



KING ETHELRED'S COLLEGE OF ENGINEERING

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DEPARTMENT OF DEFENSIVE ENGINEERING,
CROWN WORKS AND APPLIED STUBBORNNESS

TWO OUT OF THREE: THE DEFENCE OF HELM'S DEEP, MARKED

*Being an assessment of the defence of the Hornburg on the night of 3 March 3019, as recorded by Professor Tolkien in 1954
and by Mr Jackson in 2002, against the Major's maxim of a rifle, a brew and not moving*



A Crown Works assessment prepared under the College Fellowship Ordinance
(The Defence of the Realm, and Counting) 1588, and marked by Major A. B. F. MacTavish

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*Fortitudine.
Ingenio.
Tea and biscuits.*



ABSTRACT

Major MacTavish holds that most strategic problems can be addressed with a rifle, a brew and not moving. The Department has tested the maxim twice, at Rorke's Drift and at Jadotville, and it survived both.[11] This paper is the third test. The defence chosen is that of the Hornburg at Helm's Deep on the night of 3 March in the year 3019 of the Third Age, in which some two thousand men of Rohan held a wall, a gate and a tower against a host of ten thousand until the morning. It is a well-documented action. There is a full account by Professor J. R. R. Tolkien, published in 1954; a second, by Mr Peter Jackson, released in 2002, which disagrees with the first on most of the numbers; a plan by the author; and an atlas.[1,5,6,9] The Department is aware that the battle did not take place. It has assessed it anyway, on the ground that nobody has told the Major.

The findings are these. The defence did not move, until it did. It had no rifle, and its arrows ran out. It had a brew, in the sense that the caves behind the wall were well provisioned, and the King, who had brought little, fought all night a short way down the gorge from supplies he never visited.[1] The wall fell to a drain. Twenty feet of masonry wide enough for four men to walk abreast was taken through the culvert that let the stream out, which had no grating; Mr Stobbs, who has kept a grating on the College's culvert since 1987, has written Chapter 5 himself. The relief arrived at dawn, as reliefs do, and the matter was settled by a forest, which moved. The Major has no column for this.

The Major's mark is two out of three, on the book. The film receives the same mark for different reasons, and a note about the Elves. The author of the book, asked in 1958 about a film, said he would cut the battle out altogether as incidental to the main story.[2] The Department has therefore assessed, at length, a battle its own author considered dispensable, and records that this has not slowed it down.

Research status. In every other paper of this College the facts are real and the College is invented. Here both are invented, and the paper says so. The battle of the Hornburg is fiction by J. R. R. Tolkien, and the film of it is an adaptation by Peter Jackson; they are quoted briefly, attributed, and analysed as any published account of a battle would be. What is real: the published texts and what they say; the author's letters and drawing; Fonstad's measurements; the sieges of Rochester and Château Gaillard; Rorke's Drift; and the arithmetic. What is the College's: the Department, its Fellow, the Major's marks, Mr Stobbs's chapter and the grating.

Keywords: Helm's Deep, the Hornburg, the Deeping Wall, culvert, siege, relief at dawn, the Major's maxim, arrows, provision, trees.

ACKNOWLEDGEMENTS

The Department thanks Major (Retd.) Alistair MacTavish, who marked this paper in red and returned it in two days. His marginal notes are given where they fall. He has not asked who Saruman was, and the Department has not raised it.

Mr Arthur Stobbs, Clerk of Works, read Chapter 7 of the book at the Department's request, the first novel he has been known to open. He returned it with one passage underlined and the word 'grating' written beside it eleven times. Chapter 5 is his.

Dr Clementine Pemberton-Wolfe audited the count kept by Legolas and Gimli, with her own tally counter, and has submitted a note on method which the Department prints in Chapter 4 and does not endorse.

Miss Honoria Catchpole of the Æthelred Library of Useful Numbers holds the book and the film, which give the defenders as two thousand and as three hundred, and has filed them facing one another. She has asked that the film be returned; it is a long one and the Major still has it.

The Proctor was shown the author's own drawing of the fortress, which was made on a page from an examination script, over the candidate's handwriting.[5] He has asked what mark the candidate received and whether the candidate was told.

The Trebuchet Research Group was consulted on the siege engines and replied that there were none, that this was the whole trouble with the attack, and that it was available.

Commandant (Retd.) Fiachra Devereux-Roche of Baginbun was sent the description of Helm's Dike, an ancient trench and rampart a mile long. His note reads, in full: 'Dug. Good. Too long. Man it or fill it.'

Mrs Enid Partridge was asked whether provisions kept in a cave up the gorge behind the fighting count as a brew. She said that a kettle nobody walks to is an ornament.

