‘Steel my soldiers’ hearts’: El Alamein Reappraised.1

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The Oxford Bodleian Library holds 293 titles under the subject of the ‘North African Campaign of the Second World War’, the British Library 308.2 That amounts to over four books a year on the subject, or about one book published every three months, for the sixty-nine years since November 1942. This constitutes a remarkable body of scholarship on what historians today might refer to as a secondary theatre in the Second World War.3

There are a number of possible reasons for this level of interest in the North African campaign. Firstly, North Africa is where British and Commonwealth forces learnt how to defeat the Wehrmacht. It had taken three long years before Britain and her allies celebrated their first decisive victory on land against Germany, at El Alamein, in November 1942. In many ways, the dynamics of the critical campaign in North West Europe, between 1944 and 1945, cannot be understood without first understanding the processes that led to victory in North Africa. Secondly, in a global conflict often characterised by brutality, North Africa represents an oasis of chivalry and sanity, an environment where, in the main, war was contained away from innocent civilians.

1 The title of this paper is from the speech of King Henry before the battle of Agincourt (Henry V, Act IV, Scene I, line 289), ‘O God of battles! Steel my soldiers’ hearts’. Montgomery pinned the quotation to the wall of his caravan before the battle of El Alamein.
2 See www.bodleian.ox.ac.uk and www.explore.bl.uk.
North Africa is different because it is uncomplicated by ideology and extermination. Finally, North Africa is interesting because the reasons for Allied success are controversial and still debatable. After close to seventy years of scholarship, the causes of Eighth Army’s success at El Alamein are still contested.

Perhaps the most dominant explanation for Eighth Army’s victory centres on the role that the commanders played; there are 55 titles on Field Marshal Sir Bernard Montgomery, 9 on Field Marshal Sir Claude Auchinleck and 58 on Field Marshal Erwin Rommel in the Bodleian library. Many works argue that Montgomery’s military nous made the decisive difference to the campaign, as he was able to defeat the Panzerarmee Afrika at Alam Halfa and El Alamein with much the same force as Auchinleck had utilised during the disastrous summer months of 1942. In the late 1950s and 1960s, however, a number of books were published that painted a very different picture of the events that had unfolded in the second half of 1942. John Connell’s biography of Auchinleck and Corelli Barnett’s The Desert Generals sought, in particular, to reinstate Auchinleck’s reputation and query Montgomery’s image as the ‘messiah’ of Eighth Army. More recently, histories such as Raising Churchill’s Army by David French, Pendulum of War by Niall Barr, Alamein, The Australian Story by Mark Johnston and Peter Stanley and Rommel’s Desert War by Martin Kitchen have offered a more balanced approach to the Montgomery/Auchinleck debate. These works, based on a more

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4 See [www.bodleian.ox.ac.uk](http://www.bodleian.ox.ac.uk).


thorough investigation of the primary sources, have stressed the contribution of both Auchinleck and Montgomery to victory at El Alamein.

The other dominant explanation for Allied success in North Africa focuses on the role played by materiel in the campaign. Literature on North Africa is replete with references to the quantitative disadvantages suffered by Germany and Italy in comparison to their enemies in the desert.\(^8\) The unbending logic of numbers and economics, as many argue, made it impossible for the Axis forces to win a campaign against the combined strength of the arms of the British Empire and the economy of the future superpower, the United States. The British Official History of the North African campaign expounds in great detail on the significance of the amount, and quality, of materiel available to Eighth Army.\(^9\) The Afrika Korps’ war diaries claimed that the ‘heroic troops’ of the Panzerarmee ‘were denied victory . . . due to enemy superiority in numbers and material, and not in leadership and morale.’\(^10\) Walter Warlimont, who served as Hitler’s Deputy Chief of the Operations Staff between September 1939 and September 1944, described El Alamein as “a typical battle of material in which no military genius on the part of the commander, and no amount of courage on the part of the men, could make up for the catastrophic situation brought about by the failure of

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the [Axis] overseas supply lines.”  

Nevertheless, Montgomery in his memoirs made it clear that he saw materiel as an adjunct to the much more important human dimension at El Alamein.  

He believed that battles were “won primarily in the hearts of men.”  

He dissented from the view that the outcome at El Alamein had been determined by Eighth Army’s numerical and technological advantages.  

Another issue, morale, has taken a back seat to these explanations in the historiography of the desert war. This is in spite of the fact that in their memoirs, many of the Generals involved, including Montgomery, Field Marshal Sir Harold Alexander, Major-General Sir Francis de Guingand and Lieutenant-General Sir Brian Horrocks, stressed, among other things, the significance of a morale crisis that severely hampered Eighth Army’s combat performance in the summer months of 1942. These memoirs hailed Montgomery’s arrival in August 1942 as the catalyst for a revival of morale that greatly facilitated the victories at Alam Halfa and El Alamein in September, October and November 1942. This viewpoint has been broadly supported by authors such as Michael Carver and Nigel Hamilton who argued that Eighth Army fought with less élan and determination at Gazala than in later battles such as El Alamein. Barr, and Johnston and Stanley have also acknowledged that there were morale difficulties in the British Army during the North African Campaign.  

Barnett and Connell, however, downplayed the idea that there was a morale crisis in the summer of 1942. Barnett argued that “it would be wrong to place too much emphasis on the moral effects produced by [Montgomery]: for in the words of the Official History, Auchinleck ‘had retained to a remarkable degree [his army’s]
admiration and confidence.” Other historians have expressed similar viewpoints. Jon Latimer, in *Alamein*, said that morale problems in Eighth Army were a “legend”. Desmond Young, in his biography of Rommel, also described the contention that there was a morale crisis as “legend”. Such arguments, he said, were “unfair to the Eighth Army” and also “contrary to the facts.” Martin Kitchen described it as “pure myth”. French has similarly said that too much has been made “of the apparently poor morale of the British army.” The problem, he has argued, is that historians have too often been “willing to generalize about poor morale from an excessively narrow range of evidence.”

This paper directly addresses the issue of the morale of Eighth Army during the critical months of fighting in 1942. It makes the case that there was a morale crisis in the summer of 1942 and that it severely affected Eighth Army’s performance. It argues that this crisis was turned around in dramatic fashion in the run up to the battle of El Alamein and that this turnaround played a decisive role in influencing the outcome of that battle. It also proposes a reconsideration of the roles of leadership and materiel in victory at El Alamein in light of the findings presented.

Morale can be defined as the willingness of an individual or group to prepare for and engage in an action required by an authority or institution; this willingness can be engendered by a positive desire for action and/or by the discipline to accept orders to take such action. The degree of morale of an individual or army, therefore, relates to the extent of their desire or discipline to act, or their determination to see an action through.

This definition clarifies what is meant by morale in the context of this paper and raises two further questions. What was the institutionally desired action demanded of

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Eighth Army in the desert, and, did Eighth Army demonstrate willingness (engendered by desire and/or discipline) to act in this fashion?

