

## Mordor (and Adjacent Lands)

TOLKIEN ONCE COMMENTED that Mordor corresponded more or less with the Mediterranean volcanic basin; and Mt. Doom, Stromboli.<sup>1</sup> At every turn the volcanism was suggested: Mordor, the Black Land; Ephel Dúath, mountains of black rock; Ered Lithui, ash mountains; Lithlad, ash plain; Gorgoroth, a volcanic plateau; and of course, Mt. Doom, an active volcano. The landscape was sinister, in keeping with its master. The lands outside the Ephel Dúath (the "outer fence") were noticeably nonvolcanic: North Ithilien, a quick-falling land filled with streams and grottoes; marshlands; moors of the Noman-lands; and even Dagorlad, the hard battle plain. They, too, added to the mystique. The lands in the northwest, near the Morannon where Sauron's power was strongest, fell under his power and were ruined; but Ithilien had only recently come under the evil influence and "kept still a dishevelled dryad loveliness."<sup>2</sup>

### *The Adjacent Lands*

The northern lands were swept by bitter eastern winds carrying fumes from the slag mounds and from the increasingly active Mt. Doom.<sup>3</sup> The climate became arid, and the landscape was slowly denuded of its growing things. As the lands became more barren, the little rain that fell ran off the surface of the nearby highlands and fed more and more water into the bracken swamps. The Dead Marshes grew until they had swallowed up the graves dug after the battle of the Last Alliance.<sup>4</sup>

As Frodo and Company left the Dead Marshes they climbed "long shallow slopes" of the "arid moors of the Noman-lands."<sup>5</sup> These were probably the receding end of a sedimentary layer that continued south through Ithilien, dipping away from the Ephel Dúath. The edge of the sediments had eroded back from the range, leaving the "long trenchlike valley between it and the outer buttresses of the mountains" over which the Hobbits peered toward the Morannon.<sup>6</sup>

As the mountain chain turned east, the crest fell away, and the valley widened into a plain — Dagorlad, scene of many battles — over which the Hobbits watched the Southrons enter the Black Gate. The plain was "stony," probably a *pediment* — the rubble of innumerable rocks washed out from the mountains, but never weathered due to the arid climate.<sup>7</sup>

The Hobbits turned south, following the path of the

road that was built between the crests of the western slopes and the eastern mountains. They passed into an increasingly pleasant land, with ample rainfall blown in on the moist southwest winds from the Bay of Belfalas.<sup>8</sup> There the water collected into numerous streams, which fell quickly down to Anduin, cutting steep gorges. Sometimes the streams found their way into a crevice and followed the weak fissures under the surface, reappearing far below in springs. One such "grot" was sealed to form Henneth Annûn.<sup>9</sup> Farther south the sediments must have continued to dip steeply, for after leaving Faramir's refuge the Hobbits stayed west of the road until they reached the gorge of the Morgulduin. Turning east, they climbed continually, and "if ever they went a little downward, always the further slope was longer and steeper." At last they struggled "onto a great *hog-back* of land"<sup>10</sup> — a sharp-crested ridge of resistant sediments with a backslope exceeding 45° and an even steeper scarp.<sup>11</sup> Beyond the Cross-roads lay the first "tumbled lands" of Mordor.<sup>12</sup>

### *Mordor*

The land of Sauron was composed of three major features: the mountains, which were "parts of one great wall"; the plateau of Gorgoroth; and the plains of Lithlad.<sup>13</sup> All the lands were arid and all were volcanic. Climbing the mountains, the Hobbits were surrounded by constant examples of the volcanic rock, which made the range predominantly black. Gabbros may have been thrust up; basalts extruded at lower levels or exposed in necks and dikes. All could have given the black appearance. Along the Winding Stair the Hobbits passed "tall piers and jagged pinnacles . . . great crevices and fissures . . .,"<sup>14</sup> These could have resulted from the columnar weathering of basalt.