Statement on nomenclature. 'The book' is The Two Towers, Book III, chapters 7 to 9. 'The film' is the extended edition of The Lord of the Rings: The Two Towers. 'The Wall' is the Deeping Wall; 'the Burg' is the Hornburg; 'the Dike' is Helm's Dike; 'the Deep' is the gorge behind them. 'The author' is Professor Tolkien. 'The maxim' is the Major's. 'The drain' is the culvert, and Mr Stobbs has asked that it be called what it is.

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NOMENCLATURE

Symbol	Meaning
Blasting fire	The book's name for what breached the Wall: 'the fire of Orthanc'. The film shows gun-powder
Culvert	The arch under the Deeping Wall by which the stream left the Deep. A drain. It had no grating
Deeping Wall	Twenty feet high, four men abreast along the top, about 250 feet long, smooth in front
Helm's Dike	A trench and rampart a mile long, two furlongs below the Gate. Too long to hold; not held
Hornburg	The fortress on the Hornrock, a heel of rock no more than forty feet high. It did not fall
Huorns	Trees that walk. They arrived in the night, stood in the valley, and were the end of the matter
Provision	What the King brought little of and the caves had plenty of. The Major's brew, by ruling
Relief at dawn	A thousand men on foot under Erkenbrand, and Gandalf; in the film, two thousand riders
Sortie	A short attack outward from a fortress. The book has one by the postern. The Major permits it
The maxim	A rifle, a brew and not moving. DE101, DE102 and DE103 of the Major's course, KE01
The tally	Gimli 42, Legolas 41. Audited in Chapter 4
Too many winters	The garrison's age, in the words of its commander: 'or too few'

1 INTRODUCTION

1.1 The maxim, and the third test

The Department of Defensive Engineering teaches one degree, the MEng in Defensive Engineering (Not Moving), and the degree has three modules: DE101 A Rifle, DE102 A Brew and DE103 Not Moving. They are the Major's maxim set out as a timetable. The Department tested the maxim against Rorke's Drift in 1879 and Jadotville in 1961 and found that both garrisons had all three and both held.[11] Two cases are a coincidence, as Professor Widdowson-Bligh has pointed out more than once, and the Department has wanted a third. It wanted, in particular, a defence that lacked one of the three, to see which one could be spared.

Helm's Deep is that defence. It is a fixed position, held overnight, against odds, until relieved: the Major's preferred kind of battle in every respect but two. It has no rifle, being some centuries early for one, and its brew is the subject of Chapter 7. It also has the advantage, for a Department that has been criticised for its handling of real events, that nobody was hurt.

1.2 The accounts

There are two, and they do not agree. The first is the book: The Two Towers, the second volume of The Lord of the Rings, published in 1954, in which the battle occupies one chapter of some seven and a half thousand words and its aftermath part of the next.[1] The second is the film of 2002, in its extended edition, in which the battle occupies most of the last hour.[8,9] The Department treats them as it treated Lieutenant Chard's report and the film Zulu: as two accounts of one action, one written near the event by a man who knew the ground, the other made later, with more extras.

There is also evidence of a kind historians rarely get. The author drew the fortress himself, and the drawing survives; he described where he had found the caves; and he left his opinion of the whole episode in a letter.[2,3,5] Professor Karen Wynn Fonstad, a cartographer, surveyed the text and the drawing and published a plan with a scale.[6] The Department has used her measurements wherever the book gives none.

1.3 Method

Chapter 2 is the ground. Chapter 3 is the forces and the odds. Chapter 4 follows the night in order and audits the count. Chapter 5 is the drain. Chapter 6 is the film. Chapter 7 marks the defence against the maxim, one module at a time, and Chapter 8 concludes. Where the book is quoted it is quoted briefly and attributed; nothing in this paper is a substitute for reading it, and the Department recommends that course to anybody who has not, including, as it turns out, Mr Stobbs.

College hypothesis. A defence with two of the three will hold until morning and then need rescuing. The Department expects to find that the missing rifle cost the garrison its wall, that the brew was present but in the wrong place, and that not moving worked for exactly as long as it was tried.

2 THE GROUND

2.1 The gorge

Helm's Deep is a gorge running into the northern face of the White Mountains, with caves at its head and a stream, the Deeping-stream, running out of it. The author placed it in Rohan. He found it in Somerset: he wrote in 1971 that the caves were based on those of Cheddar Gorge, which he had revisited in 1940 and first seen on his honeymoon nearly thirty years before, 'before they became so commercialized'.[3] The Department notes that the principal fortress of the Riddermark is a honeymoon destination, and that this explains the attention given in the book to the caves and the comparative neglect of the drains.