The answer to the first of these questions appears simple enough. Eighth Army was expected to fight, and not expected to surrender, desert or demonstrate unwillingness to fight through e.g. unwarranted levels of sickness or breakdown. But, the degree of this expectation is worth noting; British army regulations stipulated that every soldier in the army was required to fight even when the situation appeared hopeless or the soldier might realistically expect to die or suffer wounds as a result. Even in such circumstances, the military still deemed it inexcusable to surrender or desert. The 1929 Field Service Regulations (FSR) explained that “there is only one degree of resistance for troops . . . that is to the last round and the last man, unless definite orders to the contrary are received by the commander of those troops.”

There is no evidence to suggest that the commanders in the desert considered their troops exempt from the requirements as set out in the FSR.

The answer to the second question, a problem historians have traditionally avoided, is more complex. Firstly, the testimony of those who fought in the desert can provide a valuable source on combatant morale. However, as David French has argued, historians often rely on too few accounts to paint a reliable picture. The approach used here attempts to overcome this problem by utilizing sources on morale that are based on widespread sampling of the mail of the combatants. During the campaign about one letter in every thirteen or fourteen sent by the soldiers was examined by the army censorship authorities. These letters were then summarised into reports describing in detail the state of morale of the constituent parts and nationalities of Middle East Command, as well as the causes of good or bad morale. The summaries that deal with Australian morale have been used by Mark Johnston and Peter Stanley in their works on the Australian experience during the Second World War. The New Zealand Official Histories and John McLeod, in *Myth and Reality: The New Zealand Soldier in World War II*,

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27 Australian War Memorial (AWM) 54 883/2/97 Middle East Field Censorship Weekly Summary (MEFCWS), No. I (12 to 18 Nov 1941), p. 1.
used the summaries referring to New Zealand morale. The summaries referring to British and South African morale, as far as the author is aware, have only been used in his own study, *Combat and Morale in the North African Campaign: The Eighth Army and the Path to El Alamein.*

These sources clearly suggest that there was a morale problem in the desert during the summer months of 1942 and that this problem was resolved in the weeks preceding El Alamein. The extent of the crisis is made all the more striking by the fact that the censorship summaries had reported the morale of most of the units in the desert to be “exceedingly high” in March 1942. Subsequently, the censorship summary for the period covering the fall of Tobruk and the retreat from the Gazala line, in June 1942, reported that “the high morale of the troops had suffered a set back.” By the start of July, the censorship summaries stated that “the withdrawal into Egypt has provoked expressions of very bitter disappointment from all ranks of the Eighth Army, accompanied by admissions of weariness and fatigue.” The censorship summary for the period 8 to 14 July commented that “some officers . . . were rather concerned regarding the spiritless attitude of some of the troops.” By the end of July the censors were reporting that “many of the troops are beginning to lose interest in the war, to some in fact the reason for the war itself has become dimmed.” The censorship summary for the period 5 to 11 August, stated that the soldiers’ mail had shown a “spate of grousers and an increase in the number of writers who stated they were ‘browned off’ . . . there were little or no traces of the offensive spirit, and an almost

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31 ANZ WAI/1/DA/508/1 Vol. 1 Middle East Military Censorship Weekly Summary (MEMCWS), No. XXXIV (1 to 7 July 1942), p. 1.
32 ANZ WAI/1/DA508/1 Vol. 1 MEFCWS, No. XXXV (8 to 14 July 1942), p. 7.
33 ANZ WAI/1/DA/508/1 Vol. 1 MEMCWS, No. XXXVIII (29 July to 4 August 1942), p. 2.
complete absence of any reference to forcing the enemy to give up the ground gained in
the last two months.”

By comparison, the censorship summary for 19 to 25 August, the period
following Montgomery’s accession to command on 13 August, reported that “a breath
of fresh, invigorating air has swept through British Troops in Egypt, and the mail has
altered in tone almost overnight. Renewed optimism and confidence were everywhere
apparent, and the old aggressive spirit . . . is in the process of being recovered.”

The summary for the Battle of El Alamein in October 1942 stated categorically that “on the
evidence of this mail no army ever went to battle with higher morale.”

A second way to assess an army’s willingness to act in an institutionally required
fashion is to analyse the factors that military professionals identify as good indicators or
corollaries of morale. For example, high rates of desertion, surrender, sickness and
battle exhaustion can suggest that morale is low in a military organisation; low rates can
indicate high levels of morale.

By the end of July 1942, medical personnel in the desert were reporting a
dramatic and “most disquieting” increase in the sickness rate in the Middle East.

The daily sickness rate had risen from 1.4 men per thousand in March (a monthly rate of
43.4 per thousand), before Rommel’s successful offensive at Gazala, to 2.39 per
thousand in July (a monthly rate of 74.1 per thousand). It rose further again to 2.42 per
thousand in August 1942 (a monthly rate of 75 per thousand). That is a 73 percent
increase from the beginning to the climax of Rommel’s offensive. Although the increase
could certainly be blamed to some extent on the effects of the African summer and the
hordes of flies that accompanied it, the rise is still remarkable.

The incidence of NYD(N) (Not Yet Diagnosed (Nervous)), or battle exhaustion,
also proved disturbingly high. Men suffering from NYD(N) exhibited what

34 ANZ WAI/1/DA/508/1 Vol. 1 MEMCWS, No. XXXIX (5 to 11 August 1942), p. 1.
35 ANZ WAI/1/DA/508/1 Vol. 3 MEMCWS, No. XLI (19 to 25 August 1942), p. 1
37 NA Cabinet Papers (CAB) 21/91, The Work of Army Psychiatrists in Relation to Morale, January 1944;
Major General F.M. Richardson, Fighting Spirit: A Study of Psychological Factors in War (London: Cooper,
1978); IWM BLM 49 Montgomery to Alan Brooke, 15 April 1943, p. 3.
38 NA WO 177/324 Medical Situation Report, 24 July 1942.
“psychiatrists described as acute fear reactions and acute and chronic anxiety manifested through uncontrollable tremors, a pronounced startle reaction to war-related sounds and a profound loss of self-confidence.” On 28 July 1942, Brigadier G.W.B. James, the Consultant Psychiatrist Eighth Army, reported that NYD(N)/Exhaustion cases were forming 7 to 10 percent of the total sick and battle casualties on the El Alamein line. The situation had become so serious, according to Major H.B. Craigie, of the Department of Army Psychiatry in the Middle East that, by mid-1942, the three hospitals for mental cases in the Middle East were together holding nearly 1,400 patients; they had been designed to take under 1,000 cases in total.

