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Re-reading the Map of Middle-earth: Fan Cartography's Engagement with Tolkien's Legendarium

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Introduction

In Chapter 1 of *The Hobbit*, we learn of our protagonist Bilbo Baggins that “He loved maps, and in his hall there hung a large one of the Country Round with all his favourite walks marked on it in red ink” (Tolkien 1966, p. 32-33). Some decades later, Bilbo's distant cousin Pippin laments his failure to have fully consulted the maps available in Rivendell before the Fellowship departed on its long journey (Tolkien 1965a, p. 370).

From a handful of references such as these, we know that cartography existed in Middle-earth, and indeed that it was considered a perfectly ordinary and sensible thing to look at a map to find one's way. This makes Middle-earth notably different from most pre-modern societies in our world, where maps were rare and poorly understood by the average person (Harley and Woodward 1987, Wood 1993). Yet we are told very little about these maps in Middle-earth. What did they look like? Who drew them? How did the peoples of Middle-earth translate their world onto the cartographic page?

These questions about cartography in Middle-earth are given greater significance by the salience, for readers of the books and for the development of the larger genre of fantasy literature, of the maps drawn by the author and his son Christopher. A fold-out map of northwestern Middle-earth, expanding on the elder Tolkien's map of Wilderland in *The Hobbit*, was included in the 1954 first edition of *The Fellowship of the Ring*. A similar map has accompanied every subsequent edition, and official maps have been published as stand-alone products (Tolkien and Baynes 1970, Sibley 2003). Maps had long been a common addition to stories about journeys in far-off places – in the accounts of travelers like William Dampier or James Cook (and Jonathan Swift's parody thereof in *Gulliver's Travels*), in works describing invented lands such as *Treasure Island* and L. Frank Baum's Oz books, and illustrated editions of the Bible. But the younger Tolkien's maps in *The Lord of the Rings* made maps an iconic – even clichéd – component of the fantasy genre, on a par with elves, ancient swords, and dark lords (Ekman 2013, Jones 2006).

This paper aims to highlight the curious gap between the importance of the map of Middle-earth and its lack of integration into the secondary world through examinations both of Tolkien's own writings, and of fan cartography. While fans no doubt drew their own maps of Middle-earth and lands beyond ever since the books were published (as did the present author during their childhood in the 1980s and 90s), the rise of the internet has enabled fan cartography to be widely shared. Examination of fan works can give us insight into the ways that readers are engaging with the text, as well as about the assumptions about the world they bring to bear in their engagement (Pugh 2005, Hellekson and Busse 2014). This paper argues that maps of Middle-earth illustrate our tendency to treat maps as

objective representations of geographical fact, rather than texts constructed by particular authors for particular purposes.

Critical Cartography

In this paper, I draw on the scholarly tradition of critical cartography. Building on techniques of deconstruction developed among literary scholars, critical cartographers insist that we must view maps as “texts” drawn by particular people, with particular agendas, in particular socio-cultural contexts, rather than as repositories of objective facts or mirrors of nature (Crampton and Krygier 2006, Edney 1993, Harley 2001, Pickles 2004, Wood 1993, for applications to literary maps see Bushell 2012, Pond 2011). Even when a map contains no outright falsehoods, it pays to remember that a variety of choices – of content, of scale, of projection, of symbology, of generalization – go into making a map, and that the map would give us a very different impression of the territory if those choices were made differently (Krygier and Wood 2016, Monmonier 1996). As stated by J.B. Harley in his seminal article “Deconstructing the map,”

In particular, we often tend to work from the premise that mappers engage in an unquestionably 'scientific' or 'objective' form of knowledge creation. ... We begin to learn that cartographic facts are only facts within a specific cultural perspective. We start to understand how maps, like art, far from being 'a transparent opening to the world,' are but 'a particular human way of looking at the world.' (Harley 1989).

As far back as 1965, coincidentally just as the *The Lord of the Rings* was experiencing a wave of popularity, geographer Jan Broek observed in his survey of the discipline:

By its nature the map is a positive statement. In writing about a topic one can tell the reader of one's doubts and convictions and present conclusions with the necessary “buts” and “ifs.” The cartographer has much less leeway. Even if he has cautioned by words or symbols that some of his data are less reliable than others, the map user is rarely proficient enough to appreciate these warning signs, and considers the map as a precise portrayal of reality. Like a poster, the immediacy of the picture can serve evil as well as good purposes. (Broek 1965, p. 65)

It is Broek's particular observation that motivates this paper. Broek suggests that, while both written texts and maps are in need of critical reading, maps are by their nature more resistant to it, more likely to pass themselves off as unmediated fact. Users of maps tend to assume their objectivity even when the area being mapped is fictional (Cooper and Priestnall 2011).

Tolkien's works, and fan engagement with them, provide a fertile ground for examining Broek's observation precisely because of how salient a critical approach to the written texts has become. We can compare the treatment of the text and the map to show the differences in how they are constructed and received. And we can look at how Middle-earth is *re-mapped* by fans in comparison to how its stories are re-told. Critical cartographers' interest in breaking down the authority of the map leads frequently to calls to democratize mapping, by presenting alternative ways of looking at the same geographical data and expanding access to mapping technology so that individuals can re-map their world, instead of being dependent on professional cartographers (Crampton 2001, Crampton and Krygier 2006, Krygier and Wood 2016, Monmonier 1996). Fan cartography of a fictional place is one way in which this democratization might occur, in the same way that fan fiction democratizes the text (Pugh 2006, Hellekson and Busse 2014).