Figure 2.1: The ground at Helm's Gate: the Hornburg on its rock, the Deeping Wall and its culvert, the Dike below and the caves behind. The Department's reconstruction from the book and from Fonstad's plan.

2.2 The works

Across the mouth of the gorge the men of old built two things. On a heel of rock thrust out from the northern cliff they built a fortress, the Hornburg, with an outer wall, an inner court and a tower; Fonstad puts the rock at no more than forty feet high, reached by a ramp and a causeway.[1,6] From the Hornburg to the southern cliff they built a wall, the Deeping Wall, to close the rest of the gap. The book gives it exactly: twenty feet high, 'so thick that four men could walk abreast along the top', with a parapet over which only a tall man could look, clefts to shoot through, and a front of great stones set so smoothly that no foothold could be found.[1] It does not give the length. Fonstad, scaling from the author's drawing, shows it as two hundred and fifty feet.[6] Under the Wall, 'by a wide culvert', the stream passed out.[1]

Two furlongs below the Gate lay the outer work: Helm's Dike, 'an ancient trench and rampart scored across the coomb', a mile long or more, with a breach where the road and the stream went through.[1] Table 2.1 sets the works side by side.

Work	Dimensions	Source	Outcome on the night
Helm's Dike	a mile long or more; trench and rampart; two furlongs below the Gate	the book	abandoned at the first contact, as too long to hold
The Deeping Wall	20 ft high; four men abreast; about 250 ft long; smooth face; parapet	the book; length from Fonstad	held against ladders; taken through the culvert
The culvert	"wide"; the stream passes under the Wall	the book	entered twice; the second time with the blasting fire
The Hornburg	on a rock of no more than 40 ft; outer wall, inner court, tower; three entrances	the book; Fonstad	gates broken; not taken

Work	Dimensions	Source	Outcome on the night
The caves	at the head of the Deep; "good provision, it is said"	the book	never reached by the enemy; never visited by the King

Table 2.1: The works at Helm's Gate. Dimensions as the book gives them, with the Wall's length from Fonstad's scaling of the author's drawing. References 1, 6.

2.3 The drawing

The author's own sketch, 'Helm's Deep and the Hornburg', shows the gorge from the front with the fortress on its rock, the wall running from it and the stream winding out below. It was drawn on a page from an examination script and partly over the candidate's handwriting; when it was published in 1977 the writing was removed.[5] The author was at the time a Professor at Oxford with scripts to mark, and the Department, which has marked scripts, understands entirely. The Proctor does not. He has asked the Department to establish what mark the candidate was given, whether the examiners saw the fortress, and whether a candidate whose answer has a castle drawn over it may appeal. The Major, shown the drawing, said the field of fire was good and the culvert was visible from the wall, and that somebody should have been looking at it.

3 THE FORCES, AND THE ODDS

3.1 By the book

The King rode from Edoras with more than a thousand riders, and on reaching the Deep learned that its lord, Erkenbrand, had left a garrison behind him. Its commander, Gamling the Old, gave the strength and the quality in one sentence: 'Maybe, we have a thousand fit to fight on foot. But most of them have seen too many winters, as I have, or too few, as my son's son here.'[1] Two thousand, then, of whom half were cavalry standing on a wall and half were the very old and the very young. The Major recognised the second half at once and asked what they had been issued with.

The reason the garrison was old men and boys is in the author's later account of the week before. The King's son, Théodred, was killed at the Fords of Isen on 25 February; Erkenbrand took command of the West-mark from the Hornburg the next day, and spent three days gathering such men as he could and seeing to the fortress, on the judgement that the enemy 'would not dare to pass on eastward to attack Edoras while the fortress of the Hornburg was unreduced, if it was manned and well stored'. The Fords were lost on the night of 2 March, with the best Riders of Westfold at them.[1,14] One of his captains had foreseen the rest: that it was the enemy's purpose to drive the defenders of Westfold into Helm's Deep 'and there contain them'. The Major's note: 'He was told. They went in anyway. Correct. It had a wall.'

The host that came against them had been counted on its way out of Isengard by an eyewitness, who said that 'of all sorts together, there must have been ten thousand at the very least', and that they took an hour to pass the gates.[1] They were Orcs of two kinds, wolf-riders, and the hillmen of Dunland. Fonstad totals the defence at two thousand on the evening and about three thousand eight hundred by the morning, of whom two thousand seven hundred fought, and puts the garrison 'at best outnumbered five to one'.[6]

3.2 By the film

The film keeps the ten thousand and makes them all Uruk-hai, without the hillmen, the lesser Orcs or the wolves. It cuts the defenders to about three hundred and sends a company of Elves from Lórien under Haldir to stand on the Wall, who are not in the book at all.[7,8] Miss Catchpole has the two orders of battle filed facing each other, and has observed that they agree about the enemy, which she finds is usually the way.