For example, the 2nd New Zealand Division had 489 cases of NYD(N) admitted to hospital in the two months of fighting between July and August 1942. This was equivalent to the fighting part of one whole infantry battalion. They suffered 16 NYD(N) casualties per 100 battle casualties in July, rising to 28 such cases per 100 battle casualties in August 1942. Rates of NYD(N) were equally high for the South Africans. A report, written on 8 August 1942, stated that South African morale was “defective in that there is a large wastage of manpower owing to neurotic illness”, and the various ways in which men got “themselves out of the fighting line, due to a loss of will to fight.” The 1st South African Division suffered a rate of 12.2 cases of NYD(N) per one

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40 Psychiatrists began to refer to NYD(N) as ‘battle exhaustion’ later in the war. Terry Copp, ‘If this war isn’t over, And pretty damn soon, There’ll be nobody left, In this old platoon…’: First Canadian Army, February – March 1945’, in Addison and Calder (eds.), Time to Kill, p. 149.
41 NA WO 177/324 Memorandum ‘Sickness, Army Troops’, by Deputy Director Medical Services. Eighth Army, 26 July 1942; Report on Tour of Eighth Army, 18 to 24 July, 1942 by Consultant in Psychological Medicine (Brig. G.W.B. James), 28 July 1942. For a fuller analysis of these figures and the debate which surrounds them please see Fennell, Combat and Morale in the North African Campaign, pp. 28-34.
42 NA CAB 21/914 Expert Committee on the Work of Psychologists and Psychiatrists in the Services, Note by Major H.B. Craigie of the Department of Army Psychiatry in the Middle East to Sir Stafford Cripps (Lord Privy Seal) on Psychiatric Cases in the Middle East, 21 July 1942.
44 ANZ WAII/8/Part 2/BBB Freyberg Papers, Morale.
45 SAMAD Divisional Documents (Div Docs), Gp 1 Box 1, Memorandum on Morale of SA Troops in the Middle East, 8 August 1942, p. 9.
hundred battle casualties in the three months from April to June 1942, but suffered a rate of up to 25 per hundred battle casualties in July 1942.

The high incidence of NYD(N)/Exhaustion among armoured formations also caused concern. A report on ‘Casualties in Armoured Fighting Vehicles,’ released in July 1942, pointed out that the number of exhaustion cases admitted to hospital from armoured units was “between three and four times the normal rate” in June 1942. The report stated that “while the number of cases in the R.A. [Royal Artillery] and infantry” had approximately “doubled in June,” the incidence in the armoured formation had grown at a much higher rate.

The July and August figures quoted for the New Zealand and South African divisions are higher than the average figures for all combatants and all theatres in the Second World War (around 12.5 percent). They also compare unfavourably with the other campaigns in the desert. The campaign against the Italians (December 1940-March 1941) produced less than 200 psychological cases for all services (around 10 percent of battle casualties). During 1941, James reported that one in every six battle casualties (16.66 percent) was psychiatric. As serious as these figures appear, they only represent less than 7 percent of the total number of combat neurosis cases recorded (c. 9,000 cases) by Middle East Command in 1942. The majority of cases would have occurred among the British troops that made up between forty and seventy percent of Eighth Army’s fighting units at different stages of 1942. Nine thousand troops amounts to over half of

46 SAMAD Div Docs Gp 1 Box 6, Operations Reports and Lessons, April to July 1942, Work Done by Medical Services During the Quarter Ending on 30 June 1942.
47 Fennell, Combat and Morale in the North African Campaign, p.33.
51 Crew, History of the Second World War, Table J, p. 491.
the establishment of a full infantry division and represents more than 133% of the fighting portion of a front line infantry division.

Desertion and absenteeism rates can also be regarded as good indicators of unit morale. In 1942, the situation in the Middle East as regards desertion became so serious that the Commander-in-Chief, Claude Auchinleck, with the unanimous agreement of his Army Commanders, forwarded to the War Office a recommendation for the reintroduction of the death penalty for “desertion in the field” and for “misbehaving in the face of the enemy in such a manner as to show cowardice”. Auchinleck first raised the issue in April 1942, after the disappointment of the German counter offensive in early February. Following the fall of Tobruk and the retreat from the Gazala line, he once again cabled London demanding the return of the death penalty. He reported that 63 absentees had been apprehended at Matruh in a single day during the Knightsbridge fighting along the Gazala line in June 1942. During the 27 days of battle ending 13 July 1942, 907 absentees had been reported to the Corps of Military Police of whom 430 were subsequently apprehended. The total number of unapprehended British and Commonwealth absentees was still 1,728 at the time of his writing to the War Office. Other statistics for courts martial convictions in British overseas commands in 1941 and 1942 show that there was a peak during August 1942, a time when there was no major action other than that taking place in the desert.

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57 NA WO 32/15773 ‘Death Penalty for Offences Committed on Active Service’, Memorandum by the Secretary of State for War (P.J. Grigg), 12 June 1942; Fennell, Combat and Morale in the North African Campaign, pp. 34-46.
58 NA WO 32/15773 Auchinleck to the Under Secretary of State, the War Office, 7 April 1942.
59 NA WO 32/15773 C-in-C Middle East to the War Office, 24 July 1942.
Figure One: Courts Martial Convictions for Absence and Desertion Overseas Commands, 1941-42.  

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60 Chart derived from NA WO 277/7 Comparative Chart of ‘Absence’ and ‘Desertion’ Home Forces and Overseas Commands from 1 September 1939 to 31 August 1945.
A further indicator of morale problems in the Eighth Army, and perhaps the most striking in representing a possible failure of its will to fight, was the surrender rate. In July 1942, Auchinleck presented figures to the War Office, showing an alarming ratio of “missing” to overall casualties. Between the beginning of Rommel’s offensive at the end of May and late July, Eighth Army lost 1,700 killed and 6,000 wounded, but had 57,000 categorized as missing, “of whom the great majority must be assumed to be prisoners of war.”

These figures equate to a missing/surrendered rate of around 88 percent of casualties during the summer fighting and tally with other figures sent to the War Office in August 1942. The statistics can be broken down further. Around 82 to 86 percent of British casualties were classified as missing/surrendered during the Gazala, Tobruk and July battles. The Australian missing/surrendered rate was about 34 percent, that of the New Zealanders was 42 percent while the South African and Indian rate was 90 percent. The total number of POW and missing soldiers reported by the British Army during the Second World War amounted to 185,847; this was 32.6 percent of total casualties. The statistics from the desert in the summer of 1942 were clearly out of line with the general picture and must be understood in that light.

Both General Sir Ronald Adam, the Adjutant General, and Sir P.J. Grigg, the Secretary of State for War, suggested that the high rates of missing/surrendered showed that the British soldier was “inclined to surrender rather than to fight it out,” and therefore agreed to re-open the death penalty issue as demanded by Auchinleck. The Army Council similarly concluded that “the capitulation at Singapore, the fall of Tobruk and the large proportion of unwounded prisoners in the operations in

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62 Liddell Hart Centre for Military Archives (LHCMA), Adam Papers, Box 2, Notes on A.C.S. Paper Comparison of Casualties, Libya, AG Stats, 6 August 1942; NA WO 163/51 The Army Council, Death Penalty in Relation to Offences Committed on Active Service, 11 August 1942.
63 NA WO 32/10810 Battle Casualties (Exclusive of Deaths from Natural Causes) Incurred by Forces Under British Empire Control as Reported by “Hot Spot” cables from 3 September 1939 to 28 June 1946.
Cyrenaica [the Western Desert], are pointers to a condition existing in the Army which
does not appear to accord with its old traditions.66

Lieutenant-General Sir Leslie Morshead, the commander of 9th Australian
Division, certainly thought that morale had played a part in causing the problem. He
wrote to his men on 10 October 1942 admonishing them.

