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On: 01 February 2015, At: 12:22

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954

Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK

Royal United Services Institution. Journal

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rusi19>

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Published online: 11 Sep 2009.

To cite this article: Lieut.-Colonel C. B. Mayne R. E. (1902) Correspondence, Royal United Services Institution. Journal, 46:291, 722-726, DOI:

[10.1080/03071840209419008](https://doi.org/10.1080/03071840209419008)

To link to this article: <http://dx.doi.org/10.1080/03071840209419008>

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CORRESPONDENCE.

A CRITICISM ON LIEUT.-COLONEL MAUDE'S LECTURE, "CONTINENTAL *VERSUS* SOUTH AFRICAN TACTICS."

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—There are two fallacies underlying Colonel Maude's arguments, viz. :—

- i. That the "shot-swept zone" can be represented by a curved wedge in which the distribution of the moving bullets is so even that the intensity of fire can be estimated by dividing the number of moving bullets by the cubic capacity of the curved wedge¹; and
- ii. That the moral and material effects of this intensity of fire can be measured by a percentage loss per hour.

As regards the first fallacy, Colonel Maude takes the width of the horizontal base of his curved wedge as 3,000 less 300 yards, or 2,700 yards, over which the enemy advances under fire. Presumably the sighting of the rifles are adjusted to the estimated range, atmospheric conditions, inclination of line of sight, etc., and that the firing generally is aimed. We have ample experience of what happens in such a case. The bullets, whatever the range may be, practically fall over a belt of horizontal ground 300 yards in width, but the grouping of bullets is densest at the centre, and gradually gets less dense as we approach the margins of the beaten zone or belt. Consequently, even within this beaten zone the intensity of fire has very different values for any given range, but it also varies inversely as the tangent of the drop of the bullets, and therefore inversely as some function of the range for the same rifle and ammunition. Consequently, the "shot-swept zone" is only a ninth part of Colonel Maude's curved wedge, or, even allowing a very liberal margin for wild firing, say an eighth part, and even in that part the intensity of fire varies very greatly from zero to some maximum dependent on the range; and this maximum intensity can only be realised if the sights are happily adjusted to the range of the objective and if the objective is vulnerable.²

But we have only so far considered the longitudinal intensity of the fire; we have also to consider the lateral intensity. The fire delivered along a line of battle is not of even intensity per yard run. The fire varies in rate at different parts of the battle-field, and varies in distribution, being often concentrated on special objectives.

In consequence of the combination of the varying longitudinal and lateral distribution of bullets, only certain belts and patches of a battle-field are really dangerous. But these belts and patches are not fixed in position, but can be made to

¹ Pages 320, 321.

² Even if the intensity of fire (or number of bullets in a cubic yard) was uniform at any given distance from the fire, this intensity must diminish inversely to the square of the distance from the fire. Hence in no case can there be a uniform intensity of fire throughout Colonel Maude's curved wedge.

follow a moving objective. If this following movement is well done, an effective deadly fire is the result, provided the objective is sufficiently vulnerable; and if the following movement is badly done, an ineffective fire is the result. But supposing the following movement is well done, then the moral and material damage done to a vulnerable enemy is very rapidly effected.

This brings us to the consideration of the second fallacy underlying Colonel Maude's argument. Losses *per hour* are no indication of the punishment troops can stand. Troops that can stand a loss of 50 per cent. of their numbers in 10 hours, that is, a loss of 5 per cent. per hour, will probably recoil before a loss of 10 per cent. of their numbers inflicted in a few, say ten, minutes. And yet if the battle lasted 10 hours, I suppose Colonel Maude would call such a loss as 1 per cent. per hour, whereas it is really a rate of 60 per cent. per hour, or 600 per cent. in 10 hours. Every war has confirmed the fact that the moral effect of losses increases almost in an inverse geometrical ratio with the rate at which they are inflicted. And this is what so often happened to our troops in South Africa, and it has been recognised by more than one Continental critic. The Highlanders at Magersfontein were undoubtedly staggered by the sudden and unsuspected losses inflicted on them, but if the same total loss had been gradually suffered throughout the day it is probable that it would have had little or no moral effect on the survivors. One French regiment at Wörth lost 97 per cent. of its strength throughout the day—a very notable case—but these losses were gradually suffered, and so the moral tension was not overstrained. But other equally good French regiments gave way before smaller losses, but then these were more rapidly inflicted.

