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Life. Ride-and-tie Patrolling and Section-Skirmishing

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Evening Meeting.

Monday, March 4th, 1872.

W. STIRLING LACON, Esq., in the Chair.

NAMES OF MEMBERS who joined the Institution between the 20th February and 4th March, 1872.

LIFE.

Pixley, Stewart, Capt., 1st Victoria Rifle Volrs.
Paine, Wm. D., Lieut., 5th Surrey Rifle Volrs.
Notman, H. Wilkes, Capt., Lon. Scottish Rifle Volrs.
Mann, Geo. R., Capt., 1st Middx. Rifle Volrs.
Somervail, Alexander, Capt., 1st. Middx. Rifle Volrs.

ANNUAL.

Vivian, H. H. P., Capt., late 22nd Regt.	Chambers, Arthur W., Capt., 26th Middx. Rifle Volrs.
Clarke, J. G., Major, late 68th Regt.	Chambers, Edward, Lt., Lon. Art. Volrs.
Baillie, Wm. H., Capt., late 8th or King's Regt.	Dixon, Walter C., Lieut., 10th Surrey Rifle Volrs.
Gibson, Edward, Lieut., late S. Gloucester Mil.	Leveson, Edwd. John, Lieut., 5th Kent Art. Volrs.
Tomlinson, F. P., Lieut., Inns of Court Rifle Volrs.	Hay, H. M., Lieut., Lon. Rifle Brigade Volrs.
Leach, E. P., Lieut., Royal Engineers.	Knollys, Henry, Lieut., R.A.
Naghten, Arthur R., Major, Hants Art. Mil.	Watts, J. G., Capt., Bombay Staff Corps.
Bevington, Saml. B., Capt., 10th Surrey Rifle Volrs.	Holland, Stephen T., Ens., 1st Middx. Rifle Volrs.
Russell, Cecil H., Capt., Inns of Court Rifle Volrs.	Farrell, John D. C., Capt., 26th Kent Rifle Volrs.

RIDE-AND-TIE PATROLLING AND SECTION-SKIRMISHING.

By Lieut.-Col. JONES, U.C.

HAVING been invited by the Council of this Institution to fill up a gap in their Programme of Lectures, &c., I embrace the opportunity thus afforded me of endeavouring to secure ventilation for two proposals, which I have termed "Ride-and-Tie Patrolling, and Section-Skirmishing," by way of expressing the subject of this evening's paper as tersely as possible; and, although my notions may be thought crude and impracticable by some persons, I hope for your indulgence while I do my best to lay them before you, and also for some profitable discussion

by any members of the Institution who will kindly take the trouble of refuting or supporting any part of my paper which they may deem worthy of comment.

I need hardly urge, before such an audience as this, the paramount importance of patrolling duties to the safety and success of Armies in the field, more particularly in modern warfare; and it is the well recognised necessity for adopting every expedient calculated to facilitate the performance of those duties which has brought the "ride-and-tie" system to my mind.

"Ride-and-Tie" is, I believe, an old Lancashire expression, denoting the expedient by which two persons get rapidly over the ground with only one horse, by riding and walking alternately, the animal standing or being tied to a rail or gate until the walker arrives at the spot whereon the first rider dismounted for his turn on foot; and, although it may be an extreme way of putting it, this expression so far represents what I wish to bring before you to-night, that it indicates a joint action of small bodies of cavalry and infantry, which has often been employed in war, but hitherto without any previous training in preparation for that intimate association of the two arms in the minor operations of war.

The second part of my subject relates to the fighting of infantry in extended order; and it is my object to show that, by making more use of the "section" than our present skirmishing-drill inculcates, we may, with a given number of men, cover a wider front with more effective fire, and hold the men more in hand for both offensive and defensive action than is possible when the whole are extended in a long line of individual skirmishers.

Without detracting too much from the glory gained by Germany during the late war in France, I believe I may say that the excellence of the Prussian Army in "outpost" and "patrolling duties" was due in no inconsiderable degree to extraordinary deficiency in those particulars on the opposite side, or at any rate that the contrast was thereby thrown more into relief, giving rise to a perhaps exaggerated estimate of the merits of the successful Army; but, after making all due allowance for the deficiencies of her enemy, we must give great credit to the Prussian Army for its uniform success in obtaining good information throughout the campaign.

Perhaps, if we could count upon never meeting a more formidable enemy than the one encountered by the Prussians in 1870, our own light cavalry might be trusted to ride roughshod, as did theirs, over a cowering population, and bring back all required information from a wide range of country; but if we desire to penetrate the secrets of an enemy whose outposts are thoroughly well guarded, whose picquets and patrols are ever alert and ready to capture parties approaching his lines, and whose efforts are supported by inhabitants of the theatre of war, we must find it extremely difficult to obtain the necessary information regarding his designs and movements.

We should not be content, therefore, with rivalling the Prussians in this respect, but should rather try to surpass them by preparing to meet far greater difficulties than they have encountered.

There can surely be no harm in taking a high aim in a matter of such vital importance, and when we clearly recognise the difficulties we are likely to find in our path during the next war, we must be anxious to adopt any plan which may appear well calculated to aid us in overcoming those difficulties.

Patrols formed of infantry, when opposed to an active enemy, would be at the mercy of his cavalry in an open country, and would move so slowly, that they could easily be cut off and captured in an enclosed district; cavalry would do better in open country, but must often be more or less liable to be caught in positions in which it is helpless against a few infantry of the enemy.

Light cavalry are usually employed in small bodies for "patrolling" and "reconnaissance," and I believe there are few Officers of experience in those duties who have not often felt the want of a few good riflemen on foot to dislodge parties of the enemy who, from houses or behind banks and walls, have caused great annoyance to their mounted force.

Such a party of riflemen, judiciously posted behind favourable cover as it advances over the space between our own outposts and those of the enemy, may also very often enable a mounted patrol to advance much further than it would be safe for him to move without the backing up which could thus be afforded; and the check to a pursuing body of the enemy, suddenly encountering the volley firing of these men under cover, would generally ensure the safe retreat of the whole patrol, which might otherwise have been overtaken and destroyed by a superior mounted force.