In the war there have been far too many unwounded prisoners taken. The
modern term ‘in the bag’ is too excusable, it is not harsh enough, and it
seems to mitigate having failed to make a proper stand and even to
having just merely surrendered. We must make it unfashionable. I have
closely questioned escaped prisoners and I know what actually happened
in some instances, I am sure that those who did not put up a fight must
often ruminate over it in their prison camps especially in the winter
months.

You must impress on your officers, NCOs and men that when they are cut
off or surrounded and there appears no hope of survival they must
organise themselves into a defensive locality and hold out. They must be a
good staunch Australian and not emulate the Italians. By so doing they
will add enormously to the enemy’s difficulties and will assist materially
the development of our own operations. And they will live to have pride
and satisfaction in themselves instead of spending the rest of the war and
a long time afterwards in prison camps. Nothing is ever hopeless so long
as troops have stout hearts, and have weapons and ammunition. In this
too is the test of real leadership and manhood.67

Although it must be accepted that, for some units surrounded in the open desert,
with no transport on which to escape and no ammunition with which to continue
fighting, surrender was the only option, as continued resistance to German pressure
would have been tantamount to suicide. Such tactical justifications of Eighth Army’s
behaviour do not explain statistics of missing/surrender as high as 88 percent for the

66 NA WO 32/15773, The Army Council, Death Penalty in Relation to Offences Committed on Active
Duty, 31 July 1942, p. 3.
67 AWM 3 DRL 2632 Morshead Papers, El Alamein, 10 October 1942.
whole of Eighth Army, nor do they explain why the matter was of such concern to Auchinleck and his commanders.68

By comparison, the German ratio of POW to total casualties during the summer fighting was 9 percent, that of the Italians 60 percent.69 The German ratio during ‘Crusader’ was 69 percent (the British rate was 42 percent).70 At El Alamein, in October and November 1942, German surrenders can best be estimated at 40 percent of total casualties, while the Italians had a rate of 63 percent.71 Eighth Army’s high ratio of missing/surrender to total casualties is, in fact, as Morshead alludes, only comparable with that of the Italian forces that fought at “Crusader” in November/December 1941. Casualty statistics from the “Crusader” battle provided by the British Official History show that Italian elements of Panzerarmee Afrika suffered a POW rate of 84 percent.72

These statistics, when considered together, reinforce each other and support the contention that Eighth Army suffered a morale problem in the summer of 1942. A similar analysis of statistics also points to the reality of a dramatic turnaround in morale that coincided with the arrival of Montgomery in the desert. Although the exact number of NYD(N)/Exhaustion casualties for El Alamein is unknown, it is generally accepted that the incidence of breakdown during the thirteen days of fighting was remarkably low, especially for an attritional infantry battle.73 The monthly statistical reports on the health of Eighth Army for October and November 1942 stated that the incidences of NYD(N) were much smaller during the El Alamein offensive than they had been in

68 Fennell, Combat and Morale in the North African Campaign, Chapters One and Two.
69 NA WO 163/51 The Army Council, Death Penalty in Relation to Offences Committed on Active Service, 11 August 1942.
70 Derived from statistics quoted by Playfair, The Mediterranean and Middle East, Vol. III, p. 97. These are approximately the same figures the War Office received at the time, NA WO 163/51 Battle Casualties in Libya 18 November 1941 to 10 January 1942.
71 Derived from statistics quoted by Bungay, Alamein, pp. 196-7.
72 Derived from statistics quoted by Playfair, The Mediterranean and Middle East, Vol. III, p. 97. The causes of Eighth Army’s morale crisis are considered in detail in Fennell, Combat and Morale in the North African Campaign.
previous battles, the total number of cases for the two months combined being 209. The number for the July battles had been 557.\textsuperscript{74}

The 2\textsuperscript{nd} New Zealand Division suffered only 57 instances of NYD(N) at El Alamein. This represented a ratio of 1 to 100 battle casualties, the lowest New Zealand ratio of the war.\textsuperscript{75}

Figure Two: 2\textsuperscript{nd} New Zealand Division, NYD(N) Casualties in Relation to Battle Casualties, June 1942 to May 1943.\textsuperscript{76}

\begin{figure}[h]
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\caption{2\textsuperscript{nd} New Zealand Division, NYD(N) Casualties in Relation to Battle Casualties, June 1942 to May 1943.}
\end{figure}

\textsuperscript{74} NA WO 177/324 Monthly Statistical Report on Health of Eighth Army, October and November 1942.
\textsuperscript{75} ANZ WAI/8/Part 2/BBB Freyberg Papers, Morale.
\textsuperscript{76} Ibid..
The statistics for NYD(N) for 1st South African Division point to a similar turnaround. The division suffered around 1.7 NYD(N) cases per hundred battle casualties at El Alamein. The rate during the summer battles was as high as 25 cases per hundred battle casualties.\textsuperscript{77}

The daily sick admission rate was also remarkably low. By November, the rate was 1.59 per thousand (a monthly rate of 47.7 per thousand), a 34 percent drop from 2.42 in August (a monthly rate of 75 per thousand).\textsuperscript{78} Some months after El Alamein, in April 1943, Montgomery was able to report to the Chief of the Imperial General Staff (CIGS) that the rate of admissions to hospital was as low as 0.6 per thousand (a monthly rate of 18 per thousand).\textsuperscript{79}

The incidence of surrender and desertion also dramatically decreased. At El Alamein, instances of missing/surrender made up only 17 percent of casualties. Allowing for the fact that El Alamein was an offensive rather than defensive operation, this was still a substantial reduction from the height of the crisis in the summer of 1942 when figures were as high as 88 percent. Two days after the end of the battle, replying to an enquiry by the Secretary of State for War on the continuing need to consider the reintroduction of the death penalty, Harold Alexander, Commander-in-Chief in the Middle East, was able to report that the numbers of desertion or cowardice cases were also decreasing and “I think they will continue to do so.”\textsuperscript{80}

The statistics presented here clearly indicate that Eighth Army did experience a morale crisis in the desert, i.e. large segments of Eighth Army failed to act in the institutionally required fashion. Instead, considerable portions of the army acted contrary to what the institution wished, by deserting, surrendering, breaking down or going sick. The causes of this morale crisis are complex and multidimensional and have been dealt with elsewhere by this author.\textsuperscript{81} Nevertheless, it must be noted that the army that fought in the desert in the summer of 1942 was inadequately trained, poorly

\textsuperscript{77} NA WO 177/324 Monthly Statistical Report on Health of Eighth Army, July 1942.
\textsuperscript{78} NA WO 177/324 Medical Diaries Deputy Director Medical Services Eighth Army, October 1941 to December 1942.
\textsuperscript{79} IWM BLM 49 Montgomery to Alan Brooke, 15 April 1943.
\textsuperscript{80} NA WO 32/15773 Alexander to P J Grigg (Secretary of State for War), 6 November 1942.
\textsuperscript{81} See Fennell, Combat and Morale in the North African Campaign.
equipped and averagely led; this, needless to say, had a dramatic and understandable effect on morale. Furthermore, it is clear that morale was revitalized leading up to the battle of El Alamein, and that this turnaround resulted in a marked improvement in Eighth Army’s willingness and determination to fight. This turnaround was influenced by an improvement in the quality of training, equipment and leadership, among other factors. It is testament to the soldiers of Eighth Army that, once the handicaps that they laboured under had been removed; they fought with determination and resilience at El Alamein and beyond.