Being unable to read German, I am not acquainted with the formula given by Colonel Maude on page 321, expressing the reduction of proportion of hits in terms of rapidity of fire. It has not been referred to in any of the numerous French translations that I have of various German works, and from experience I do not consider it to be a correct formula. There is no doubt whatever that after a certain rapidity of fire (depending on the discipline and training of the troops firing) is reached the *percentage* of hits decreases with increased rapidity of fire. But *the total number* of hits continues to increase for a considerable increase in the rapidity of fire, and it is the number of hits that tell in battle, and not the mere percentage, which has only a theoretical value of no practical interest.

Yours faithfully,

C. B. MAYNE, Lieut.-Colonel, R.E.

Bombay, 25th April, 1902.

NAVAL AND MILITARY CALENDAR.

APRIL, 1902.

- 1st (T.) 2nd Dragoon Guards and the 7th Hussars were in action at Boschman's Kop. British loss 2 officers and 18 men killed, 5 officers and 56 men wounded. The Boer casualties were very heavy, and included Commandants Pretorius and Prinsloo, and 3 field cornets.
- " " 3rd Bn. Commonwealth contingent left Sydney for South Africa on the "Manhattan."
- " " 3rd Bn. The Queen's (Royal West Surrey Regiment) (Militia) } Arrived at Southampton
6th Bn. Middlesex Regiment (Militia) } from South Africa on the "Canada."
- 2nd (W.) H.M.S. "Hawke" commissioned at Chatham for relief service.
- " " H.M.S. "Devastation" arrived at Plymouth from Gibraltar.
- " " 428 officers and men 2nd Bn. South Australian contingent left Adelaide for South Africa on the "Templemore."
- " " 544 officers and men New Zealand contingent left New Zealand for South Africa on the "Devon."
- 3rd (Th.) H.M.S. "Aboukir" commissioned at Portsmouth for Mediterranean.
- " " 3rd Bn. King's Own Yorkshire Light Infantry (Militia) arrived at Southampton from Malta on the "Menes."
- 4th (F.) 5th Dragoon Guards } Arrived in India from South
" " 9th Lancers } Africa on the "Mohawk."
- 5th (Sat.) H.M.S. "Daphne" arrived at Sheerness from China.
- 5th (S.) Announced that Caspar Kruger, eldest son of the ex-President, surrendered to the British and took the oath of allegiance.
- " " The total number of Boers still in the field was estimated at 8,000.
- 7th (M.) Commandant Kritzinger was acquitted by court-martial of the charges against him.
- 8th (T.) H.M.S. "Vengeance" commissioned at Portsmouth for Mediterranean.
- " " H.M.S. "Hawke" left for the Cape.
- " " 3rd Bn. Northampton Regiment (Militia) left England for South Africa on the "Harlech Castle."
- 9th (W.) 4th Bn. East Surrey Regiment (Militia) } Arrived at Cape Town from
" " 1 Company Mounted Infantry } England on the "Sicilian."
- 0th (Th.) H.M.S. "Redpole" arrived at Plymouth from China.
- " " It was stated by the Secretary of State for war in the House of Commons that all the Boer leaders were in conference at Klerksdorp with a view to a general surrender.
- " " 3rd Bn. Norfolk Regiment (Militia) arrived at Southampton from Cape Town on the "Roslin Castle."
- " " 3rd Bn. Lincolnshire Regiment (Militia) } Arrived at Cape Town
3rd Bn. East Yorkshire Regiment (Militia) } England on the "Orient."

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- 27th (S.) General Bruce Hamilton completed another drive, but captured few prisoners.
- 28th (M.) Serious accident on board H.M.S. "Formidable" at Maddalena, while stowing boat derrick, 1 officer and 2 men killed.
- 30th (W.) Cruiser Squadron arrived at Spithead from Mediterranean.
- " " 3rd Bn. Commonwealth contingent arrived at Durban from Sydney on the "Manhattan."
- " " 3rd Bn. Northumberland Fusiliers left England for Antigua on the "Atrato."
- " " The New South Wales and Queensland military detachments for the Coronation left Sydney for England on the "Rome."
- " " 2nd Bn. Cameron Highlanders left Gibraltar for Crete on the "Carthage."

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