In order to make the most of such joint action on a small scale between cavalry and infantry,—which joint action is so dependent upon mutual confidence and familiarity with each other's power and modes of action,—I am induced to propose the formation of a "special corps" in which, as a rule, two men shall be assigned to each horse, to work *occasionally* on the principle of "Ride-and-Tie," and always, if possible, to support each other; but the separate action of one man with the horse as cavalry, and of the other as infantry, to be by no means lost sight of in giving this special instruction as to their joint action.

It would be premature to go minutely into the details of organisation before the principle has received some sanction from opinions carrying more weight than my own, and my object to-night is to elicit discussion upon the principle of combining cavalry and infantry in small bodies, in preparation for any occasions on which such united action may be found needful in future wars. I would guard against being supposed to advocate the exclusive use of the "special corps" for the whole duty of the Intelligence Department, and ask your indulgence if, in endeavouring to set forth the advantages of my proposal, I appear to attach undue importance to what can be at best, merely an accessory, additional, aid, under particular circumstances, and not by any means a substitute for the recognised system under which reconnaissance and outpost duties are, and will be, performed by regular infantry and cavalry.

The man intended to be usually mounted should be armed with sword and revolver, and the footman with short rifle and sword bayonet.

The horse could carry a handy spade, saw, and axe, some cartridges for the footman's rifle, and a few discs of gun-cotton, with percussion fuses, besides a very light kit for both men, one cart per squadron bringing up the rest of the men's necessaries.

When the carbine now carried by light cavalry is dispensed with, and a lighter saddle substituted for the one in use at present, I believe that the animal weighted with the above useful articles would nevertheless go into action with less on his back than our light cavalry-horse has now to carry. The greatest possible care should be exercised in the selection and training of these horses, so that they may be trusted to jump ordinary fences, or to stand still while their riders, with or without the assistance of their dismounted comrades, prepare gaps for them to creep over such extraordinary obstacles as may demand a recourse to the tools attached to their saddles.

Whips to hounds, second horsemen, grooms, &c., form the class from which the mounted men should be recruited, while gamekeepers, watchers, shepherds, and detective police would furnish good raw material for the footmen, but the whole force must undergo a careful training so as to develop their individual capabilities.

Education to the extent of reading and writing rapidly, acquaintance with maps and ground shooting, and riding across country, will be required from both classes, although it will be sufficient to demand *excellence* in one of the two latter qualifications from each man of a file, not necessarily from both; nevertheless every man in the corps should be prepared, on an emergency, to shoot fairly with the rifle, or to mount and take care of the horse.

It will, doubtless, occur to many persons that in thus asking for so many qualifications in the same individuals, we may end in getting only smatterers, who would fight badly whether on foot or mounted, and I admit that such would certainly be the case, unless the utmost attention be paid to the selection, promotion, and weeding of this special corps; but so long as the average English gentleman finds time amid a variety of other pursuits, to become a good shot, and to hold his own with hounds, I cannot regard it as impossible to raise a corps of men who can fight "indifferently" on foot or on horse-back, "indifferently" in the strict old sense of that word, which was no doubt present to the mind of Doctor Johnson when he used it to describe the Dragoon of the period.

If love of amusement produces all we require in one class of Englishmen, I cannot see why high and increasing rates of pay, combined with education, under the best selected Officers, should not give results with the raw material I propose to draw upon for this special corps.

The best of our police forces and our railway servants have given us good examples of results which may be attained by an increasing scale of pay, in developing special qualities to meet any demand for employments which are somewhat analogous to the one we are now considering; and as the month of annual manœuvres affords the only really good opportunity for training this special corps, I think it will be sufficient to call up the men and horses only on those annual occasions, after giving them some three months' drill on enlistment, and securing

their being always forthcoming by keeping a register and holding a monthly muster.

The men might make their own arrangements about horses (of course under the restrictions for satisfying the demands of the service), and a liberal scale of pay would ensure good discipline if full power be given to the immediate Commanding Officer to fine or dismiss without appeal. Employers of labour would in time learn to make arrangements for sparing their men, and take an interest in helping them to gain a pleasant and profitable annual holiday; but of course the success of the plan would entirely depend upon the selection of Officers to carry it out, and on the offer of terms sufficiently liberal to secure competition for enlistment.

If the extreme importance of patrolling and reconnaissance duties be once thoroughly recognised by the public, there will, I think, be little difficulty about high pay for skilled labour, required only during war, and for one month per annum in peace, to the extent of some 400 men and 200 horses, which would go a long way towards supplying our present need; but as regards the former requisite, I confess to the weakness of this as well as every other scheme which hangs upon the selection of the right man for the right place.

It may be objected that the short training on enlistment, and of a month in each year would not be sufficient to make either cavalry or infantry soldiers. But it should be remembered that this corps would not be required to manœuvre in close order by larger bodies than troops and squadrons, and that the education and intelligence of the selected men, put their training upon an altogether different basis from that upon which we have to build up the training of the ordinary recruit. And if the three months' preliminary drill has to be gone through at the volunteer's own expense, on the bare chance of being selected at its close by a number of the corps, that fact will of itself be a great check upon incompetence, while the direct responsibility to public opinion, under which the selection must be made, will generally ensure a right exercise of that power.

The certainty that each one of the members of the proposed corps will be subjected to military and civilian criticism on each day for which he receives pay during the autumn manœuvres should, I think, be a guarantee to the public that its money is not wasted, and the Officer who should undertake the responsibility of the selection and command, would have the very highest motives for guarding against the admission of any but the most efficient and trustworthy members.

The Corps would, in fact, consist of the very cream of the Volunteers of England, and the payment at the discretion of the Commanding Officer, would establish subordination in the highest degree.

I am a great believer in the efficacy of payment by results, and I also consider that the mechanical repetition of parade movements, is not so good a preparation for the special duties of "patrols" as the ordinary daily avocations of the classes from which I propose to draw the special corps, and, consequently, I should regard the permanent embodiment of such a corps as rather a disadvantage, independently of the additional expense involved in such a measure.