The reality of a morale crisis and recovery in Eighth Army has implications for the dominant explanations of defeat and victory in North Africa. The debate on leadership in the desert has, more often than not, boiled down to a dialectical argument over who should take the credit for success at El Alamein, Montgomery or Auchinleck? If, as argued here, a morale crisis played a key role in determining the outcome of that battle, perhaps, these leaders should be assessed in light of their impact on morale.

There were a number of critical elements of leadership that directly impinged on Eighth Army’s morale in 1942. These were clarity of direction, communication with the troops, commanders’ image, the handling of formations, and training.

During the summer of 1942, an atmosphere of uncertainty surrounded Eighth Army’s plans of operations. It was not clear to the troops whether Eighth Army was going to stand and fight at El Alamein or retreat to defensive positions under preparation in the Delta. The cause of this uncertainty was the widespread knowledge that positions in the Delta were being reconnoitred in case a retreat from the El Alamein line was deemed necessary. Recent scholarship has convincingly argued that Auchinleck did not intend to retreat to the Delta; in fact he was only being thorough in

\[82\] NA WO 236/1 Lieut.-Gen. Sir George Erskine, HQ British Troops in Egypt, Middle East Land Forces, 5 September 1950 to J.A.J. Agar-Hamilton, Union War History Section of the Prime Minister’s Office, Pretoria; SAMAD UWH Draft Narratives, Box 364, Tobruk, Accounts from British Sources. A Provisional Narrative of the Fall of Tobruk, 1942 by Agar-Hamilton: General Notes and Criticisms by Lt.-Col. P.T. Tower, then Commander 31/58 Field Battery Royal Artillery.

\[83\] Hugh Mainwaring, *Three Score Years and Ten with Never a Dull Moment* (Printed Privately, 1976), pp. 64-7.
examining all eventualities as his army retreated to El Alamein.\textsuperscript{84} The significance of Auchinleck’s “plan”, however, was not whether he was seriously considering another retreat, which he was not, but rather the effect that this “plan” had on the morale of Eighth Army.\textsuperscript{85}

Montgomery, on taking command of Eighth Army, immediately grasped the significance of this dynamic and issued an order that there would be no more retreat.\textsuperscript{86} The troops were informed that they were to “burn their boats” by sending their “transport many miles away” and that it was their “duty to stand and fight” where they were “to the last man, and the last round.”\textsuperscript{87} This order, as Correlli Barnett argued quite correctly, was strategically meaningless; Auchinleck had not intended to retreat. But Barnett overlooked the key point. He belittled the “moral impact of Montgomery’s . . . ‘No retreat’ order”\textsuperscript{88} when, in fact, this order had a dramatic effect on the troops. Eighth Army was confused and bewildered. The effect of Montgomery’s order, which completely clarified the situation was, therefore, electric.\textsuperscript{89} The censorship summary for 10 to 16 September reported that “the Order of the Day enjoining the troops to stand fast and fight on without withdrawal and surrender, definitely caught the imagination of all ranks.”\textsuperscript{90} Montgomery’s directive spread like wildfire throughout Eighth Army. Indeed, both Horrocks and de Guingand described the effect of the order as “magical.”\textsuperscript{91}

Providing information and controlling the perceptions of troops with little to dwell on other than how unfortunate they were to be holed up in the western desert, were key elements influencing morale. The astonishing virulence of rumours in Eighth

\textsuperscript{84} Barr, \textit{Pendulum of War}, p. 188.
\textsuperscript{86} NA CAB 106/703 Address to Officers of HQ Eighth Army by General Montgomery on Taking Over Command of the Army, 13 August 1942.
\textsuperscript{87} ANZ WAII/1/DA508/1 Vol. 3 MEMCWS No. XLII (26 August to 2 September 1942), p. 18.
\textsuperscript{88} Barnett, \textit{The Desert Generals}, p. 304.
\textsuperscript{90} ANZ WAII/1/DA508/1 Vol. 3, MEMCWS, No. XLIV (10 to 16 September 1942), p. 2.
\textsuperscript{91} Horrocks, \textit{A Full Life}, p. 114; IWM BLM 56 Francis de Guingand to the Editor of the Sunday Times, 15 December 1958.
Army and their almost universal adverse effect on morale is commented on consistently in the censorship summaries. These rumours spread widely (and wildly) because there was a dearth of accurate information on operations in the desert. A 50th Division report, on the “Main Lessons Learned” in the months of May, June and July 1942, pointed out that the “only solution” to this problem was “for officers, with due regard to secrecy, to give their men a picture of the general situation as they know it, at regular intervals.”

Montgomery, therefore, on taking over command, made a firm commitment to keep Eighth Army in the know at all times. This policy immediately endeared him to the troops and differentiated him from his predecessor. In his first memorandum on the coming battle of El Alamein, issued on 28 September 1942, Montgomery insisted that “Wed 21 October, and Thurs 22 October will be devoted to the most intensive propaganda as regards educating the attacking troops about the battle.” Indeed, Douglas Wimberley recalled how, on 21 October, he was allowed to let his 51st Highland Division know “what they were in for, and their part in the battle explained to them.” The 9th Australian Division report on the operation stated that, during the two days preceding the offensive, an intensive drive was made to ensure that every man knew the object of the battle, the part his formation and unit had to play and the part that he himself had to play.

The morale report for August to October 1942 stated that “morale reached its peak as a result of the Army Commander’s message to his troops on the eve of the offensive, and of the fact (commented on widely in the mail) that all ranks, down the whole chain of command, were taken into confidence about the plan of attack.”

92 AWM 54 883/2/97 MEFCWS, No. XIV (11 to 17 February 1942), p. 10.
93 NA WO 201/538 Appendix to 50 Division Report, Main Lessons Learned since 27 May 1942, 20 July 1942.
94 NA CAB 106/703 Address to Officers of H.Q. Eighth Army by General Montgomery on Taking Over Command of the Army, 13 August 1942.
95 IWM BLM 28/4 Lightfoot, Memorandum No. 1 by Army Commander, 28 September 1942.
97 AWM 527/6/1 Part 1, 9th Australian Division Report on Operations, El Alamein, 23 October to 5 November 1942, p. 4.
98 NA WO 193/453 Morale Report, August to October 1942.
The morale report for November 1942 to January 1943 stated that “all ranks were in the picture from the outset; this evidently made all the difference.”

