in addition might be taken on manœuvres. The horses should be hired in the same way as for Volunteer batteries²; and I do not suggest that it would be necessary to hire as many as 80, except on special occasions; for ordinary drill purposes a very much smaller number should suffice. Complete equipment for the full number of 230 horses should be kept in store, and all of it should be used in turn. Practically nothing then would be required on mobilisation except the 150 additional horses, and those would be obtained from the remount depôts if possible, or purchased, or hired. If our 2nd Line transport be properly organised, the last course could probably be adopted. Men accustomed to horses would, of course, make the best recruits, for their military education would be, so to speak, already begun. The obtaining of reliable non-commissioned officers would be (as with all branches of the Volunteer force) the chief difficulty, but it is a difficulty which can at any rate, to some extent, be overcome by careful and systematic training. The company sergeant-major, company quartermaster-sergeant, and at least 2 sergeants (1 for each of the 4 sections would be preferable) should belong to the Army Service Corps; and as the position of those men (especially in country districts) would be a responsible one, they should not only be selected with great care, but should be made to understand that their future promotion would depend on the efficiency of their company or section. For the present, at any rate, it is quite impossible to spare enough Army Service Corps officers to give an adjutant to each company, or even group of companies, unless of course only a few are raised to start with,—and even then it would be better to begin as we mean to go on, so I suggest the appointment of a few "Inspector-Generals of Auxiliary Transport," graded as staff officers. These officers should make constant inspections of all Volunteer transport companies in their several districts, not only in the manner that "inspections" are generally understood (though occasional formal inspections, "as strong as possible," should be held); but they should devote most of their time to seeing that the instruction of individuals was being carefully attended to, and more particularly that the Regular non-commissioned officers were in all respects fit for their positions.

I believe that a great deal could be made of Volunteer transport companies worked on these lines. As soon as a man could ride and drive properly—and it is to be hoped that a large proportion of the recruits would have some knowledge of the latter at least on joining—a great deal of useful instruction could be given in the winter evenings without horses. The care of harness, taking it to pieces and putting it together again; the loading of wagons, mounting and dismounting them; a little foot drill; and the care and management of horses in

¹ The St. John Ambulance Brigade may be relied upon to render valuable assistance.

² A Volunteer battery of position consists of 4 guns and 3 wagons (horsed), say 22 to 36 horses (the number depending on the class of horse employed), and the annual allowance varies from £100 to £136.

quarters, in camp, and on the march: all these subjects could be progressively taught with profit both to pupil and teacher. Lectures to the non-commissioned officers explanatory of the principles on which our military transport is carried out would be time well spent. Shooting should, of course, not be neglected; in fact a Volunteer transport company, with a little shaking down, should be able, in a very short time, to take its place as an integral portion of our home-defence army in case the possibility of invasion ever becomes a dreadful reality.

Each Yeomanry brigade should also have its Volunteer transport company.

I suggest that Mark IV. wagons would be best suited to the Volunteers, partly because a lock-under fore-carriage is easier to drive than one with a quarter-lock, and partly also because, having a smaller turning circle than Mark VII., they are better suited to our narrow English lanes.

Volunteer transport companies would cost money, but surely the money would be well spent? Their existence will enable our citizen army to keep the field, which assuredly it is not capable of doing at present, and so add enormously to the armed strength of this country.

iii.—2ND LINE TRANSPORT.

There is a considerable diversity of opinion as to the duties of 2nd Line transport. This is, perhaps, not to be wondered at when we remember that even among soldiers a great deal of misapprehension exists as to what 2nd Line transport is. The reason of this, no doubt, is because there are so few books on the subject of military transport; but this again is, I fear, to some extent owing to the fact that there has been no great demand for them. The subject of land transport is, in fact, of interest only to the few; the majority either ignore it altogether or look upon it as a matter of minor importance—as a service which can be easily improvised when occasion demands. Never was there a greater error; and let us hope that with the present determination to mould the Army into an efficient fighting machine, the land transport will in future be given the consideration which its real importance merits.

I can recollect attempts to define 1st and 2nd Line transport according to the stores carried by each. To thus draw a distinction between the two, or to define either by such a method, must necessarily result in failure because the premises are unsound. It is not *what* is carried, but *to whom* and *whence*, that marks (or should mark) the difference between two classes of transport which, with sound organisation, are necessarily distinct. I must, at the same time, admit a certain diffidence in endeavouring to distinguish between the two; not so much on account of any adherent difficulty in so doing, as because under certain conditions impossible of accurate classification, their duties overlap. Broadly speaking, 1st Line transport may be said (in the words of Sir John Burgoyne already quoted) to consist of transport which is "brought within range of the enemies' fire"; and 2nd Line transport, of transport which does not penetrate within the fighting zone. The first should consist of military transport pure and simple, the second of civilian transport under military control.