Around them the peaks rose high above, but were apparently lower than those of the White and Misty Mountains. No mention was made of snow, although "forgotten winters had gnawed and carved the sunless stone."<sup>15</sup> Still, the peaks were probably quite high, for the top of the pass of Cirith Ungol was more than 3000 feet above the Cross-roads.<sup>16</sup> Possibly the ranges could have been folded and faulted as well. Faulting probably produced the trough between the Ephel Dúath and the Morgai through which the Hobbits crept north from Cirith Ungol. "The eastern faces of the Ephel Dúath were sheer," and the slopes of the Morgai were jumbled, notched, and jagged.<sup>17</sup> Transverse faults were apparent too, for Sam and Frodo drank from a gully that appeared to have been "cloven by some huge axe."<sup>18</sup>

At the north end of the Ephel Dúath, at its junction with the Ered Lithui, lay a deep circular valley ringed

by sheer black barren cliffs — Udûn. Tolkien described the vale as being encircled by arms sent out by the two ranges.<sup>19</sup> The symmetry of the valley suggests either a *caldera* or a *ring-dike*. A caldera is the remnant of a volcano that has exploded and/or collapsed. A ring-dike is a circular ridge of cooled igneous rock surrounding a deep valley. It occurs when a round block subsides into an underlying magma chamber and the fluid magma is forced up around the edges. Often the upwelling is intermittent, leaving passes such as the Isenmouthe and Cirith Gorgor.<sup>20</sup> Either process could have resulted in the feature shown by Tolkien, although compared with our world either would have been gigantic. Imagine the original height of a volcano with a forty-five-mile base. This colossus would have towered almost 29,000 feet! In contrast Mt. Doom was only seven miles across and stood 4500 feet.<sup>21</sup>