I have little doubt that, when the requirements and corresponding payments became known, Volunteers equal to the occasion would come forward, even if they found it necessary to pass through a short term of service with regular regiments in order to educate themselves up to the required pitch.

There are many occasions in which men on foot, giving their rifles to their mounted comrades and laying hold of the stirrup-leathers, may double their powers of rapid movement for short distances; and there are other opportunities when a few vehicles may be pressed into the service so as to enable the whole special corps to move over greater distances with the rapidity of light cavalry.

The Germans made many rapid movements of the latter kind in France; and in India we have often used camel and bullock-trains to push rifles along with cavalry.

The Franc-Tireurs appear to have driven the Prussians to adopt this expedient, and I have often wondered that it was not more resorted to on both sides in attacking or defending the long line of columns from the frontier to Paris.

In short, the advantages which have repeatedly been derived from combining light cavalry and riflemen for patrolling, reconnoitring, harrassing, or defending lines of communication, are so manifest, even when the two forces have been put hastily together for the nonce, that all nations will, I think, probably train corps beforehand for such joint action in future wars.

The Special Corps would, of course, be placed at the disposal of the Commander of outposts; and, under ordinary circumstances, it would encamp or bivouac by troops or squadrons with the grand guards of a camp furnishing a small party under a non-commissioned Officer, to each of the picquets to act as orderlies, and to assist the Officers thereof in many ways, by giving information derived from a larger observation of the post than that of the daily-relieved picquet. These parties might be relieved at a different hour from that of the picquet-relief, or might be left for several days according to circumstances, and in either case would, I think, contribute to the security and information of the picquet; but neither they nor the main body of the corps should take part in the regular patrolling except under the orders of the Commanders of picquets, whose responsibility must by no means be weakened by reason of this additional aid to their Commands.

In reference to the Commanders of outposts, I may perhaps be allowed to make a digression from my subject, and propose that the Command of outposts should be divided between two Officers, relieving each other daily, one to superintend the picquets, &c., in the field, and the other to be always at the tent or quarters of the Commander-in-Chief. The duties which must be performed in the saddle in effective superintendence of outposts must always be extremely heavy, and a daily relief might be advocated on that account alone; but I would recommend it especially on the ground that the Officer who was yesterday at the outposts and is to-day in hourly communication with them, would be a valuable assistance to the Commander-in-Chief if always at his elbow.

So much depends upon the proper understanding of reports from the outposts, that I do not consider it enough to secure their being quickly focussed at the point whence the orders are to come, unless some Officer be present on the spot to interpret by direct knowledge of the circumstances under which those reports were made.

The duties of reconnaissance and patrolling of the special corps would be directed by the Commander of outposts, both on the march and in camp, in combination with or independently of the picquets; and I cannot but believe that there would be great advantage to the general interests of the Army which possessed such a corps, always ready for enterprises beyond its line of outposts; nor do I believe that the regular troops would have any ground to complain of such aid in duties which have become so much heavier than they were formerly.

Professional jealousy of volunteer assistance cannot, however, be suffered to stand in the way, if it can be proved that the work may be done more effectually by a special corps than by all the Army in regular turn of duty.

Passing now to the second division of my subject, viz., "Section-Skirmishing," I may remark that the Infantry Field Exercise Book of 1870 has established a far more practical skirmishing-drill than that laid down by previous editions: but there is one reform, only just hinted at, which I have never seen practically carried out, but which I believe to be most important. I allude to skirmishing by sections or groups, *vide* Section 42, Part III of the Book.

When we recollect that cover, such as walls, ditches, undulations of ground, &c., is to be found on ordinary battle-fields, in patches here and there, rather than in continuous parallel lines, it would appear to be desirable to advance or retreat by small detached bodies in single rank rather than by long thin lines extending over the whole front.

With the increased range of modern arms there need be little danger of the enemy slipping through the intervals between these bodies without his sustaining such an oblique fire from the parties under cover right and left of him, as must leave him in evil case to contend with the supports which would move up to meet him in close order.

I should therefore propose that the ordinary word of command for skirmishing should be—Such and such "companies will skirmish by sections at (say 80 to 200) paces."

Supports and reserves to be formed as at present.

Leaders of sections would then have their men more completely in hand, and could be held responsible for due direction of movement, rapidity of rush from cover to cover, and also for husbanding ammunition, a duty which has ten times the importance it held in former days. They should also be authorised to extend their men at any moment when a line of cover, its total absence, or converging fire, renders such extension desirable.

Such a plan as this would, I think, give a unity of action and elasticity of movement, which is wanting in the line of individual skirmishers.

The Captain of each company would superintend his four sections from the rear, naming one of them to direct which is nearest to the company of direction for the Line, and closing or extending his company on any section according to the requirements of the moment.

I should also propose that the non-commissioned Officers and men be permanently assigned to sections, according to the results of musketry course, in order that there may be a due proportion of marksmen and good judges of distance in each section, and that men and their leaders may gain a mutual confidence and knowledge of each other.

The appearance of a well "sized" company on parade might be wisely sacrificed to gain the substantial advantages of efficient command and more effective fire, which latter must result from the arrangement by which the best judges of distance compare notes as to range, and have their conclusions proved by a few trial shots by marksmen.

A section might in this way determine the exact range within a few seconds after each change of position, and the fire of the whole would thus be infinitely more effective than it would have been if each man had to use his own unaided judgment for the adjustment of his sights.

Of course this system is open to the objection that these sections would present large targets for the enemy's fire; but where cover exists, a heavy fire may be supported without much loss, and when once the section-leader has pointed out the next point of cover, there can be no objection to the section opening out for the rush to it across the open. When a line of cover exists, or the total absence of cover makes it necessary to lie down in the open, the section-leader can, as before observed, extend his men at his discretion.