This matter of military control over transport which otherwise is constituted on wholly civilian lines, is really at the root of the matter. Without it the greatest irregularities may prevail, especially at a time

of stress and uncertainty; yet if, on the other hand, too rigid an adherence to military forms be insisted upon, the elasticity of its working may be seriously imperilled. The great object with 2nd Line transport is to work it on lines familiar to the people: to sweep into the military net, in fact, the ordinary transport organisation of the country without disturbing its internal routine.

The only attempt to employ civilian, *i.e.*, 2nd Line transport, on a large scale was made during the summer manœuvres of 1898. This indeed was a necessity owing to the number of troops engaged. The arrangements were loudly condemned at the time by the troops, and praised with some reservations in the official report of the manœuvres. It was confidently asserted on the one hand that had the weather been wet, or had the manœuvres lasted a single day longer, a complete breakdown must have followed; on the other hand, it was officially stated afterwards that on the whole the civilian transport had proved a success. These statements, much at variance as they may seem, are not irreconcilable.

Two fundamental mistakes were made at the outset.

- a. The civilian transport was employed as 1st Line transport, that is, it was charged with the actual distribution of supplies to the troops, instead of fulfilling its true rôle of filling up the dépôts in rear.
- b. The contracts were so drawn up that sub-letting could be, and, as a matter of fact, was, largely resorted to. Moreover, no steps were taken to insure the men employed being fully qualified for their work. Some of the drivers had actually never had anything to do with horses before: they were alike ignorant of how to put on harness, how to groom or feed a horse, and how to drive! In consequence, the officers of the Army Service Corps in charge of transport columns had very hard work to prevent a breakdown. It must be remembered, too, that the opposing forces were operating—as regards supply—from standing and interchangeable camps, a very convenient arrangement. As the weather was fine throughout the transport had everything made as easy as possible: but the margin of success was a very narrow one nevertheless.

On the other hand, the official report that the civilian transport had proved a success was on broad lines undoubtedly justified. It was proved, beyond doubt, that large bodies of men, without any military training whatever, with all kinds of horses and vehicles, could "keep the field" for a number of days, and could transport without any serious hitch large quantities of stores. If all the men had been accustomed to horses; if the horses themselves had in all cases been fit for the work in hand; and, above all, if the transport thus constituted had been employed *only* in the 2nd Line, success would have been absolute. But it was peace, not war.

But of far greater importance than success or failure in this particular instance is the lesson to be learnt from the experiment. Here we had a large number of troops, let us say two army corps, operating under peace conditions as regards supply, with nearly the whole of the Regular transport available; and yet the employment of civilian transport on a big scale was necessary. As a result of the South African war we have about doubled the number of our Regular

transport companies; yet even supposing that all of them were available at home (and that we had Volunteer companies as well), should we have enough in the event of invasion? Even if we reply in the affirmative, we can only do so by admitting the necessity for a large addition in the shape of civilian transport; and thus we are left to the further consideration as to whether this civilian transport will be available in sufficient strength and in sufficient good order to meet requirements. It is a momentous question, and we cannot afford to allow the answer to be in the least degree ambiguous. Personally, I look upon this continual shelving of the problem of auxiliary transport as a danger to the country, and one the solution of which admits of no delay.

I do not seek to belittle the difficulties which lie in the way of a successful solution—a solution, that is to say, which shall be at once business-like and cheap—but we must remember (and in one sense it may be considered as entirely satisfactory, though not generally, I think, sufficiently realised), that a very large proportion of the “military” transport service in this country is carried out by civilians. We very rightly concentrate our Regular transport companies for purposes of training at a few of our larger military stations, leaving the executive transport work everywhere else to be performed by the railway and canal companies (generally at special rates), and by “contractors” (in the ordinary sense of the term), for road services, or by special local arrangements for short periods, and for certain specified work. This means that the majority of persons in this country who are ordinarily employed in transport work (I use the term “transport” here in its widest sense) are fully acquainted with the needs of the Army in peace. To bring home to them the needs of the Army in war, especially of war in this country itself, and to make provision for enabling them to put the knowledge thus acquired to practical use, is, it seems to me, the imperative duty of our war administration. Let the War Office take the nation into its confidence, and I, for one, am not afraid that the necessary expenditure will be cavilled at. The truth is that 2nd Line transport is an indispensable adjunct to every army in the field. In an enemy's country it must be, to a great extent, improvised, and, therefore, at a commencement of a campaign, military transport must often assist in the 2nd Line: time is on the side of the invader. At home we shall have, or at any rate we may have, no time; and the danger of unreadiness is appalling. But, at home, if we do our duty, 2nd Line transport need not be improvised, or rather, all preparations for its being formed at the shortest possible notice will have already been made. How is this to be done?