3.3 The odds



Figure 3.1: Attackers to each defender. The book's Helm's Deep is a defence at five to one; the film's, before the Elves arrive, is at thirty-three to one, which is steeper than Rorke's Drift. References 1, 6, 7, 11.

At five to one the book's defence is an ordinary siege, and a wall is supposed to be worth more than that. At thirty-three to one the film's is Rorke's Drift with worse odds, no rifles and a longer wall. Professor Widdowson-Bligh was shown all three figures and asked whether the film's was plausible. He wrote: 'It is a ratio.' Pressed, he added that three hundred men on two hundred and fifty feet of wall is more than one man to the foot, and that the film's difficulty is therefore not numbers but standing room.

4 THE NIGHT, IN ORDER

4.1 The sequence

The book's account can be set out as a timetable, and the Department has done so in Table 4.1. It has marked each event as moving or not moving, because that is what the Major asked for.

Stage	What happened, by the book	Moving?
Dusk	The King's riders reach the Dike with the enemy behind them. The Dike is judged too long; a rearguard holds the breach and falls back	Withdrawal to a better wall. Permitted
Night	The host crosses the Dike and comes on in the dark, lit by lightning. Arrows from the Wall; rams at the Gate	Not moving
The Gate	Aragorn and Éomer go out by the postern with a handful of swordsmen, clear the rams and come back in	A sortie. The Major permits one
The Wall	Hundreds of ladders and grappling hooks. Three times the Wall is cleared. "All their arrows were spent"	Not moving. Out of ammunition
The culvert, first	Orcs creep through the culvert behind the Wall. Driven out in the narrows; the culvert blocked with stones "under Gimli's direction"	Not moving. Mr Stobbs: see Chapter 5
The culvert, second	They creep in again and light "the fire of Orthanc". A gaping hole is blasted in the Wall	The Wall moves
The retreat	The defence is swept off the Wall; part falls back into the Deep and the caves, part up the stair to the Burg	Moving, under compulsion
Before dawn	The Burg holds. The Gate is in ruins behind a barricade. A parley from the wall, refused	Not moving
Dawn	The horn of Helm sounds; the King rides out with his guard through the host to the Dike	Moving. Marked down
Morning	Erkenbrand and a thousand men on foot come over the western ridge with Gandalf. A forest stands in the valley where none was. The host breaks	The relief moves. The trees moved

Table 4.1: The night of 3 March 3019, by the book. The third column is the Major's, in red in the original. Reference 1.

4.2 The arrows

One sentence of the book does more damage to the defence than the enemy did. After the third clearing of the Wall: 'All their arrows were spent, and every shaft was shot'.^[1] Legolas, the best shot present, is found shortly afterwards groping for spent arrows, 'all mine are gone', and finishing the night with a knife. A wall twenty feet high and smooth in front is a platform for shooting from. With nothing left to shoot, it was a ledge. The Major's note in the margin reads: 'Ammunition. Rorke's Drift had twenty thousand rounds and fired nineteen thousand one hundred of them. These people brought a quiver each.'

4.3 The count

Two of the defenders kept score against each other through the night, and the book reports the score at three points. At the first, on the Wall, Gimli has two and Legolas 'twenty at the least'. At the second, after the culvert, Gimli has twenty-one and Legolas two dozen. At the third, in the morning, Gimli announces forty-two and Legolas concedes: 'You have passed my score by one.' [1] Figure 4.1 plots them.