What I want to insist upon is the handling of skirmishers by leaders of small distinct groups, every man of which is well known to them, instead of by extended lines where men are apt to get out of hand and behind or in front of each other, and where the responsibility of section-leaders is less clearly defined. Only let sections (in single rank, of course,) with intervals, be the *normal* formation of skirmishers, to be departed from at any moment at the discretion and on the responsibility of their leaders, but always to be reverted to on the reasons for extension ceasing to exist.

Another advantage of this plan appears to consist in the facility it presents for forming "section" or "company squares" on the sudden approach of cavalry, and yet another in allowing the free movement of and fire of horse-artillery or field-batteries to aid attack of skirmishers from the rear. The action of artillery in support of skirmishers under the existing system must generally be limited to firing at long range from the flanks, because its guns would otherwise be masked by the extended line in front; but if the line of skirmishers be formed of "detached sections," at intervals of 100 paces or so, as a rule, there will be many favourable opportunities for bringing a couple of guns into safe positions whence they may fire through the intervals upon the decisive points marked out for the attack of skirmishers.

Cavalry also may occasionally be brought forward under cover where the ground is favourable to make sorties, and through the intervals,

with less danger of destroying the order of the skirmishers than when the gaps have to be made specially for the purpose.

"Tactics," as Napoleon said, "change every ten years" for the advantage of that Army which is first prepared to recognise the necessity of adopting the new system; and, although I cannot go the length or saying, as some writers have lately done, that the day of "lines" and "columns" has passed away, I think we shall do well to prepare for changes in the mode of handling each of the three arms. If those writers are not altogether wrong, the system of fighting battles in "extended-order" is in the ascendent, and therefore I hope that the present is a favourable opportunity for considering whether the system of "skirmishing by sections" would not give a consistence and steadiness to the waving weak line which we now present in extended order to the enemy.

It has hitherto been held that skirmishers should cover an Army as a preliminary measure, and be prepared to fall back when the actual collision of more solid formations is about to take place, but the examples of recent battles tend to show, that attacks may in future often be made successful by re-inforcing, instead of relieving and recalling, skirmishers. We may push our skirmishers forward, and watch our opportunity to reinforce them where weak, or where they appear to be making an impression upon the enemy, and in so doing should be lavish in expenditure, not only of the supports and reserves of skirmishers, but of first and second lines, and even of the general reserve, driving our wedges forward, by successive blows from the rear, and using our "close-order"-formations chiefly while out of very effective range of the enemy.

Instead, therefore, of desiring our skirmishers to look back to their main body, we should train them to watch the movements of the enemy, and to keep pressing on in full confidence that any gaps or weak places will be filled up from the rear.

Before extending I would indicate certain points of attack, and charge the companies on the right and left of those points to keep moving to their front, but to fire as much as possible in converging directions upon those points of attack.

The companies marching upon the selected points would fire direct to their front, and profit by the cross fire by pushing forward as opportunities arise, without regard to exactness of line, so as to seize salient positions.

The supports should be held responsible for really carrying out the duties implied by their name, and would be instantly replaced from the reserve, which would in turn draw upon the first line, &c.

Only make the leader of each body responsible for re-inforcing or replacing the one in front of him as it melts away, and leave the actual collision to the energy and discretion of the company-leaders in front.

Making every allowance for the disparity in point of discipline and steadiness, which was so apparent between the French and German Armies during the late war, something like the mode of fighting above described, does not seem unlikely to prove the change of tactics which

may be expected in future wars as the result of recent experience, as shown in the following examples:—

In the attack upon the French right on the Spiecheren Heights, at the battle of Forbach, Kameke's entire division became extended as skirmishers, without supports or reserves; and with the aid of a powerful artillery fire from the Galgenburg, held their ground to the end of the battle, contributing most materially to the Prussian success on that day.

Skirmishers and detached company-columns were also exclusively used by Goeben against Faidherbe, and on many other occasions, much after the fashion set in the campaign of 1866, as described in the "Tactical Retrospect."

It is evident, however, that the elasticity and freedom of movement involved in such a mode of fighting must never be suffered to weaken the bonds of discipline, as would be the case if the utmost care be not taken by good Officers to gain and preserve the confidence of their men; for it is sufficiently easy to extend men in an advance, but when a check arises, or retrograde movement becomes necessary, their safety must depend upon the steadiness with which they rally round Company-Officers and Section-leaders, and if these are not in support with their men, the latter should never have been extended. Hence it follows that we should devote the utmost attention to the instruction of our Subaltern and Non-commissioned Officers, if we are to derive the full advantages, and avoid the dangers connected with combat in "extended order."

Our Captains also must be educated in a more independent manner, and taught habits of self-reliance, which are not so incompatible with the most perfect discipline as some persons are apt to imagine; for one who is thoroughly imbued with the true spirit of discipline, and recognises the absolute necessity of obeying and being obeyed (if an Army is not to become simply an armed mob), will submit to his superior, or assume the responsibilities of command with equal cheerfulness; while the unreasoning being who has been cramped by habits of perpetual drudgery on the drill ground, becomes as incapable of independent action and command as the old cavalry troop horse, who snorts and cringes back into the ranks of his squadron when wanted to carry an aide-de-camp or an orderly dragoon. Fortunately, however, the character of the British Officer enables him usually to surmount the obstacles piled up by a long course of "close order" drill whenever an occasion sets him free to exercise his wits in a more independent command, but I am sure there are some of us who have felt the force of the following observations made by poor Rossel in the preface to his "*Art de la Guerre*." He is referring to the dread of responsibility, and that utter dependence upon their great master, common among the first Napoleon's Generals in the latter part of his career, and which bore fruit in still greater measure among their successors at the head of French Armies in 1870, and he says:—

"Pour oser quelque chose à la guerre il faut être indépendant; comment accepter une lutte qui toujours a des chances mauvaises s'y l'on est accoutumé à s'inspirer de la pensée d'un maître, à s'enorgueillir

"de ses faveurs à s'abimer devant sa colère ? comment s'exposer à une défaite lorsqu'on n'a pas sa propre conscience pour lui suprême, lorsqu'on se considère comme puni par une disgrâce comme récompense par un titre ou un galon ? Le Général qui perd une position, qui laisse échapper une occasion de vaincre, qui ne profite pas d'un succès, se retranche derrière la lettre de ses ordres, il a craint de risquer un revers."