To begin with, there will be no lack of material. There are more than enough horses and vehicles in this country to meet all possible requirements, even after the Regular and Volunteer companies have been fully supplied, and (as I have already stated) the general stoppage of business consequent on invasion will place an ample number at the disposal of the military authorities. Even were it otherwise, that part of the Army Act relating to the impressment of carriages, would insure a sufficient supply. It may be noted that (except for regimental baggage and stores) carriages and animals can only be impressed in case of emergency, and that they cannot be seized unless an Order in Council for the embodiment of the Militia is in force. As the Militia would certainly be embodied at the first whisper of invasion, the legal

provisions for obtaining the required transport appear to be ample. The Army Act authorises the police authorities to compile annually a list of all persons liable to furnish carriages and animals, giving numbers and descriptions of both. Copies of such lists should be furnished to every officer administering transport duties throughout the kingdom; and he, in turn, should render a return to the War Office showing the amount and quality of transport which could be collected at short notice at certain named places.¹ I further suggest the formation at the War Office of a "Civilian Transport Council" (of which the present "Army Railway Council" would become a branch), to administer this necessary portion of our home defence army. Much might be done by a central authority, working through the officers, administering transport duties in the various military commands. Places of assembly for 2nd Line transport could be fixed upon; the actual composition (leaving a margin for contingencies) of the several "companies" might be tentatively determined; and all stores and equipment likely to be required by them could be kept ready for issue on "mobilisation."² Nor should there be, in my opinion, any secrecy about these preparations. On the contrary, I should like to see the fullest publicity given to the scheme; and this, in time, might even lead to a friendly rivalry between the different "companies." It should be explained exactly what "impressment" means, and especially pointed out that in the event of invasion large numbers of the civil population would be thrown out of work, consequently the majority whose horses were impressed would be glad enough to enter the Government service, and to look after their property at the same time. Persons who show special interest, and those who employ a large number of horses, or are otherwise qualified, should be informed that they may consider themselves potential "conductors"; i.e., as having in the future certain powers and responsibilities above their fellows. Ample compensation, it should be explained, would be given for all losses and damage, and the pay would also be good.

I believe that if we worked on some such lines as these, "inspections" of 2nd Line transport "companies" could be held occasionally, and, if so, great interest would certainly be invoked; and this would lead to questions being asked, points debated; and, in short, an insight (rough and ready no doubt, but sound in the main) into the methods and requirements of army transport would be obtained by the public.

The increasing success which attends the annual cart horse parade in London is a matter for congratulation: why not extend the principles underlying it to the country generally, but based on military transport needs? I know that any scheme of this sort would require very delicate handling, and we must be prepared for many disappointments at the outset; but I believe that, on the broad lines indicated would, in the end, fully justify the labour involved in its development.

¹ As among others, the places of assembly of Militia and Volunteer units.

² Among other things, armlets with distinguishing numbers for the civilian drivers and foremen or "conductors." This may appear, and in truth is, a small matter; but it is only by paying particular attention to seemingly trivial points that we can gradually build up a system of 2nd Line transport.

Let us, at any rate, try it in default of a better. Let us try it on manœuvres by employing the same firms as far as possible every year, so that in time we shall have our 2nd Line transport supplied by men conversant with Army requirements, and with a practical knowledge of transport work in the field. We may expect in future to have annual manœuvres in all our military commands, and therefore, the above experience should not be confined to a few firms only, but should, in a few years, be shared by all who employ any considerable numbers of horses and vehicles.

Possibly my suggestions for the development of 2nd Line transport will be considered unworkable—good in theory, perhaps, but not possible in practice. It may be so; but I should like to see them given a fair trial before being condemned as impracticable.

Of one thing I am at least certain: that any scheme honestly worked out is preferable to our present condition of absolute unreadiness.

iv.—RESERVES OF HORSES.

I feel that no scheme of land transport organisation can be considered complete which does not touch on the question of a reserve of horses for war. It should be noted, however, that any scheme in this connection cannot well be separated from the larger question of a horse reserve for the Army generally; and therefore my remarks on this subject will be brief, lest I wander from the prescribed limits of the present essay.