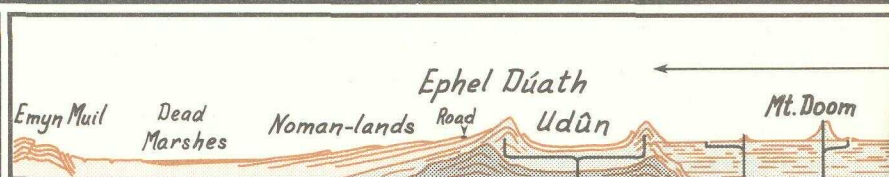
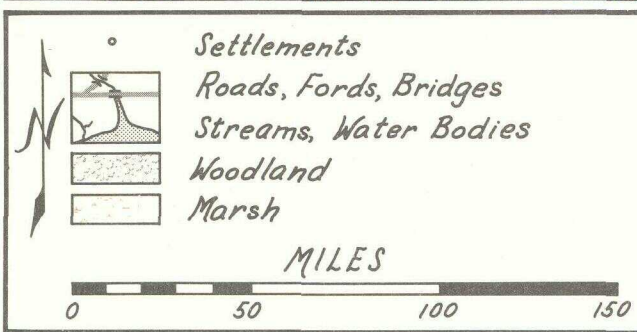
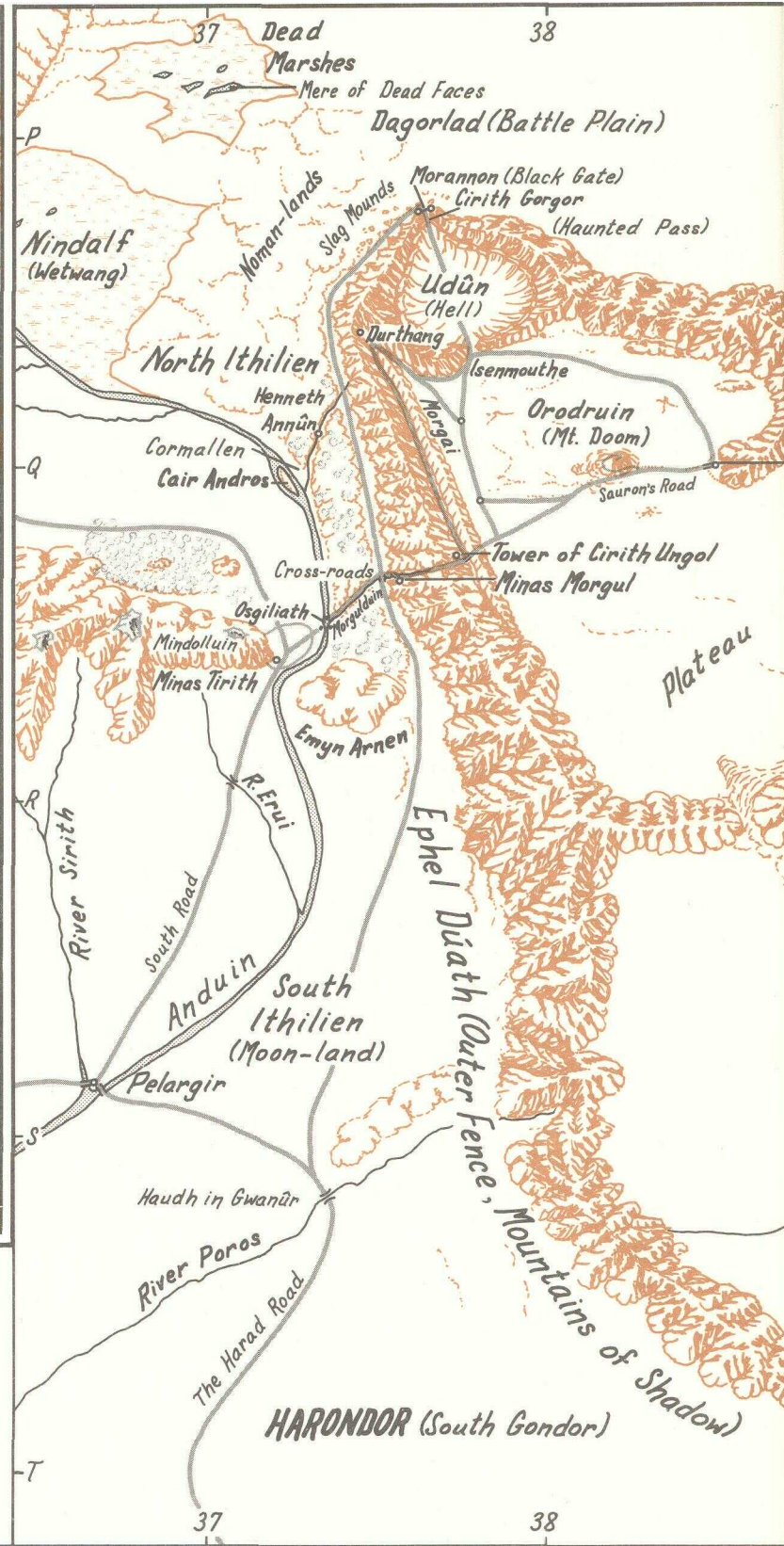
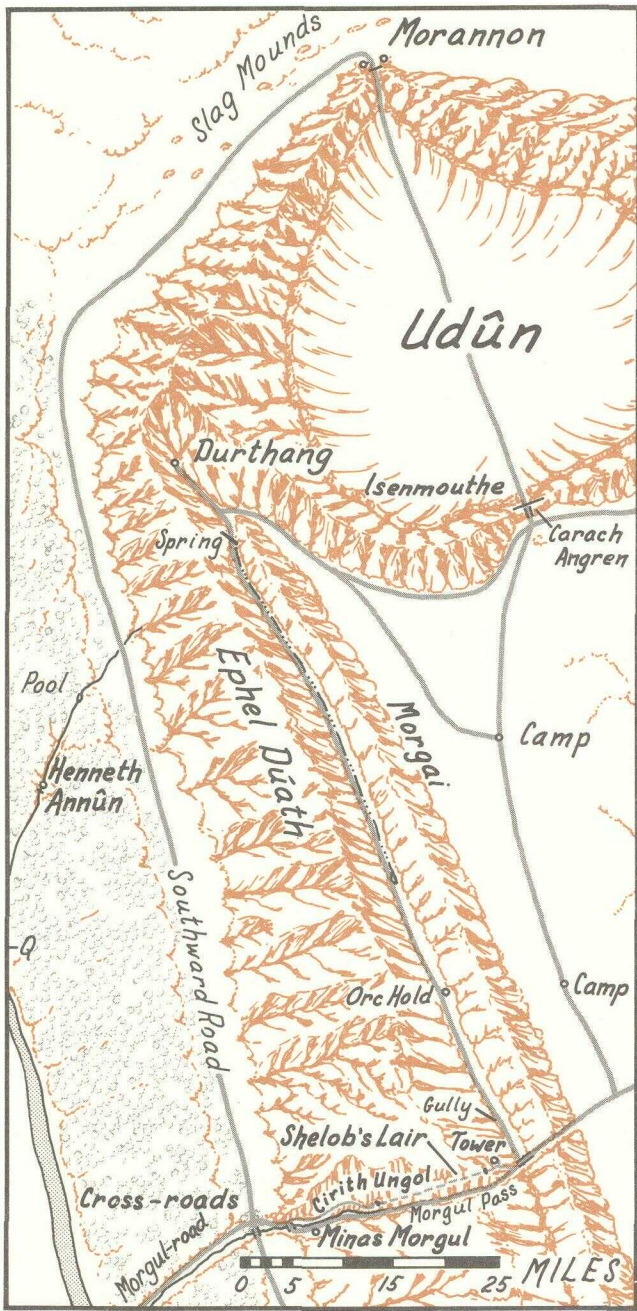
As the Hobbits turned east and south from Udûn, they faced the final path across Gorgoroth, a *lava plateau*.<sup>22</sup> Its level would have been higher than that of Udûn (a "deep dale") and the plain of Lithlad.<sup>23</sup> Tremendously thick layers of *flood basalts* were deposited through the years by slow upwelling from the many fissures that pocked the landscape. These were supplemented by flows from volcanoes, most of which had previously been active but had left only the skeletons — necks and dikes, low mounds, and in the southeast where erosion was more advanced, mesas and buttes. At the time of the quest, fissures were numerous, and the remnants of activity gave the plateau its rugged and evil appearance;<sup>24</sup> yet none was more imposing than the smoking peak at the very heart — Mt. Doom.