The CHAIRMAN: If any gentleman present is desirous of making any remarks, or to put any questions to the lecturer, we shall be happy to hear him; but what I wish to say applies not only to the present meeting, but to all meetings. The Council are most desirous to organise the discussions, and make them as business-like and to the purpose as possible. They have put up a notice confining each speaker to ten minutes. That, of course, does not apply arbitrarily; but at the end of the ten minutes the Chairman will put himself in the hands of the meeting. If the meeting wishes the gentleman addressing the meeting to continue, well and good; if not, the Chairman will pass on to the next speaker.

Colonel OUYER, C.B., late 9th Lancers: I think that the proposition which we have just heard from Colonel Jones merits serious consideration—I mean the "ride-and-tie" principle. I think it really very good. We all know that a *reconnaissance en force* is composed of all the branches of the Service, cavalry, infantry, and artillery, and is intended for serious resistance. I do not suppose that Colonel Jones means that the "ride-and-tie" system would be capable of offering any serious resistance; consequently, it would not, in my opinion, be advisable to extend it far beyond the outposts, because it stands to reason that if it were extended to any distance, such as several miles, and were attacked by a superior force of cavalry, the whole must necessarily be overwhelmed. But I think it would be most useful, and far better, when a small force was required, to have the two men and a horse. Of course, there are many minor circumstances which Colonel Jones has touched upon, such as having horses of a peculiar kind, especially broken for the purpose, otherwise they would be liable to fail. But this proposal, although quite new, has been practised among wild eastern tribes. On many occasions they are accustomed to dismount, and, leaving their horses, act on foot. I repeat that I consider the proposal of Colonel Jones is worthy of very serious consideration. As to the second proposition, about "section-skirmishing," I shall leave that to some other gentleman, who is perhaps more conversant with the subject than I am myself.

Sir THOMAS ACLAND, Bart., M.P., Lt.-Col., 1st Devon Rifle Vols., and Captain Yeomanry Cavalry: I feel that when civilians volunteer to speak on the difficult art of war, soldiers may judge us as we, in our presumption, judge other people when they take farms—we feel that there is only one way to become a farmer, namely, to farm and lose a little money. So soldiers may say to us, "There is only one way of learning soldiering, and that is to fight; lose an arm or a leg, and then you are likely to know something about it." I am glad to be able to shelter myself under the name of so distinguished an Officer as the one who has just sat down, whose works I am sure have penetrated many a civilian's house. I may also shelter myself under the name of a practical Officer, Colonel Bower, who was at the Cape, and who is, what I am not, a very good fox-hunter, with forty or fifty good hunting men attached to his corps at Droxford, in Hampshire. About the same time that his drill-book became known to the public, or a little before, I had the good fortune to make the acquaintance of Colonel Drysdale, of the 9th Lancers, who happened to be quartered in Devonshire at that time. I happened to have the great advantage of having as my Serjeant-Major in the Yeomanry, a regimental Serjeant-Major of the 10th Hussars, and we tried to work out there a system of combining the principles of cavalry and infantry for defensive purposes, because we civilians always thought that we could not be trained for the purpose of attack abroad. Our simple business was to consider how plain men, with good strong arms and legs, with decent horses, with the habit of riding and shooting, could be put in a position where they could best defend their country in case of attack. There were, I think, six corps of mounted Rifles formed in Devon-

shire in 1859. Some have been changed-into what are called "Light Horse," and others are not in a very flourishing position, because the system is not showy, and is not taken up by authority. I hope this excellent lecture of Colonel Jones may lead the authorities really to think about the question, whether one of the regular regiments ought not to be tried, to show on what system a mounted man and a rifle ought to be made convertible on the outskirts of an army. It was tried in America, I understand, with several thousands of mounted men under General Stuart and other Officers, and did great execution. I know General MacMurdo attached very great importance to it, and encouraged us and Colonel Bower to go on; and Colonel Bower developed the system by introducing the extension of fours for skirmishing sections.* I should venture to differ from Colonel Jones on one point. I doubt whether it is quite desirable to have only one horse to two men. I think you had better have one horse to one man, and train your men as mounted infantry rather than as dismounted cavalry. That is what General Douglas advised us to do, on grounds which I would venture respectfully to submit to Colonel Jones. You must bear in mind that in asking volunteers, farmers, and country gentlemen to drill as mounted men, you have to deal not only with untrained men, but, what is a much more difficult matter, with untrained horses. You cannot put a farmer's horse into a riding school. A farmer is essentially a horse breeder. He breeds his horse, he rides his horse, he hunts his horse, with a view to sell him as soon as he gets his price. Then he brings on another horse. Those animals are very awkward under fire, and often awkward to lead or link. What struck us in the Yeomanry was this—we were accustomed, on dismounted service, to these horses in charge of centre of threes. In Devonshire lanes it was useless, if you were to move, to have three horses under one man, and we decided that, if the horses were to be mobile at all, there must be two horses, and not three. That led us to what has been since adopted in the English Army, moving by fours, because we were obliged to go by couples with led horses instead of by threes. I may be allowed to mention another difficulty in the way of Colonel Jones's plan. We had, at first, a certain number of mounted men and a certain number of dismounted men united in the same corps. But the mounted man rides his own horse. The dismounted man is tempted to feel a little humiliated, and he wants to have a horse as well as the other man. We were strongly advised by cavalry men not to attempt the union of the two, though General Douglas advised us to go on with it, but we found it necessary after a time, to drill all alike, and let the whole of the dismounted men get on horseback. My only object in making these remarks is to elicit the opinion of men more competent to deal with these things than I am. I should also like to point out another great difficulty in connection with this subject, namely, the mode of arming such a corps. With cavalry, when you come to deal with this question of dismounted duties, it is very difficult to keep out of this scrape, that you have the wrong arm on the man and the wrong arm on the horse. If the man and the horse part company, and the man leaves his gun on his horse, and carries his sword away with him, that is not exactly the state of things you want. The best solution† I have ever seen of it, but which has never been countenanced by authority in this country, is the arm of the *Cent Gardes* in France, who have a very good short rifle, with a rapier nearly three feet long, used only for pointing, and not for cutting, and which may be fixed as a

* Perhaps I may be allowed to add that Lord Eversley invented a skirmishing drill of a similar kind in the Hampshire Yeomanry. The troop was extended by fours, two men of each section of four dismounting.