Let me first note that the land transport of the British Army finds employment for many kinds of animals besides horses; we use elephants, camels, mules, and oxen, collectively or separately, according to the nature and locality of the campaign. Elephants belong primarily to India, camels to Egypt, oxen to South Africa, while mules may, perhaps, be described as universal. But the horse must ever be the most important of transport animals—for home defence practically the only one—and, therefore, we ought to be able to add largely to the available numbers at short notice, without incurring the enormous expense which will inevitably result if we look to obtain them all by purchase in the open market.

From the transport point of view this question of a horse reserve is comparatively a simple one. A cavalry troop-horse wants careful training before it is fit to take its place in the ranks, and so, to a lesser extent, perhaps, does an artillery horse. But for the transport, the normal pace of which is the walk, any horse accustomed to draught work (provided it is of the right stamp and in good condition) is fit for the work required of it. I am personally of opinion that our present transport horses are, as a rule, too light: we do not want the heaviest stamp of cart horse, but I certainly think we incline rather towards the opposite extreme.

There have been many suggestions made lately as to the best way of providing horses for the Army, and especially for obtaining the additional numbers required for war. The best plan is, I think, for the War Department to buy horses young, say as three-year-olds, keep them for a year, and then pass them into the ranks as required. The South African war showed clearly enough that our remount dépôts, as at present constituted, are not capable of rapid expansion; and this, I think, is partly because they are too few in number; and partly also because we maintain them only at home. We ought to extend the

system to our principal possessions abroad—to Canada, South Africa, and Australia. We should thus not only increase the available numbers, but, in addition, we should obtain reserves of horses acclimatised to the diverse conditions which exist throughout the Empire.

I have already discussed the question of horses for home defence in "2nd Line transport," and, consequently, little remains to be said. It should be noted that from the police lists large deductions will have to be made for unsuitable animals; and here is where a great deal of tact will be required on the part of the officers concerned. The difficulties of keeping up-to-date and reliable lists of horses suitable for Army transport work, though great, are not insurmountable; and such lists should undoubtedly be carefully kept at all our larger military centres. Our real reserves are scattered broadcast throughout the kingdom: a little organisation now will perhaps mean the difference between victory and defeat later on. At present we are only prepared to deal with the *purchase* of the additional horses for war. This may be a good system for the Army generally, but will only be necessary as a supplementary measure for our land transport for home defence if our 2nd Line transport be organised in peace in the manner suggested. For an over-sea expedition, recourse will still have to be made to purchase; but by establishing dépôts abroad, and increasing those at home, the numbers so required can be considerably reduced. In the end we shall thus save money and, at the same time, be better prepared for war.

IV.—DIFFERENT KINDS OF LAND TRANSPORT.

At the present time the expression "The British Army" implies the Army raised in the United Kingdom. I would that it were otherwise. In "The British Army" I should like to include the men of all races, trained to fight for the Flag throughout our vast Empire; although it must be allowed that if this were the case, the subject of land transport would be beyond the scope of a single essay. But the limits imposed here exclude the British Army in India and the Colonies—so, at least, I understand, by the title of this essay.

It will be allowable, I think, to name the various methods of land transport with which our officers have to deal from time to time; because if we realise for a moment how completely the conditions of land transport differ in various parts of the Empire, we shall the better be enabled to understand the comparatively humble part that the transport companies of the Army Service Corps may play in some future campaign abroad. At home, for home defence, the position is far otherwise: we are practically limited to railways, horse transport, canals, traction engines, and motors. On foreign service we employ various kinds of wheel or pack transport, or carriers; but I do not think that the consideration of these last properly falls within the scope of this essay, even though for an over-sea expedition we may, and probably shall, depend on some or all of them to supplement (if not to supersede) our contingents from home. It is, however, just those contingents with which I am now principally concerned, and they will be *mainly* composed of horses and wagons. The organisation of this branch of our land transport has already been considered, but there are one or two minor points which demand further elucidation.

One of these concerns our "general-service" transport wagon. Broadly speaking, there are two types; the "lock under" (Mark IV.),

and the "quarter lock" (Mark VII.). The former is easier to drive, that is to say, it can be turned better on level ground, but it is liable to upset over rough country, owing to the relatively small size of the front wheels. The fault of both types, from a transport point of view, is that they are too narrow, and do not hold enough, consequently, there is a waste of horse power. I believe that the track of all vehicles throughout the Service is purposely limited; and that, were it increased, the result would be to render useless all our bridging material, both as regards width of roadway and weight-bearing capacity. If this is indeed so, it is obviously more than a mere question of transport; but bearing in mind the enormous importance of supply in the field, it may fairly be asked if the time has not arrived for a reconsideration of the whole subject.