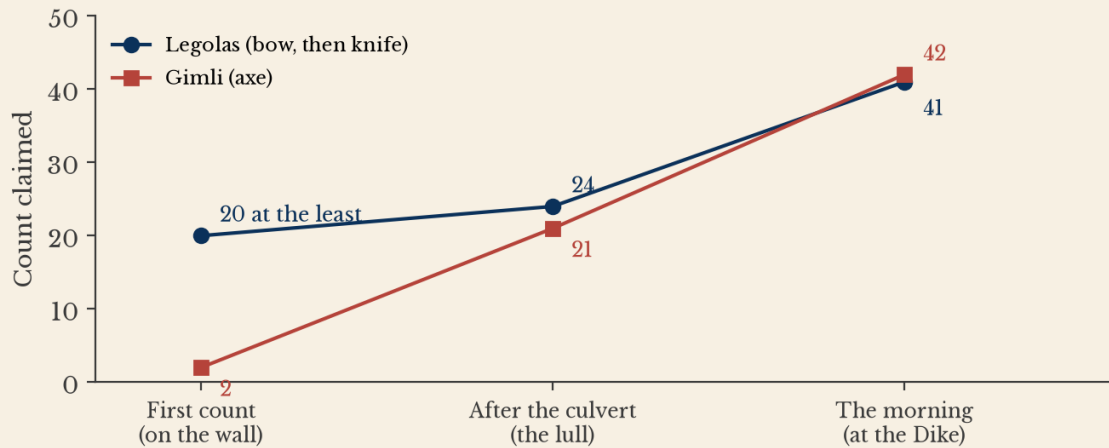


Figure 4.1: The count, as claimed. Legolas leads while the arrows last; once it is knife-work Gimli closes, and passes him by one in the morning. Reference 1.

Dr Pemberton-Wolfe, who settles arguments by counting and carries the instrument for it, has audited the figures and reports four difficulties. Neither party kept a written tally. Legolas's opening figure is an estimate, 'at the least', and was never corrected. Gimli's forty-second was, on his own evidence, wearing an iron collar that notched the axe, and she would want to see the collar. And the result, forty-two to forty-one, is within any reasonable margin of error for two people counting in the dark, during a thunderstorm, while being attacked. Her finding is that the match is drawn. The Department has passed this on and has been told by both camps, in different languages, that it is not.

5 THE DRAIN

This chapter is by Mr Arthur Stobbs, Clerk of Works and Keeper of the Lawn, at his own request. The Department has corrected the spelling and nothing else.

5.1 What was built

A wall across a valley with a stream in it needs a hole for the stream. That is not a fault. The fault is what you do with the hole. The book says the Deeping-stream went out under the Wall 'by a wide culvert', and that is all it says, and I have read the chapter twice looking for the word grating.[1] It is not there. A culvert wide enough for the stream in spate is wide enough for a man on his hands and knees, and an Orc is smaller. They came through it 'like rats', the book says, and gathered behind the Wall in the shadow of the cliff until every man on the Wall was facing the other way.

The College has one culvert, of 1790, which takes all our water under the Crown Works to the Piddle. It has had an iron grating since it was built and I have kept a record of what stops at it since 1987. It is mostly 10 mm sockets. It has never been an Orc. I put that down to the grating.

5.2 What was done about it

After the first lot were driven out, they blocked the culvert with boulders and broken stone from the inside, under the direction of a dwarf, 'until only a narrow outlet remained'. The book then says what anybody who has blocked a drain could have told them: the stream, 'swollen by the rain, churned and fretted in its choked path, and spread slowly in cold pools from cliff to cliff.[1] They had made a pond behind their own wall in a thunderstorm. They had also left the outside of the culvert open, because you cannot block the outside of a culvert from the inside, and the outside is where the enemy was.



Figure 5.1: A culvert with a grating, and a culvert without. Left, the College's, of 1790, with the grating and the record book. Right, the Deeping Wall's, as the book describes it. The Department's drawing, to Mr Stobbs's instructions.

5.3 What happened

They came in again 'while we talked', as the book has it, and this time they brought something with them and lit it. 'There was a crash and a flash of flame and smoke. The waters of the Deeping-stream poured out hissing and foaming: they were choked no longer, a gaping hole was blasted in the wall.[1] The book calls it 'the fire of Orthanc' and 'a blasting fire'; a critic calls it a kind of gunpowder, and the film shows it as that.[7] I do not know what it was. I know where it was put, which was in the drain, under twenty feet of wall, in a space they had themselves packed with stone. That is called tamping. A charge goes off better for it. They tamped their own mine.

5.4 It has been done before

The Department asked me to say whether real walls have gone the same way and I went to Miss Catchpole, who had two. At Rochester in 1215 King John's men dug under a corner of the keep, propped the tunnel with timber, and sent for 'forty of the fattest pigs of the sort least good for eating to bring fire beneath the tower'. The props burned, the mine fell in and the corner came down with it.[10] The garrison held out behind a cross-wall after that, which is what the Hornburg did. At Château Gaillard in 1204, which Richard the Lionheart had built and called impregnable, the French got into the middle ward through the chapel, let down the bridge and let the army in.[12] In neither case was the wall beaten. In both cases somebody found the hole in it. Forty pigs is a lot of pigs. Mrs Partridge has asked that the recipe not be circulated.