The image of each opposing commander was another factor that impacted on morale, particularly in light of the high standing of Rommel among the troops. A memorandum on the “Morale of South African Troops” in the desert, written in August 1942, noted that “it is interesting to compare the attitude towards General Rommel, who has been built up by propaganda into an imposing figure, and the attitude to General Auchinleck, where little has been done to make his personality familiar or impressive to the men.”

While Rommel made himself a folk hero for both sides in the desert, his British opponent was changed six times. Auchinleck twice sacked his Commander Eighth Army in the midst of active operations. Auchinleck’s reaction to this “public relations” problem was to send a letter to all Eighth Army commanders on the subject of “our friend Rommel” forbidding them to mention Rommel by name. “I wish to dispel by all possible means [the idea] that Rommel represents something more than an ordinary German general. The important thing now is that we do not always talk of Rommel when we mean the enemy in Libya. We must refer to ‘the Germans’, or the ‘Axis powers’, or ‘the enemy’ and not always keep harping on Rommel . . . PS. I am not jealous of Rommel.”

The key issue, as the censorship summaries show, was that Auchinleck only became a public figure with Eighth Army after taking over command in the field, in July 1942. That was exactly a year after he had assumed command in the Middle East, when the censorship summaries had noted that “allusions to the exchange of places of General Wavell and General Auchinleck had been very rare.” In fact, a study of the censorship summaries makes it very clear that Rommel played a far more prominent

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100 AWM 54 883/2/97 MEFCWS, No. XVI (26 February to 4 March 1942), pp. 3-4.
101 SAMAD Div Docs, Gp 1, Box 1 Memorandum on Morale of SA Troops in Middle East, 8 August 1942, p. 1.
102 Neame – Beresford Pierce – Goodwin Austin – Cunningham – Ritchie – Auchinleck – Montgomery.
role in the men’s consciousness than did their own commander, Auchinleck. The censorship summaries show that the troops had a fascination with Rommel that bordered on the extreme. Auchinleck’s rise to prominence in July 1942 came too late for Eighth Army. The damage had been done; Rommel was already a hero and the influence of the British high command on morale was undermined and outdone.

Montgomery, on the contrary, actively pursued publicity and the press limelight with an energy Auchinleck had never exhibited. Hugh Mainwaring, Auchinleck’s GSO 1 Operations, remembered how Montgomery immediately ordered him to ensure that every man knew “the name Montgomery by tonight.” His showmanship gave Eighth Army a figure they could look up to, a man that could combat the image of the “Desert Fox”.

It was common practice for Eighth Army to move units from one formation to the next as needs arose during operations. While this allowed a certain amount of operational flexibility, it could at the same time prevent commanders and men from getting to know each other and thereby affect morale. For example, the 1st South African Infantry Brigade underwent ten changes in the formation to which it was attached during the “Crusader” operations at the end of 1941.

The same mistakes were made six months later at Gazala, at Tobruk and on the El Alamein line. The 7th Medium Regiment Royal Artillery were attached to Indians, New Zealanders, Poles, Free French, South Africans and Australians in turn over the space of a few months, while battalions in the Durhams and the Guards were combined into composite battalions following the fall of Tobruk.

The initial court of enquiry following Tobruk stressed that “Esprit de Corps is as important today as ever it was and this applies as much to formations as to units. Formations which have been trained together must operate together. To change the composition of Brigades or to detach them without good reason from one Division to

106 Montgomery, The Memoirs of Field-Marshal Montgomery of Alamein, p. 111,
107 Mainwaring, Three Score Years and Ten with Never a Dull Moment, p. 66.
108 SAMAD Div Docs, Gp 1, Box 5, 1 SA Infantry Brigade, Report on Operations in Cyrenaica, November to December 1941.
109 ANZ WAI/I/DA508/1 Vol.1, MEMCWS, No. XXXIX (5 to 11 August 1942), p. 4.
another destroys all team work, dislocates communications, upsets administration and has a bad effect on the morale of officers and men.”

While Auchinleck had made tentative moves to address this problem in the summer of 1942, Montgomery immediately put a firm end to the practice of mixing and matching units. “Divisions would fight as Divisions,” he said “and they were not to be split up into bits and pieces all over the desert.” Following this change, Lieutenant-General Sir Bernard Freyberg wrote home to New Zealand, in October 1942, emphasising the difference that it would make from “the point of view of military organisation.” Major-General Douglas Wimberley, the commander of the 51st Highland Division, wrote to Montgomery in 1953 recalling that

I do not think I could have stood for long and seen the breaking up of formations, (indeed already threatened the week I arrived), and the lack of understanding of those little psychological matters, which, nevertheless, with soldiers . . . make all the difference between their fighting really hard and their fighting more half heartedly, except of course in the imagination of the writers of the sit[uation] rep[ort]s, the intelligence summaries and the War Diaries where these things get covered up!

Montgomery has been described by his critics as a plodding and pedantic general. Nevertheless, his practice of “stage managing” his battles and ensuring that his army remained “balanced” must be recognised, at least in the context of North Africa, as policies designed in part to prevent the breaking up of units in battle and thereby protect morale. The lessons from the “Crusader” and summer offensives could not have been clearer. Troops who had been trained together needed to fight together under the command of leaders with whom they were used to fighting. Montgomery ensured that the disposition of his units was carefully prepared before any battle to avoid the necessity of breaking up units to deal with threats as they arose. He could, therefore,

110 SAMAD UWH Published Books, Box 368, Court of Inquiry, Tobruk, Report of a Court of Inquiry Assembled by Order of the C-in-C, 8 July 1942, p. 3.
111 IWM BLM 27 Situation in August 1942, p. 3.
112 ANZ WAIL/8/26 Freyberg to New Zealand Minister of Defence, 14 October 1942.
113 IWM BLM 57 Wimberley to Montgomery, 9 June 1953.
ignore Rommel’s counter-thrusts while continuing with his “master plan”. Although less flexible and dynamic than the German approach, Montgomery fought in a manner that made victory possible with the material that he had at hand. This firm grasp of what affected his troops' morale enabled him to fight a considered and realistic battle that he could win.

How Auchinleck and Montgomery dealt with the level of training of the troops also played a fundamentally important role in affecting Eighth Army’s morale. From the beginning of the desert campaign to the battle of Alam Halfa, the MEF more than quadrupled the size of the forces at its disposal. Between January and August 1942 for instance, 149,800 reinforcements arrived in the Middle East from the UK. In addition, about 32,400 reinforcements came from India. During the same period, 2,012 tanks and 2,580 guns arrived in the Middle East. This massive influx of men and new equipment put a great strain on the training organisation in the desert.

The influx of weapons from Britain and the United States meant little if the troops were not trained to use them. In the opinion of Lieutenant-General Sir William “Strafer” Gott, Commander of XIII Corps, training demanded time, “and that time has seldom been forthcoming in the Middle East. This is a point well known out here, but forgotten at home.” Gott strongly believed that, “unseasoned, inexperienced and poorly trained troops” had “no place on any battlefield, but there were some who came under this category in the recent fighting [around Tobruk].” Auchinleck believed that this lack of training contributed to a “deterioration” in the Army’s “standard of...
discipline”, represented by the high number of desertions and surrenders in the desert in May, June and July 1942.