Another point is the necessity for providing our cavalry and mounted infantry with a more mobile (*i.e.*, a lighter) type of transport wagon. This undoubtedly means increased expense, because a light wagon will not bear the strain of active service as well as a heavier one; but expense should not be allowed to stand in the way of increased efficiency. So, too, we ought to introduce a lighter type of ambulance for use with the field hospitals.

We are now at liberty to turn our attention to the various kinds of supplementary land transport, which are surely destined to play an important part in the defence of these islands.

a. Railways.—Railways and tramways can be taken under military control by an Order in Council declaring that an emergency has arisen. I doubt if tramways would ever be of much use, at any rate, they may safely be left alone until the emergency comes. But with railways it is quite another matter. In the event of invasion they would be of the utmost importance—to the enemy as well as to ourselves—and I am of opinion, therefore, that a certain number of officers should be specially trained in their practical working: I do not mean in the mechanical driving of an engine (though I should like to see more "Railway Volunteers"—in fact, I consider that every railway company should have its Volunteer corps); but the knowledge essential for directing and regulating traffic might be advantageously acquired. True, we can rely on the officials of the various railway companies to give every assistance, but I believe that a more military control (always supposing it were exercised by officers with the requisite experience), would be highly desirable, if not actually essential. Why should not the Army Railway Council have branch establishments in every military district throughout the kingdom, composed of the prominent railway officials, and a limited number of officers, and to which other officers could be attached for instruction? A great many little points would surely arise deserving of attention, and nothing but good could result from the establishment of more intimate relations between the Army and the railway companies. In time, perhaps, a standard gauge might be adopted throughout the United Kingdom—a matter from a military point of view of very great importance.

b. Canals.—Canals are not suitable for military transport in war. They are vulnerable, easily blocked, very slow, and of comparatively small carrying capacity. Still, in parts of the country remote from the enemy they could, doubtless, be utilised in filling up supply depôts. My proposed "Civilian Transport Council" should, therefore, ascertain the average rate per mile on the main canals, the

number of barges (steam and otherwise) and horses ordinarily available, and the carrying capacity of the former. I doubt if we can go beyond this with any advantage.

c. Traction Engines.—Traction engines can only be used on good roads, and are essentially 2nd Line transport: they should never be brought within range of the enemy's fire. They save horseflesh, but against this must be set the wear and tear on the roads. The Royal Engineers, with their usual adaptability, employ them, but they have hitherto formed no part of the Army Service Corps establishment. This is, I think, a mistake: every possible means of land transport should be familiar to the train of the Army. Too close an adherence to the most important branch—horses and wagons—leads to the neglect of others, which are yet of sufficient importance to justify a more liberal treatment. I do not suggest that the Army Service Corps should adopt, to any great extent, transport suitable only in the 2nd Line; but, as the efficiency of the 2nd Line will be of the utmost importance to the 1st Line in the field, there is no doubt that a knowledge of the chief methods employed by the former will be of great value to the latter, and should therefore be studied in peace.

d. Motors.—Of all kinds of auxiliary transport the "motor" is likely to be the most important in the near future. It possesses many substantial advantages, of which speed and saving of manual labour are the chief; and its principal disadvantage, a liability to break down, especially over uneven ground, will certainly diminish as improvements are introduced.

A series of exhaustive experiments was carried out at Aldershot in December, 1901, when several different types of motors ("self-propelled lorries") were tested. The most important points of the subsequent report may be epitomised as follows:—

- a.* Steam lorries are capable of doing excellent service in countries where fuel and water are plentiful. Those burning heavy oil use little fuel, and are practically independent of water.
- b.* A single lorry, carrying 5 tons, is more than the equal of 3 general-service wagons, which require 12 draught, with riding and spare horses. The speed of the former over hilly average English roads is about 6 miles an hour, against the 3 miles an hour of the latter.
- c.* Lorries should be used singly: a "trailer" is detrimental to rapid and handy work.
- d.* A powerful tractor, drawing a train of wagons behind it, is recommended for work in the 2nd Line. This bears out what I have said under "Traction Engines."

In countries where roads are numerous, part at least of the light transport already suggested for cavalry and mounted infantry should be composed of motors.

At present the motor may be said to be in its infancy, and, therefore, undue haste in adopting it for Army transport purposes is to be deprecated; hence its non-introduction until recently for general use. The formation of "mechanical transport companies" has, however, now been approved, and their work on manœuvres will be watched with interest. Sanction has also been given for the establishment of a Volunteer Motor Corps.