5.5 The front

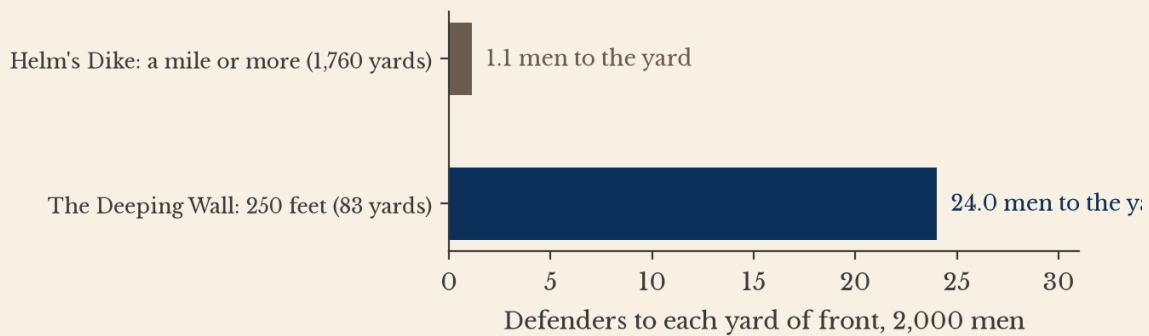


Figure 5.2: *Why the Dike was given up and the Wall was not. Two thousand men on a mile of Dike is about one man to the yard; on 250 feet of Wall it is twenty-four. Wall length from Fonstad. References 1, 6.*

I am asked to add the sum in Figure 5.2, which is the Department's and is right. They could not hold the Dike because there was too much of it. They could hold the Wall because there was very little of it, and two thousand men on eighty-three yards is more men than wall. With that many on top, one of them could have been spared to stand at the drain. Nobody was posted there. I have looked.

Finding of the Clerk of Works. The Deeping Wall was twenty feet high, four men thick and smooth in front, and it stood against a hundred ladders. It fell to the one part of it that was not wall. A grating of wrought iron, three feet by four, set in the stone at both ends and looked at once a year, would have cost less than the horn.

6 THE FILM

6.1 What it changed

The film of 2002 is the account most people have seen, and the Department has viewed the extended edition, twice, the second time at the Major's insistence. Table 6.1 lists where it parts from the book. The Department does not regard these as errors. A film is an adaptation, as Zulu was, and Zulu moved a hospital.

Matter	The book, 1954	The film, 2002, extended edition
Defenders	Two thousand: a thousand riders and a thousand of the garrison	About three hundred, and the Elves
The Elves	None. The only Elf present is Legolas	A company from Lórien under Haldir, who is killed
The enemy	Ten thousand "of all sorts": two kinds of Orc, wolf-riders, the hillmen of Dunland	Ten thousand Uruk-hai and nothing else
The breach	"The fire of Orthanc", lit in the culvert by Orcs who crept in unseen	Gunpowder, carried to the culvert and fired in full view of the Wall
The caves	At the head of the Deep, behind the Wall	Entered from inside the Hornburg
The Gate	Rams of tree-trunks under a roof of shields	The same, in close order, like a Roman testudo
The relief	Erkenbrand and a thousand men on foot, with Gandalf, over the western ridge	Éomer and two thousand riders, with Gandalf, down the slope
The trees	A forest in the valley by morning. It ends the battle	In the extended edition only
The fortress	Stone, "with the hands of giants"	Built into the mountainside; it has been compared to a bunker of the Great War

Table 6.1: Book and film. The film as reported in references 7 and 8 and as viewed. References 1, 7, 8, 9.

6.2 How it was made

The battle was filmed mainly at night, for more than three months, in heavy rain that was natural when available and supplied when not. Parts of the fortress were built full size; other shots used a model at one quarter scale and, for the distant views, one at one eighty-fifth; and the ten thousand were largely arithmetic, generated by software written for the purpose.[7] The theatrical film runs to 179 minutes and the extended edition is longer.[8] The Department records that a night action of perhaps ten hours took a hundred nights to film, and that this is a ratio Professor Widdowson-Bligh declined to look at.

6.3 The Trebuchet Research Group

The Group was asked to assess the attackers' siege train and reported that there was none worth the name: ladders, grappling hooks, two tree-trunks and, in the film, engines for throwing the hooks. No engine capable of reducing a wall from a distance was brought by either account, which the Group regards as the enemy's central error and as typical. It observes that a twenty-foot wall is within the capability of the College Trebuchet, that ten thousand men can carry a great deal of timber, and that the wizard had a tower full of engineers. It has drafted a letter. Mr Stobbs has asked that it not be sent.