† I may add that under Colonel MacMurdo's advice we adopted a sword sling of General Stewart's (U. S.), with a hook which could be detached in a moment from the waist belt and hung by a ring on the saddle. I would also suggest that all administrative or rural battalions should be encouraged to enlist four or eight mounted men per company, so that a battalion of eight companies would have 32 or more guides or covering men, who might organise volunteer transport, and be trained to such duties under a special Officer, as Colonel Jones proposes. I have found my mounted men of the greatest use on field days in covering roads, escorting provisions, taking up camping ground, &c. In every district young farmers and butchers could be found for such work.

sword bayonet. Then, if the man is dismounted and has got his sword he is in a position to join in forming rallying square, if he is overtaken by cavalry. Nothing can be worse than for the dismounted man to be overtaken by cavalry, if he has gone away with his sword and left his gun on the horse. I may venture to claim for our little attempt in Devonshire the high authority of Lord Seaton, who was living in Devonshire for several years before his death. He gave us great encouragement to go on, particularly a little corps near Iry Bridge, commanded by Mr. Yonge, a connection of Captain Yonge of the 52nd regiment. Captain Yonge invented a belt for the men to carry the rifles on their backs; but I do not think it quite answered. Colonel Bower's Numagua bucket seems the best plan. I cannot but feel personally grateful to Colonel Jones for having brought this subject forward to night, because, although I cannot judge how this system may be used in foreign warfare, it has always appeared to me that in England, where you have so many fox-hunters and good rabbit shots, you want some system to utilise your horse and your gun for defensive purposes. I am afraid the Volunteers cannot give a month's continuous drill, but if you can induce his Royal Highness or the authorities to get a smart cavalry regiment to take up something of this sort, and be trained to it, then you will get the Yeomanry to follow. But you will never get the Yeomanry to condescend to be "dismounted infantry" unless you get a regular regiment to set them the example. I will give a proof of this. Colonel Sir Trevor Wheler, an old Peninsular Officer, trained a corps of Yeomanry in Devonshire called the Royal North Devon Mounted Rifles, in some respects as Colonel Jones would wish. He died, and was succeeded by a cavalry Officer. The formation of Mounted Rifle Volunteers appeared to make the name of Mounted Rifles distasteful, and the regiment has been turned into Hussars, and dressed in imitation of regular Hussars. Unless the Army show us the way, I am afraid the practical solution of the problem before us will never be effected by civilians.

General VAUGHAN, C.B. : I should like to say a few words with regard to Colonel Jones's second proposition, which I think is most specially valuable. Speaking as an infantry Officer of some experience, I think I may fairly say that in every Officer's experience, it must have occurred to him to observe the great difficulty of handling long lines of light infantry in skirmishing order. In the recent campaigns of 1866 and 1870-71, almost all the successes of the Prussians were achieved, I believe, by the adoption of a system very nearly analogous to that which Colonel Jones has so ably advocated. Thus in advancing to attack a position, for instance, the front line, which had originally been a thin line of skirmishers, resolved itself, in consequence of being continually reinforced from the rear and the files composing the different subdivisions drawing together, into a number of detached groups of men, each acting with a common object. Supposing that amongst the minor operations of the war, a village or any defended point was to be assailed by the Prussians, their system in the late war, as explained to me by several of their Officers, was very nearly what Colonel Jones has advocated for adoption in the British Army. The Prussian company is divided, if I am not mistaken, into three subdivisions. The usual practice in such cases was, the point of attack having been first indicated, for these subdivisions to move forward, under the command of their respective sub-alterns, from one point to another, making a rush forward from time to time, as cover offered, until they arrived eventually within a moderate distance of the point to be immediately assailed; then, the movements of the three were combined, and the three subdivisions would rush forward simultaneously to make the final attack, being further supported by a slanting fire from other divisions or groups, pushed forward to suitable positions. I am quite convinced that unless in the British Army some training of this kind is adopted as the practice of the infantry, we shall, in the event of being engaged in a European war, find too late, that our present system of infantry drill places us at a great disadvantage. Skirmishers must be trained, and a suitable formation given them to act as principals, not as subordinates, in battle. Holding this view, I think we cannot be too grateful to Colonel Jones, and to other most intelligent and praiseworthy Officers of the British Army, who are now endeavouring to bring to the notice of the authorities, and to force upon them the necessity of altering our drill, and adapting it a little more to the requirements of modern warfare. Further, I believe, as Colonel Jones incidentally mentioned, that the

battles of the two last campaigns have, in all the preliminary portions at any rate, been fought and gained almost entirely, not by the operation of dense columns, or long lines in close order, but by the intelligent and united action of small detached sections, or groups of men. I hope the system will obtain the notice and attention which it deserves from our present Commander-in-Chief; and that he will see fit to institute a system by which troops shall be taught to move in a formation analogous to that which Colonel Jones has so ably put before us, and which is the only suitable formation for the arms, and for the kind of fighting which at the present day has come into vogue. I offer my personal thanks to Colonel Jones for the very pleasant and able way in which he has put this subject before us.