I believe that motors will in the future, to a great and increasing extent, take the place now held by horsed wagons. The transformation, no doubt, will be gradual: but our land transport must not be allowed to fall behind in the race for supremacy. The army that possesses better land transport than the enemy will, on war being declared, start with the campaign half won.

V.—MISCELLANEOUS.

a. Staff Duties.—The organisation of our land transport must be considered not only with reference to its own inner working, but also in relation to the rest of the Army.

Until quite recently, a staff officer of the Army Service Corps, for what were known as B duties—duties which included transport, all we have to consider here—was the intermediary between the general officer commanding and the officer commanding Army Service Corps. Now this has been changed; and at the head quarters of each of the six army corps there will be an Army Service Corps officer (colonel on the staff) as director of transport, who will be charged with the administration of all transport services in the army corps area, and will be the adviser of the general officer commanding on transport generally. This is as it should be; but I am inclined to doubt if, in the smaller commands, the new procedure will answer so well. Take for instance a brigade: the transport will be administered by the officer commanding Army Service Corps, who, though only a regimental commanding officer, will thus be responsible for duties hitherto performed by a staff officer. He will, moreover, be the adviser of the general officer commanding the brigade, and the medium of communication on all local transport matters. To enable him to carry out these duties in a satisfactory manner, he should be given the status of a staff officer; that is to say, he should be a lieutenant-colonel (or major) on the staff, or staff captain, as the case may be: otherwise I foresee difficulties. With this addition, the new regulations will certainly be an improvement on the old system of having two officers (the B staff officer and the officer commanding Army Service Corps), whose duties not infrequently overlapped.

b. Regimental and Medical Transport.—Regimental transport should be limited to what is considered necessary for the conveyance of ammunition and water. In the commonly accepted sense of the term, i.e., horses and general-service wagons, regimental transport was abolished in South Africa as useless. We might have done away with it sooner, as the result of experience at peace manœuvres: for it stands to reason that small bodies of transport, acting independently of one another, must be wasteful; and, if united and worked together, they become merely an Army Service Corps Company, indifferently trained.

As a school to enable previously trained men to keep up their knowledge of transport work, regimental transport may, perhaps, be defended; but nothing will, in my opinion, justify its retention in war. I suggest, for peace, a modification of the Indian system, that is to say, a wagon and horses might be *lent* by the Army Service Corps to every infantry battalion at home. These would be inspected periodically, and changed for others at the discretion of the officer commanding Army Service Corps. On the departure of the battalion from the district, or for manœuvres, the horses and equipment would

be withdrawn. At stations where there are no transport companies, a small saving of expense would result from the maintenance of regimental transport on these lines.

I should like to see the Royal Army Medical Corps independent of the Army Service Corps as regards transport, just as the Royal Artillery and Royal Engineers are independent, *i.e.*, for everything except food and forage. Ambulances are entirely distinct from supply wagons; and it would be an advantage to the train, as well as to the medical department, if the transport of the two services were kept separate.

The Boer war did not decide one important point of international law, *i.e.*, how far the Geneva cross will protect drivers of the Army Service Corps employed with ambulances. A driver of the Army Service Corps is a combatant soldier, who may at any time have to fight in defence, let us say, of a convoy. Next day, owing, perhaps, to a wound or other circumstance, he becomes a harmless non-combatant in charge of an ambulance. Or he may even be employed with a field battery, as was the case with a number of Army Service Corps' drivers in South Africa. His position thus becomes equivocal, to say the least of it: and, in any case, it is surely advisable to separate entirely combatant and non-combatant duties.

c. Local Establishments Abroad.—With the exception of South Africa—and only in that case since the war—all our Regular transport companies are stationed at home. This is a good arrangement, as it renders the greatest possible number available both for an over-sea expedition and for home defence. Abroad, India has her own transport system, Australia has a small Army Service Corps, and Canada is about to follow suit. At stations of Imperial troops, local transport establishments are maintained under Regular transport (*i.e.*, Army Service Corps) officers. Gibraltar is a good example of this system, which I have already recommended should be gradually adopted in South Africa, so that the whole of the Regular transport companies may ultimately be released from service there. This change can only be carried out by degrees: indeed, in parts of the country it may be necessary to keep companies there for many years to come. Should this prove to be the case, I suggest that certain companies be placed on the "South African Establishment" and kept there permanently for the present, so as not to interfere with the proposed two years' enlistment at home, and especially with the non-movement of companies for facilities of mobilisation. Enlistment for the South African companies should be for 3 years, as now, with slightly higher rates of pay, and corps pay to attract recruits. No alteration in the officers' foreign service roster would be necessary. Non-commissioned officers and men extending their service after 3 years should have the option of continuing to serve in South Africa, or of being placed on the home establishment. A sufficient number of the former would, no doubt, volunteer for service with the local companies, which would gradually replace those on the South African Establishment.