The blame for allowing untrained units into combat does not rest entirely at the door of Auchinleck or Lieutenant-General Sir Neil Ritchie, his Commander Eighth Army. Churchill exerted enormous pressure on Auchinleck to begin operations before he felt he was entirely ready. Nevertheless, Auchinleck’s tactical approach to the challenge of defeating the Panzerarmee Afrika asked much of an army that was inadequately trained in the use of their weapons or the skills of combined arms warfare. He admitted, in a letter to General Sir Alan Brooke, the CIGS, on 25 July, that perhaps he had “asked too much of [the troops].” By the end of July, Auchinleck was well aware that his army needed significant training. He wrote, in an “Appreciation of the Situation in the Western Desert”, on 27 July, that “none of the formations in Eighth Army is now sufficiently trained for offensive operations. The Army badly needs either a reinforcement of well trained formations or a quiet period in which to train.”

This was the situation that faced Montgomery on taking over command on 13 August. Acknowledging the training deficit, just as Auchinleck did before him, Montgomery launched an unprecedented training regime for Eighth Army. He made it clear to his commanders, and through them to the men, that Eighth Army would not attack at El Alamein until it was ready. He also acknowledged the limitations of what could be achieved in this regard in a short period of time. He decided that he had to temper what was “strategically desirable” by what was “tactically possible with the forces at his disposal.” Montgomery, therefore, devised a strategy that catered for the actual situation on the ground, i.e. an under-trained citizen army, rather than the ideal situation of a well-trained professional army.

Eighth Army had suffered 80,000 casualties over the summer months, and the “re-born Eighth Army was full of untrained units.” It was clear to Montgomery that he

122 SAMAD Div Docs Box 119 Memorandum on Discipline by C-in-C Eighth Army, 15 July 1942, p. 3.
123 Bungay, Alamein, p. 223.
124 LHCMA Alan Brooke Papers, Auchinleck to Brooke, 25 July 1942.
125 Connell, Auchinleck, p. 938.
126 NA CAB 106/703 Speech to HQ Eighth Army, 13 August 1942.
had to “so stage-manage the battle that my troops would be able to do what was demanded of them, and I must not be too ambitious in my demands.” This was one of Montgomery’s enduring contributions; he based his plans on what the soldiers could achieve rather than what he hoped they might be able to achieve. In that way, he avoided “asking too much” of his men, as Auchinleck had done in July 1942.

It can be argued that leadership did play a crucial role in affecting morale in the desert and that the contributions of Montgomery and Auchinleck to success at El Alamein can be reconsidered by taking this into account. The relevance of materiel to victory can also be reappraised in this light.

There is no dispute over the fact that Eighth Army significantly outnumbered the Panzerarmee Afrika in terms of men and materiel during the critical months of fighting that led to victory at El Alamein in November 1942. The Panzerarmee’s quantitative inferiority was exacerbated by the fact that its supply system was compromised by distance, and, perhaps more importantly, by Ultra. The logistical problems facing the Panzerarmee, as Martin Kitchen has described, were almost insurmountable. Between January and August 1942 the Panzerarmee had to make do with only 40 percent of the supplies it needed. Such circumstances have prompted Kitchen, echoing Warlimont, to describe El Alamein as a battle of “materiel, in which tactical skill, courage and morale were no longer significant. It was a war that the Axis could not possibly win.”

The suggestion that the outcome of the battle of El Alamein was determined by Eighth Army’s materiel superiority can certainly be challenged. Eighth Army had enjoyed considerable numerical and materiel advantages before, at Gazala and during the July battles, and had been beaten. Recent scholarship has also provided evidence to

128 IWM BLM 27 Diary Notes, 12 August to 23 October 1942, pp. 7-8; AWM 3DRL 2632 2/2 Lightfoot, Memorandum No. 2 by Army Commander, 6 October, 1942.
129 LHCMA Alan Brooke Papers, Auchinleck to Brooke, 25 July 1942.
130 Kitchen, Rommel’s Desert War, p. 309.
132 Kitchen, Rommel’s Desert War, p. 341.
suggest that there is a weak correlation between materiel advantages and success in war. The best equipped military machine will have little success if an army is unwilling to fight. The evidence from the desert, without a doubt, suggests that materiel was important, but, not solely in the manner that Warlimont and Kitchen imply. In fact, it can be argued that a vitally important impact of materiel during the desert war was the affect that it had on the morale of the troops.

In July 1942, following Gazala and the fall of Tobruk, an inquiry was undertaken by officers of Eighth Army and by officers flown out from the United Kingdom. It was found that troops’ perceptions of the quality of their weapons played a major role in influencing morale. Significantly, the report recommended that the capabilities of forces arrayed against each other in the desert should not be calculated by numbers of tanks and guns alone. Instead, it advised that “the fighting capacity of formations and units must be measured . . . also by their morale and the state of their equipment.”

A study carried out in 1943 on the reasons why soldiers disliked particular weapons gives further insight into this relationship between morale and materiel in battle. The report pointed to a “notable demoralising effect” when troops compared their own weapons disadvantageously with those of the enemy. “The feeling of inequality – almost of injustice”, the report concluded, “appears to be very important.” The morale crisis that began to rear its head in the summer of 1942 can to some extent be attributed to this dynamic. Indeed Mark Johnston and Peter Stanley have blamed “a loss of faith in equipment” as one of the key reasons for the crisis in the desert in 1942.

Montgomery’s assumption of command of Eighth Army coincided with the arrival of new, but also better quality, weapons from the UK and USA. Nevertheless, he saw the increasing material strength of Eighth Army not as a battle-winning element on

133 Stephen Biddle, Military Power: Explaining Victory and Defeat in Modern Battle (Princeton: Princeton University, 2004), see Chapter One.
134 SAMAD UWH, Published Books, Box 368, Court of Inquiry, Tobruk, Report of a Court of Inquiry Assembled by Order of the C-in-C, 8 July 1942, p. 4.
135 Ibid., p. 3.
137 Johnston and Stanley, Alamein, p. 22.
its own, but as one of the key factors that would motivate his troops to withstand the “hard and prolonged fighting” that he predicted at El Alamein. He believed that arms and weapons were but a mechanical extension of the pride and aggressive attributes of the individual. Without pride and confidence in them the soldier was unlikely to have confidence in himself and his ability to fight.\textsuperscript{138}

The censorship summaries show that the influx of weapons played a major role in reinvigorating morale before El Alamein. By the end of September, the summaries reported that “mail from 8\textsuperscript{th} Army personnel made pleasant reading; the esprit de corps is amazingly high . . . To get ‘on the job again’ appears to be the earnest desire of all troops who are confident that we are stronger and better equipped than at any time, and that morale cannot be improved by too much waiting.”\textsuperscript{139} By October, the summaries reported that “there is no doubt [that] the most satisfactory feature of the mail was the confidence that [Eighth Army] can now face the Germans with parity in weapons.”\textsuperscript{140}

In general, the armies that fought in the desert experienced defeat on the battlefield when they could no longer continue fighting, either because their material strength was insufficient, or, because they lost the will to continue fighting. There was, therefore, either a loss of the material capability to keep fighting or a loss of the will to keep fighting, or both.