Major COLLEY, 2nd Queen's: The lecture deals with two distinct points. The first is a system of patrolling, combining the two arms for that duty; the other a question of infantry tactics. As regards the first point, I would rather listen to cavalry Officers on the subject, because it is one upon which they could give the best information. The lecturer is an old cavalry Officer, and therefore speaks with authority. Still, I confess my own personal opinion would be in favour of training the cavalry to perform both duties, rather than combining the two arms. I fear the infantry would hamper the cavalry. We all know that the old system of dragoons, men trained to fight, either on horseback or on foot, has been tried and abandoned. At the same time it should be remembered, that improvements in any art consists in accomplishing what was formerly thought an impossibility. Therefore, the mere fact of its not succeeding hitherto is no sufficient reason why it should not succeed in the future. Another reason for urging it is, that we have to consider what system suits our own special conditions best, not what suits foreign armies. It is quite possible the Prussians may not be able in three years to train their cavalry, to be good cavalry soldiers, and to perform the duty of infantry patrols as well. But we have our cavalry soldiers for six years at least, and at present are not even restricted to the six years. The Prussians succeeded in turning out in three years, cavalry soldiers, who performed all cavalry duties extremely well. Therefore, if we retain our men in the ranks for three, or five, or nine years longer than that, we ought to be able to teach them something additional; and I think that something additional should be to act on foot as well. This has been practised a good deal lately at Aldershot and at other places, but I still think not sufficiently. It has been held that first success in war greatly depends upon introduction and application of new tactics; and I think, whatever army first takes the field with a large force of cavalry trained to act as infantry also, will obtain an enormous advantage. The proposal has been made specially with reference to our Volunteers, but I think it applies more to our regular forces, because for the defence of England we shall always be superior in cavalry. Any force that invades us will probably be weak in cavalry and strong in infantry. Our Volunteers should be sufficient to check the enemy's patrols; and our cavalry ought to be superior to any force that is landed, and able to keep us informed of every movement. The other question discussed in the lecture was that of "section-skirmishing." The lecturer has done very great service in bringing that subject forward, for there is little doubt that our tactics require revision precisely in the direction the lecturer has pointed out. Tactics must always be studied under two aspects, the defensive and the offensive. As regards the defensive, I do not think we require much alteration. Our "line formation" and "shelter-trench-drill" are well suited to defensive action, and ought to enable us to hold our own on the defensive against any troops. As regards the offensive, I fear we are not quite so strong, yet it is this which now requires most study. It is manifest that recent improvements in fire-arms are very much in favour of the defensive, this was universally admitted at first; but after a little while persons began to start theories to show that these improvements have been in favour of the offensive, and several works have been written to prove this. But these theories are hardly borne out by facts. If one goes through the statistics of the losses on both sides during the recent war, one finds that in most of the actions in which the Prussians were on the offensive, they lost nearly twice as many men as the French did, that is, excluding prisoners. On the other hand, in those in which the Prussians were on the defensive, their losses were usually less than one-third of the French losses. That is to say, if one takes the loss actually inflicted on the enemy as the standard of comparison, the result is that the losses

on the offensive, as compared with the losses on the defensive, are as 6 or 7 to 1. I think that fairly represents the chances, or I should rather say the difficulties of the offensive, as compared with the defensive. Have we given the former such study as its difficulties require? Some ten years ago I was serving under an Officer who trained us to a system of attack almost identical with that now adopted by the Prussians. We always skirmished. We were trained to attack in skirmishing order, the skirmishers strengthened from the supports, and reserves, if necessary. The point of attack was indicated, and we were trained to charge in loose order, but closing in on the point designated. Each Officer assumed the command of the men immediately in front of him, whether they belonged to his own company or not, and worked with them as a company for the rest of the day. This is almost identical with what is described by the author of the "Tactical Retrospect" as what actually happens in action, and agrees very much with what the Duke of Wurtemberg gives as the result of the most recent Prussian experiences, and if this is what actually occurs in war, it is what men should be trained to in peace. Any one who has watched a line advancing, calculated the number of shots that can be fired at it, before it can come actually into collision, and examined the sort of mark it presents, must have satisfied himself that a line attack cannot succeed against a resolute enemy, armed with breech-loading rifles. The more perfect the formation, the more steady the advance, the better mark it affords to the enemy, and the heavier would be its losses. Ten years ago I came to the conclusion that our line formation, however suited to the defence, was not adapted for offence, and must be abandoned. I have never seen reason to swerve from that opinion, which has been strongly confirmed by recent experiences, and I am happy to think that it is gaining ground now. We must look out for some other system of attack, and here we have the Prussian experiences to guide us. They gained these experiences at the cost of a fearful loss of life. Witness the attack on St. Privat, where they are said to have lost 6,000 men in ten minutes, from adopting too close a formation. It is well for us we have these to guide us, for we cannot afford such losses; had we been drawn into war a few years ago, an adherence to formations of a hundred years back might have cost us an army. The only formation which can succeed in the attack is skirmishing—some system of loose order. Skirmishing means giving each man freedom of individual action. The moment you have individual action, you must subdivide command. As long as 100 men are collected in one company in close order, under the immediate eye and voice of the captain, and only moving by his command, one Officer can command the whole company. But the moment you disperse the men, so that each man must have a certain freedom of action, you must increase the commanders, or you lose all control. You must subdivide the command. The Prussians have aimed at this in their section skirmishing. Their sections do not exactly correspond to ours, as they are independent of the strength of the company, and never exceed 12 men; whereas ours represents a fourth of a company, and might be 20 strong. But the principle is the same; the command is subdivided. They skirmish by sections, that is to say, each man, instead of looking to his captain, looks to the leader of the section, whether Officer or non-commissioned Officer, or only the senior private, and it is the business of the leader of the section to look to the Officer and see that his section conforms to the general movement. It is only by some such system that one man can control a large number, each man at the same time retaining his individual freedom of action. I think, therefore, that the point to be specially studied in our infantry tactics, is *skirmishing* for purposes of attack; and how best to maintain the general command of the captain over his company, by subdividing that command among the subalterns and non-commissioned Officers of the company. One knows under our present system, how the captain is to be seen running from one end of his company to another, thinking it his duty, not to look after the company as a whole, but after each individual man in it. The "section-skirmishing" introduced in the recent drill book, but as yet little put into practice, is a most important step in the right direction, and I think we are greatly indebted to Colonel Jones for calling attention to it at the present time.

The CHAIRMAN: If no other gentleman wishes to ask any question, perhaps Colonel Jones will be kind enough to reply.