The plateau was barren, and had all Mordor been of that formation Sauron would have had little to feed his countless troops; but conditions were somewhat better in Lithlad — the ash plain. There the flows of more solid material were apparently less, or were mostly eroded. If the rock were highly weathered, the resulting soil would have been quite fertile. In the semi-arid climate, water was in short supply, for the bitter Sea of Nurnen (with its interior drainage) was salty.<sup>25</sup> Still, a recent deposition of ash would have helped with conservation (for ash is a highly effective mulch, reducing evaporation),<sup>26</sup> allowing dry-land farming in the "great slave-worked fields."<sup>27</sup>

Originally, the geography of Mordor was rather different, notably in the northwest. Gorgoroth was present from the beginning, but extended almost to the Sea of Nurnen, and only the eastern ridge with Barad-dûr at the end was shown.<sup>28</sup> The Gap of Gorgoroth, which eventually was blocked by the fortress of the Morannon, was once the site of Cirith Ungol.<sup>29</sup> The Vale of Udûn and the Isenmouthe, the ridge of the Morgai, and the eastern and western ranges separating

Gorgoroth from Lithlad were all absent until late in the story.<sup>30</sup> The near-encirclement of Gorgoroth and addition of Nurn to its south on *The Lord of the Rings* map left Lithlad in its original placement — east of Gorgoroth, south of the Ash Mountains.<sup>31</sup> Even the southern Ephel Duath were changed, originally bulging in two arcs nearly 150 miles wide toward Harad, and narrow only at the Nargil Pass, at the source of the southern river feeding into the Sea of Nurnen.<sup>32</sup>









MORDOR Cross Section Left: WEST-EAST Cross Section Right: NORTHWEST-SOUTHEAST