6.4 What the author thought

In June 1958 the author was sent the treatment for an earlier film, never made, and wrote a long letter of comment on it. Of the scene at the Hornburg he said he was afraid he did not find it 'entirely satisfactory', and then: 'Actually I myself should be inclined to cut it right out, if it cannot be made more coherent and a more significant part of the story.' If both the Ents and the Hornburg could not be treated at sufficient length, one should go, and 'it should be the Hornburg, which is incidental to the main story'.^[2] The film of 2002 gave it most of an hour. The Department, which has given it twenty-odd pages, is in no position to comment.

He had also a private reason for the ending. He wrote in 1955 that the walking trees came from his 'bitter disappointment and disgust from schooldays with the shabby use made in Shakespeare of the coming of Great Birnam wood to high Dunsinane hill', where the wood turns out to be soldiers carrying branches: 'I longed to devise a setting in which the trees might really march to war.'^[4] The battle of Helm's Deep is therefore decided by a schoolboy's complaint about Macbeth. The Major has asked whether this is normal in literature. The Department has said that it is.

7 THE MARKING

The Major marked the defence against his own three modules. His notes are given as written. Figure 7.1 is the occasion.



Figure 7.1: The Major marking the paper, with the book, the red pencil and the brew. The film is on the side table and has not been returned to the Library. The Department's drawing.

7.1 DE101: a rifle

There was none, and the Major accepts that there could not have been. He has marked the substitute. The garrison had bows, a wall to shoot from, and clefts in the stone to shoot through, and for the first half of the night that was enough: the book has the dead 'piled like shingle' before the Wall.[1] Then the arrows ran out, and the best archer in the fortress spent the second half of the battle with a knife. The Major's note: 'A rifle is a weapon and its ammunition. This was a weapon. No mark. Supply: see me.' He added, lower down, that Legolas would have been improved by an L1A1 and that he would not say the same of the dwarf.

7.2 DE102: a brew

The King says on arrival: 'We bring little provision, for we rode forth to open battle, not to a siege.' He is told that three parts of the people of Westfold are in the caves behind, with 'great store of food, and many beasts and their fodder'; and later, when the defence is driven into those caves, that it has 'good provision, it is said'.[1] There is therefore a brew at Helm's Deep, by any fair reading, and the reader who commissioned this paper has ruled that the caves were well provisioned and the mark is to be given. The author supports the ruling: Erkenbrand, in the week before, had made a point of seeing the fortress 'manned and well stored'.[14] The brew was not an accident. Somebody had laid it in. The Major has given the mark. His note: 'Present. In the rear, with the families. Correct place for the families. Wrong place for the kettle. One mark, and a word with the quartermaster.'

The Department observes that nobody in the book eats, drinks or lights a fire between dusk and dawn, in a chapter of seven and a half thousand words, and that the film is no better. At Rorke's Drift the water cart was left outside the wall and the garrison went out for it with the bayonet.[11] At Helm's Deep the provision was inside the perimeter, up the gorge, and nobody went. Mrs Partridge's ruling is in the Acknowledgements.

7.3 DE103: not moving

The defence gave up the Dike, which the Major allows, since a line that cannot be manned is not a line. It held the Wall until the Wall was removed from under it. It held the Burg all night with the Gate in ruins. On these the Major has written 'good' three times. At dawn the King, who had said in the night that he fretted in this prison and would rather have set a spear in rest, rode out through the Gate with his guard and cut a path to the Dike.[1] It worked. The Major's note: 'Worked because the relief arrived in the same quarter of an hour. Had it not, he is a thousand yards from his own front door with the enemy between. One mark, for the night. Nothing for the morning.'

The scholar David Harvey makes a point the Major approves of: that Aragorn, the better-known soldier, did not lead at Helm's Deep but deferred to the lordship of Théoden in his own lands, and was at the forefront of the fighting without taking the command.[13] The Major's note: 'Correct. It was the King's wall.'

7.4 The mark sheet

Module	Rorke's Drift, 1879	Helm's Deep, the book	Helm's Deep, the film
DE101 A rifle	1: Martini-Henry, 20,000 rounds	0: bows; arrows spent	0: bows; Elves; arrows not counted
DE102 A brew	1: water cart, fetched with the bayonet	1: provision in the caves, not fetched	1: the caves are nearer, inside the Burg
DE103 Not moving	1: did not move	1: until dawn	1: until dawn, then down a slope
Total	3 out of 3	2 out of 3	2 out of 3
Relieved?	In the morning	At dawn, on foot	At dawn, mounted
Decided by	The rifle	A forest	Cavalry, and in the extended edition a forest

Table 7.1: The Major's mark sheet. Rorke's Drift from the College's own paper. The Major has initialled each column. References 1, 7, 11.