Lieutenant-Colonel JONES: I feel very much obliged to the gentlemen who have

kindly commented upon the lecture. Colonel Ouvry, I think, quite agrees with my first proposition. I must be allowed to repeat what I intended to convey in the lecture, that I never intended this special corps for distant operations at all, but simply, as Colonel Ouvry wished, for operations not extending far beyond the outposts. Of course, distant operations would require a larger force. But I consider that there are a great many occasions when the commander of the outposts may require sudden information about a particular point in the neighbourhood of the outpost, quite accessible to a small force. But it must be a mixed force—a force accustomed to each other, and able to go to a certain extent with confidence in one another. I may have made too much of the “ride-and-tie system,” but yet I think there is something in it in this way. I maintain that cavalry are of no use firing on horseback. It is an utter absurdity for any man on horse to take aim with a rifle. And if he dismounts he is encumbered with a horse that is not steady. Any cavalry horse is apt to be unsteady when dismounted and the bustle of an action is going on; and the fire of his rider is apt to be disarranged thereby. But if the man can ride up to a point and get off his horse, perfectly confident that his horse will stand still, or, can tie him to a rail, he can have time to take his aim; and the man who has been running up can then take his place, and get on his horse, while the other is going on in front; and so relieve one another in certain ways. It is hardly worth while going into details, because I do not suppose the principle is likely to be recognised. But I have an idea that it might be worked out for a small corps. Now, with regard to what Sir Thomas Acland said, I think he went too far in supposing that I intended the Volunteers or Yeomanry, or mounted Volunteers, to be organised upon this principle at all. I must ask you to recollect that my idea was simply, one special corps formed of 400 picked men out of the whole kingdom. I want a *corps d'élite* for this particular purpose; I do not want to get anything approaching regular troops. I want to get men who will compete to get into this *corps*, and who will really be useful men when they are in it, whom you can trust to find their way across country, and in enclosed countries. We do not really recognise the difficulty of getting information in an enclosed country; your cavalry man can ride about in an open country as far as you like, and get information. But if he is in an enclosed country it is uncommonly difficult to get about without being seen. There are cases in which when two men are going together, one man can creep along on foot, where a mounted man, if he went, would expose himself, and would be seen from a distance. All kinds of cases of that sort, I think, may arise in which it may be useful to have this special corps ready to be called forward. I do not simply propose it as a specific for carrying on all the operations of outpost duty, but as a little aid that may be useful in a duty which has become more and more difficult to perform. I believe we have no conception of the difficulties we shall have in a future war, particularly in an enclosed country like England. We have had no experience of it since the Peninsular war. In the Peninsular war, Wellington had a number of old fox-hunters on his staff, who were most efficient in collecting information for him. But I question whether we are as well prepared at this moment to take it up and to get information in that way. I think the information would be more important, and would require to be more rapidly got in these days than it has ever been. Therefore, I think any little additional aid we can get, however expensive it may be (and it is but a small corps we should require), would be worth while to have, making it an object of competition, so that we should get the very best men. In these days of selection, we are trusting to selection for important purposes. I think here we might select the best men in this country for this corps—Volunteers and other men of the kind. General Vaughan, I hope, concurs with me on the second point, and I think Major Colley does also. Major Colley also seemed to imagine that I put more faith in the “ride-and-tie” system than I do. I quite agree with him in all that he said about the expediency of teaching our cavalry to fight on foot. It is very much talked of on the Continent at present; and most nations are paying more attention to dismounted cavalry work than they have done hitherto. I do not at all see, however, that that is incompatible with my having a special corps for a particular little service, in which they may be very useful. I perfectly agree in his remarks about the expediency of teaching cavalry to work well on foot. I am extremely pleased to find that other infantry Officers agree with me in what I said about the captain

running vaguely about after his men with a sort of idea that he ought to pull each individual man about, and put him into his place, and the major generally galloping about after the captain. The want of subdivisions has always struck me as a misfortune about our "skirmishing drill." I am very much obliged to you for the attention you have paid to me.

The CHAIRMAN: I ask the permission of the meeting to return our best thanks to Colonel Jones for his very interesting paper.

AN OCCASIONAL NOTE ON THE USE OF THE ANEROID-BAROMETER IN SURVEYING.

By Captain R. H. FAWCETT, 33rd Regiment, Garrison Instructor, Curragh Camp.

IN 1868 a notice appeared in the Journal of the Royal United Service Institution to the effect that brief "occasional notes" from Members serving abroad, on subjects of professional interest were admissible, with the approval of the Committee. I propose to avail myself of this permission with special reference to the use of the aneroid barometer in surveying, as I have been so often asked for simple formulæ and the means of applying them to ascertain heights; that I am sure there is much interest taken in the subject by many who have not had opportunities of investigating the powers of the instrument.

The value of the aneroid as a handy and portable instrument for rapidly obtaining relative heights in surveys, has, I think, been underrated. It is of great value, especially in cases of military surveying, where time is frequently priceless.

The points chiefly valuable in an aneroid are its portability, as in the pocket it takes up no more room than a watch, and the observations and calculations can be done so quickly, that a Staff Officer riding from one hill to another, can easily obtain their relative heights.

In a survey, readings may be noted down in a pocket-book, or even on the margin of the sketch, and calculated out on return at leisure.

When there is plenty of time, and the ground is practicable, levelling or contouring would certainly be adopted in preference; but even then the occasional consultation of the aneroid might be an advantageous check to error. But if pressed for time, or contouring be impracticable or extremely difficult, the aneroid gives heights with sufficient accuracy for ordinary military operations, and is far more accurate than the eye; moreover, the reading may be taken in equal or less time than it would require in most cases to make a good judgment of height.

The simple formula given below may be worked out almost directly on the ground, if necessary.

The best example of the value of the aneroid occurs in a survey I lately made of the Nasciar Lines at Malta, and the range, which by a geological fault, divides the island. Here, on account of the rocky and abrupt nature of the formation, and the way in which every available patch of soil has been terraced for cultivation, it would be a most