A start should be made at once with the formation of these local companies, especially as their organisation, rates of pay, etc., can only be determined by actual trial, and in conformity with widely varying local conditions.

d. A Transport Manual.—Unfortunately very few books have been written on military land transport, and a good manual is much needed at the present time. Colonel Furse's "Military Transport" is, so far

as I am aware, the only attempt at treating the subject broadly, and much of that excellent book is now obsolete. The "Army Service Corps Drills and Exercises" contains plenty of useful information, but it is scarcely as complete a book of reference as are the Cavalry, Artillery, and Infantry Drill-books for their respective arms. The ideal transport manual which I have in my mind should deal succinctly with our system of land transport at home and abroad, in peace and war; should define clearly the difference between 1st and 2nd Line transport, and describe the duties of each, and especially the functions of the latter in the event of mobilisation for home defence. Some account of the transport systems of foreign Armies would be interesting and instructive.

A book such as this could not be completed in a hurry, nor by one writer, but its commencement should, I think, be no longer postponed. To the young transport officer, anxious to make himself acquainted with the higher duties of his profession, it would be invaluable: while his seniors, who know what an immense field military transport covers, would always find in it something new; and to one or another of its many ramifications would be able to add the results of practical experience.

VI.—CONCLUSION.

The proposed organisation of our land transport which has been advocated in the foregoing pages is, for an over-sea expedition, the holding in readiness of 48 companies¹ (that is sufficient for 3 army corps and 3 cavalry brigades²), with, say, 5 more¹ for duty on the lines of communication, which, by means of reducing the period of service to 2 years, it is considered could be easily and quickly raised to war strength. For home defence, the remainder of the Regular companies,³ with a large number of volunteer companies for the 1st Line; and an organised civilian transport for the 2nd Line. Abroad, the formation (where they do not already exist) of local transport establishments of a military or semi-military character—establishments which could readily be expanded in war, either purely for the defence of their own particular territory or as an aid to an over-sea expedition from home, operating in or from that portion of the British dominions. As regards horses: depôts at home and abroad, assisted by purchase (and hiring for the Volunteer transport companies) on mobilisation,⁴ besides a careful system of registration for the needs of the civil transport. A company territorial system which, combined with short service, should make mobilisation easy, besides rendering possible the formation of reserve companies to replace casualties, or even to take the field as substantive units for home defence.

Volunteer transport companies are absolutely necessary to enable our citizen soldiers to keep the field; while the systematic organisation

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¹ These should be on the higher peace establishment.

² See p. 399.

³ These might be kept on the lower establishment.

⁴ Frequently revised lists of suitable animals (and, if possible, prices) should be kept by officers commanding companies, a "horse district" being allotted to each.

of transport for the 2nd Line I look upon as one of the very best steps we can take to secure the safety of this country.

All the foregoing points raise questions of supreme importance, and consequently I have endeavoured, as far as possible, to consider them in some detail. With the broad principles involved general agreement may be anticipated: the absolute necessity for a continuity of policy (which alone can enable us to arrive at something like a final solution of the vast problem of land transport) may be taken for granted. Such changes as I have advocated I consider necessary; and with their aid I have tried to evolve a definite scheme for the better organisation of our land transport; and I have, inviting criticism, set it forth in some detail. Since it is always easier to pull down than to construct, the critic should be prepared to substitute an alternative for everything he would alter or destroy. I believe that any scheme of land transport must be necessarily of the nature of a compromise, and I know that mine is no exception to the rule. Did space permit, I should be prepared to defend many points that will, no doubt, be roughly assailed; but, as it is, I will limit my observations to two points. Firstly, I would ask that each separate clause, before being condemned, should be considered, not singly, but with regard to the entire scheme; many points could, no doubt, be improved upon, but would they then agree with others of perhaps greater importance? Secondly, let it be remembered that it is easy to generalise. With the recital of certain broad truths it is impossible to differ: the obvious is unassailable. Directly, however, a writer leaves this safe high-road and deviates into the by-ways of detail, he at once lays himself open to attacks from all sides. Yet generalities are of little value, and even an indifferent scheme logically explained is better for practical purposes than vague definitions of policy or nebulous warnings of what should *not* be done.