The Major's finding. Two out of three holds a wall until morning. It does not win. The garrison was short of the one thing the maxim puts first, and what saved it came from outside: a thousand men on foot, an old man on a horse, and some trees. 'A defence that needs a wizard is not a defence. Pass, with reservations. The drain to be seen to.'

8 CONCLUSIONS

8.1 What the Department found

On the book's figures Helm's Deep was a defence at five to one behind a good wall, and should have been comfortable. It was not, for three reasons the Department can name. The garrison ran out of arrows, which is a matter of supply. It left the culvert unguarded and ungrated, which is a matter of works. And half of it was cavalry standing on a parapet, under a King who had come to fight in the open and said so. None of these is a failure of courage, of which the book records a great deal. They are failures of the kind the Department exists to notice: the quartermaster's, the Clerk of Works's, and the timetable's.

On the film's figures the defence was hopeless and held anyway, which is what films are for.

8.2 The maxim

The Department wanted a case with one of the three missing, to see which could be spared. It has its answer, and the answer is none of them, but in a particular order. Not moving kept the garrison alive. The brew, had anyone fetched it, would have kept it fit. The rifle is what would have made the relief unnecessary. A fixed defence with nothing to shoot is a queue.

Principal finding. Helm's Deep scores two out of three and was rescued by a forest. The Wall was twenty feet high and fell to its own drain; the arrows ran out before midnight; the provisions were a short walk away and nobody walked. The author thought the battle incidental and drew it on an exam script. The Major has passed it, with reservations, and would like the film back in the Library by Friday.

8.3 Recommendations

- A grating on the culvert, at both ends, and a man posted at it. Mr Stobbs will supply the drawing.
- Arrows on the scale of a siege, not of a ride: the Major suggests the Rorke's Drift figure, divided by whatever a bow is worth.
- A runner between the caves and the Wall, with a kettle.
- The Dike to be shortened, manned or filled in, as the Commandant says.
- The King to be told, tactfully, that the door is for coming in by.

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APPENDIX A - SAMPLE CALCULATIONS

A.1 The odds

Book: $10,000 / 2,000 = 5.0$ to 1 on the night. With the relief, Fonstad's 2,700 who fought: $10,000 / 2,700 = 3.7$ to 1. Film: $10,000 / 300 = 33.3$ to 1 before the Elves. Rorke's Drift: about $4,000 / 150 = 26.7$ to 1.

A.2 The front

Dike: a mile or more = 1,760 yards at the least. $2,000 \text{ men} / 1,760 = 1.1$ men to the yard. Wall: 250 feet = 83.3 yards. $2,000 / 83.3 = 24$ men to the yard, or 8 to the foot, which is not possible on a walk four men wide: four abreast on 250 feet at two feet a man is 500 men. The Wall could take a quarter of the garrison. The film's 300 would have filled it three deep.

A.3 The Wall

Four men abreast at about 2.5 feet a man, with a parapet: say 12 feet thick. 250 ft long x 20 ft high x 12 ft thick = 60,000 cubic feet. Limestone at about 160 lb to the cubic foot: 9.6 million lb, or about 4,300 tons. The thickness and the density are the Department's assumptions and are stated as such. The grating recommended in Chapter 5 weighs about a hundredweight.

A.4 The count

Gimli: 2, then 21, then 42: nineteen between the first count and the lull, twenty-one after it. Legolas: 20 at the least, then 24, then 41: four, then seventeen. Combined 83, or 0.83 per cent of the host. Difference in the final score: 1, or 1.2 per cent of the combined total. Dr Pemberton-Wolfe's margin of error for counting in the dark: not less than 5 per cent. Result: drawn.

A.5 The film

One night of battle, perhaps ten hours. More than three months of night filming: say 100 nights. Ratio of nights filmed to nights depicted: 100 to 1. Model scales 1/4 and 1/85: a 20-foot wall is 5 feet, or 2.8 inches.

APPENDIX B - DEPARTMENTAL NOTE

The Department of Defensive Engineering, Crown Works and Applied Stubbornness teaches the MEng in Defensive Engineering (Not Moving), KE01. From Michaelmas 2026 the second-year paper in DE103 will carry the question: 'A fortress has a wall twenty feet high, a garrison of two thousand, provisions in the rear and a stream. It is attacked at night by ten thousand. Identify the weakest point. You may not use the word wizard. Candidates are reminded not to draw on the script.'

The Department records, for Miss Catchpole, that this is the College's first paper in which nothing happened, and that it has been filed accordingly, under Fiction, in the South Atlantic Map Cupboard, which is the wrong ocean and the wrong world.

Persevera Etelred