Clausewitz argued that “every engagement is a bloody and destructive test of physical and moral strength. Whoever has the greater sum of both left at the end is the victor.” Nevertheless, Clausewitz was in no doubt that, more often than not, “in the engagement, the loss of morale has proved the major decisive factor,”\textsuperscript{141} a contention that Niall Ferguson has convincingly maintained for warfare in the twentieth century.\textsuperscript{142}

\textsuperscript{139} ANZ WAI\textsuperscript{I}/DA 508/1 Vol. 3, MEMCWS, No. XLVI (23 to 29 September 1942), p. 1.
\textsuperscript{140} ANZ WAI\textsuperscript{I}/DA 508/1 Vol. 3, MEMCWS, No. XLVII (30 September to 6 October 1942), p. 1.
Eighth Army’s superiority in numbers and firepower at El Alamein had a devastating effect on the morale of the troops of the Panzerarmee as well as on their material capability to fight.\footnote{Fennell, \textit{Combat and Morale in the North African Campaign}, Chapter Two.} Montgomery had written, as early as 1940, that “the concentrated fire of artillery and mortars is a battle-winning factor of the first importance. By means of it the enemy troops can be shaken and their morale lowered.”\footnote{IWM BLM 24 Fifth Corps Study Week for Commanders, Some Lessons Learnt During the First Year of War, September 1939 to September 1940, p. 2.} The lessons from operations derived from the battle of El Alamein backs up this assertion. It was acknowledged that “several formations . . . reported that considering the density of the artillery support during the various attacks, the number of enemy dead and wounded found by the leading troops was surprisingly light, and that enemy automatic weapons quickly opened up when the barrage or concentration . . . passed.” The report stressed that the killing power of artillery barrages or concentrations against well dug in infantry is often slight. The purpose of the artillery support in an attack “is primarily to shake the enemy’s morale, temporarily to stupefy him . . . to enable the attacker to reach the objective with the minimum of casualties. The killing or capture of the enemy then follows.”\footnote{NA WO 201/2596 Lessons from Operations: Training, Preliminary Draft Lessons from Operations October and November 1942, p. 24.} Reports and accounts written later and after the war tended to lend support to this conclusion.\footnote{Bidwell, \textit{Modern Warfare}, pp. 156-7.} One such report found that the morale effects of bombardments were anywhere between two to six times greater than the material effects.\footnote{NA WO 291/904 Army Operational Research Group Memorandum No. 635, The Morale Effect of Bombardment, p. 6.}

By the closing stages of El Alamein the German war diaries reported that their troops were “exhausted’ and that, taking all things into consideration, “it had to be admitted that after a desperate 10-day struggle against an enemy superior on land and in the air the Army was in no condition to prevent a further attempt at breaking through.”\footnote{ANZ WAI/11/20 German – Italian Forces in Africa 23 October 1942 to 23 February 1943, From German War Narrative, 2 November 1942.} The war diaries identified four reasons why further resistance would fail. The first was “the enemy’s great superiority in tanks and artillery.” However Eighth
Army’s armoured units had proved largely ineffective at El Alamein and it is arguable that the artillery did more morale than material damage to the Axis forces.149 The second reason was “the continual heavy day and night bombing attacks, against which there was no defence” and which “only added to the feeling of inferiority” suffered by the troops of the Panzerarmee. However, air bombardment was notoriously inaccurate150 and was seen by both sides largely as a morale weapon rather than a material one.151 The third reason was the “almost complete failure of the Italian troops.” According to the report of the GOC Afrika Korps, the Axis problem lay once again with the morale of the Italian formations. The fourth and final reason was the Panzerarmee’s “own heavy losses in men and materiel on account of the enemy’s vast superiority in the most modern weapons.” There can be no doubt that the weight of fire unleashed on the Panzerarmee caused destruction and casualties. However, this arguably was not the primary drain on the Panzerarmee’s material and manpower resources. In fact, a large proportion of these casualties can be attributed to morale rather than material causes. The statistics show that 40 percent of German and 63 percent of Italian casualties were missing or POW; the rate for British and Commonwealth troops during the battle was 17 percent.152 In addition, extremely high sickness rates, a sure sign of morale problems, removed large numbers of men from the front line.153 Mark Harrison has estimated that nearly one in five Germans were listed as sick during the battle, with the elite 15th Panzer Division suffering a sickness rate as high as 38 percent.154 Problems with desertion and surrender had prompted Rommel to encourage use of the death penalty at courts marshal during July;155 these problems persisted into October and November.156 Finally, one of the greatest effects of heavy losses of any kind is the impact

149 Fennell, Combat and Morale in the North African Campaign, pp. 89-94.
151 Fennell, Combat and Morale in the North African Campaign, Chapter Two.
152 Derived from statistics quoted by Bungay, Alamein, p. 196-7.
153 Kitchen, Rommel’s Desert War, p. 312, 323, 346.
155 Kitchen, Rommel’s Desert War, p. 264, 292.
156 Ibid., pp. 323-4.
that they have on primary group cohesion, which is generally recognised as a key factor in maintaining morale on the front line.\textsuperscript{157}

By the end of the battle of El Alamein Eighth Army also had “virtually run out of formed infantry units that could still be used in the attack.”\textsuperscript{158} Many of the front line battalions of Eighth Army suffered over 50 percent casualties;\textsuperscript{159} these were Montgomery’s main offensive force. However, in comparison to the \textit{Panzerarmee}, incidences of sickness, surrender and desertion were extremely low. Eighth Army won the “killing match” that Montgomery predicted at El Alamein due to sheer determination and will power as much as any other factor. The arrival of large amounts of new and better weapons played a decisive role in developing this determination among the troops.

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To conclude, this paper has attempted to offer a perspective on the North African Campaign that differentiates itself from the existing historiography in three ways. Firstly it has been based on new sources, the censorship summaries of the soldiers’ mail. Secondly, it has incorporated a novel methodology, by integrating a quantitative analysis of the many indicators and corollaries of morale with a qualitative investigation of the other available primary sources. Thirdly, it has reinterpreted some of the existing historiography on the conflict, by highlighting the morale crisis and turnaround that coincided with defeat and victory and by reassessing the roles played by leadership and materiel in the outcome of the battle of El Alamein. It is suggested that the turnaround in morale was central to the success at El Alamein and that the impact of both leadership and materiel on that victory can best be understood in this light.

\textsuperscript{157} For a critique of the literature on primary group cohesion and the role played by the primary group in maintaining Eighth Army’s morale in the desert please see Fennell, \textit{Combat and Morale in the North African Campaign}, Chapter Eight.

\textsuperscript{158} Barr, \textit{Pendulum of War}, p. 397.

\textsuperscript{159} Fennell, \textit{Combat and Morale in the North African Campaign}, pp. 252-7.