There is no reason why the organisation of our land transport should not be placed on a permanent and satisfactory footing. Permanent, that is so far as general principles are concerned, because like strategy, of which indeed they may be said to form part, these principles do not change. Details, on the contrary, must ever vary; the next great change, for example, will, I believe, hinge on the gradual development of mechanical transport. For this and other changes equally marked which the future may hold in store, our organisation should find us fully prepared. We are advancing on the right lines; but has not the time now arrived when we can safely advance a little more rapidly? Not by adding largely to our regular establishment in peace, but by the building up of as large a Reserve as possible without sacrificing efficiency, bearing in mind that expenditure in that direction should be looked upon as a national insurance; and especially by developing to the utmost the latent resources of the country for transport of the 2nd Line.

Conscription in some form or another, under this or that name, may or may not be forced upon us in the future; but come it must, sooner or later, unless our civilian population meet it, so to speak, half way. The organisation of 2nd Line transport is at once the least irksome, and (until our fighting forces are largely increased) the most valuable form in which Englishmen can learn and practise those duties which every man, of whatever degree, owes to the country of his birth.

TABLE A.

A TRANSPORT COMPANY AT PEACE STRENGTH

Officers.		Warrant Officer.	Non-commissioned Officers.						
	Sub-altern.		Co.-Sgt.-Major.	Co.-Qr.-Master-Sgt.	Sgts.	Corpls.	Second and Lance-Corpls.	Wheelers.	
								Staff-Sgt.	Corpl.
1	1	1	1	1	3	3	3	1	—

Divided into⁵:—

a. Company Staff—

1 Captain

1 Company Sergeant-Major

1 Company Quartermaster-Sergeant

1 Trumpeter

—
Total 4

Horses:—Riding, officers 3 (including 1 Warrant Officer's)

others ... { 3 (Company Staff)
                  2 (Sergeants)

draught 26

¹ There are either 2 staff-sergeants and 1 corporal, or 1 staff-sergeant and 2 corporals.

² "Waggon-man."

TABLE A—*contd.*

(ON THE HIGHER ESTABLISHMENT).

Artificers. ¹							Trum- peter.	Tri- vers.	Tl. all ranks.
Collar-makers.			Farriers.						
Driver.	Staff- Sgt.	Corpl.	Driver.	Staff- Sgt.	Corpl.	Shoe and Carriage- smith.			
1 ²	—	1	1 ³	1	—	1	1	41 ⁴	62

b. Two Sections, each Section consisting of—

1 Subaltern or Warrant officer	} Ranks at discretion of the officer command- ing the company.
5 (or 4) Non-commissioned officers	
4 (or 2) Artificers	
21 (or 20) Drivers	

Total 31 or 27.

Vehicles—

General Service wagons..	..	7
Ambulance ..	..	1

¹ "Learner."² The establishment is really 43, and includes 2 who are employed as artificers.³ This is my suggestion, not the present arrangement.

TABLE B.

A TRANSPORT COMPANY

Officers.		Warrant Officers.	Non-commissioned Officers.						
Major or Captain.	Sub-alterns.		Co.-Sgt.-Major.	Co.-Qr.-Master-Sgt.	Sgts.	Corpls.	Second and Lance-Corpls.	Wheelers.	
								Staff-Sgts.	Corpls
1	4	4	1	1	10	8	10	2	2

Divided into:—

a. Company Staff—

1 Major or Captain

1 Company Sergeant-Major

1 Company Quartermaster-Sergeant

1 Trumpeter

—
Total 4

Horses:—Riding, officers 9 (including 4 Warrant Officers')

others.. { 3 (Company Staff)
          { 10 (Sergeants)
          { 6 (Staff Sergeant Artificers)

draught 230

NOTE.—Spare non-commissioned officers' men and animals will be left at base to replace casualties. Spare vehicles will also be left at base for use as required. Thus (for example) a company furnishing the transport for 4 bearer companies requires 40 ambulances, and these will be found at base left behind by other companies requiring none.

TABLE B—*contd.*

AT WAR STRENGTH.

Artificers.							Trum- peter.	Dri- vers.	Tl. all ranks.
Collar-makers.			Farriers.						
Drivers.	Staff- Sgts.	Corpls.	Drivers.	Staff- Sgts.	Corpls.	Shoe and Carriage- smiths.			
5	2	2	6	2	2	13	1	160	236

b Four sections, each section consisting of—

1 Subaltern.

1 Warrant officer.

7 Non-commissioned officers

9 Artificers

Ranks at discretion of the officer commanding the company, on mobilisation; and afterwards according to the requirements of the different supply columns among which the company is divided.

40 Drivers.

—
Total 58

Vehicles.—General service wagons	...	...	35
Forage carts	...	...	2
Water carts	...	...	8
Ambulances	...	...	10