Historiocanon

In her studies of Tolkien fan fiction, Dawn Walls Thumma proposes the useful concept of “historiocanon.” As she describes it,

Historiocanon is the process by which some authors challenge the texts and develop interpretations that do not take the texts at face value. Historiocanon justifies deviating from the texts where historiographical analysis causes concern about authorial bias or inaccuracy. (Walls Thumma 2008)

In other words, fans who take a historiocanonical approach to Tolkien's texts treat the canon not as a set of facts *about* Middle-earth, but as a set of historical documents *from* Middle-earth, which can be interpreted critically in the same way that we might reinterpret a real-world historical text.

Tolkien's approach to writing his legendarium is particularly inviting to a historiocanonical perspective. Tolkien explicitly presents *The Hobbit* and *The Lord of the Rings* as his translations of in-world texts, and provides a detailed textual history tracing the published books back through copies of the Red Book of Westmarch to Bilbo and Frodo's memoirs. *The Silmarillion* is likewise attributed to Elvish scholars such as Rúmil and Pengolodh, and Christopher states that he nearly followed up on one of his father's suggestions of presenting the published *Silmarillion* as a compendium of those Elvish works prepared by Bilbo in Rivendell (Tolkien 1983). Several authors have explored the resulting biases in the texts, such as *The Silmarillion's* unfavorable portrayal of the sons of Fëanor due to being written by a resident of Gondolin (Lewis 1995, Walls Thumma 2016).

Such explicit indications of textual history create grist for fans to assert that

the story as we receive it is not the whole story, and indeed may be a misleading presentation. This approach has been embraced by many creators of fan works that challenge the surface interpretation of Tolkien's texts. Tumblr user *misbehavingmaiar* captures the feelings of many fans in writing "I guess what I'm saying is, when you see me furiously typing screeds about colonialism and competent antagonists and elven propaganda while shoving the book into my flaming maw and bellowing, know that it's because it is my favorite book, and that is how I express gratitude" (*misbehavingmaiar* 2017). On the other side of the coin, fellow Tumblr user *vardasvapor* complains about the prevalence of historiocanonical flights of fancy, saying "my loathing of agenda-driven 'canon events were false narrative' headcanons (or snide just-an-idea-buts) is at least 50x more blindingly strong than literally any other tolkien discourse in existence" (*vardasvapor* 2018).

Walls Thumma's research is able to put some numbers to the tendency of Tolkien fans to reinterpret the source texts. In a survey of fan fiction writers, she found that around 50% agreed with statements like "Writing fan fiction lets me challenge Tolkien's worldview," and "Writing fan fiction lets me criticize Tolkien's world," and a similar number disagreed that "When writing fan fiction, it is important to me to stick to the facts that Tolkien gave in his books." (Walls Thumma 2016).

While Tolkien's statements about the origins of the texts of his works help to encourage historiocanonical thinking among fans, similar grist is not given on the cartographic front. We might assume that the maps in his works are meant to be based on originals found in the same source texts as the stories, but no specific indications are given on the maps themselves, or in accompanying materials, of their origins. No great cartographers stand beside Rûmil, Pengolodh, and the Bagginses. No explicit indication is given of when a map was prepared, or what information the cartographer had at their disposal.

One notable exception which will no doubt have occurred to many readers of this paper is Thrór's map from *The Hobbit* (Tolkien 1966, p. 10-11). While the larger map of Wilderland on the following pages is given no further context, Thrór's map illustrates all of the characteristics that I have been highlighting as present in Tolkien's texts but absent from his maps. We are given a specific map-maker, a time at which it was made, and even some cultural context in the form of the observation that Dwarvish maps (unlike most modern maps, as well as all other maps published with Tolkien's works) place east at the top. Of all of the maps in Tolkien's works, Thrór's map adopts the most elements from real medieval (especially Anglo-Saxon) maps (Porck 2012). Moreover, the characters actually encounter this very map in the course of the story, using it to guide their sneaking entrance into the Smaug-occupied halls of the mountain.

We can thereby take Thrór's map, at first cut, as the exception that proves the

rule. Seeing all of these features present in this map, as they are in the written text, highlights their absence from the other maps in Tolkien's legendarium – the aforementioned map of Wilderland, the general map of northwestern Middle-earth (Tolkien 1965a) and its descendants (Tolkien and Baynes 1970, Sibley 2003), the topographic map of Gondor and Mordor (Tolkien 1965c), the map of Beleriand and its smaller cousin in “Of Beleriand and its Realms” (Tolkien 1977), the map of Númenor (Tolkien 1980), and even the sketches of the world from the “Ambarkanta” (Tolkien 1986).

Another aspect of note about Thrór's map is seen when we examine how the map is actually used in the story. The most important thing about the map is not its geographical aspect. Indeed, the map is a somewhat incomplete guide when it is first introduced by Gandalf. The map becomes more important when, at Rivendell, the moon runes are discovered upon it. The moon runes add not cartographic detail on the map itself, but an auxiliary *text* giving a verbal description of how to enter the mountain. It is symbolically important that this information is contained on a map, but in practical terms Bilbo and the Dwarves could have gotten into the mountain as easily on the basis of “Thrór's letter” as with Thrór's map. From this point of view, Tolkien's inclusion of Thrór's map as an illustration in *The Hobbit* has more in common with his drawing of the west gate of Moria and his desire to include a page of the Book of Mazarbul (see Tolkien 1988) than it does with the other maps in the books.

Tolkien on Maps: Docemes versus Paratexts

In his book *Here Be Dragons*, Stefan Ekman develops the contrast between a doceme and a paratext (Ekman 2013, see also Bushell 2012, Pavlik 2010, Sundmark 2014). A doceme is an item (such as a map) that is not part of the main story, but exists within the same world as the story. Thrór's map, as described above, would qualify as a doceme, as would most of the appendices to *The Return of the King*, which are presented as coming from Gondorian and Shire records.

In contrast, a paratext stands outside the text and its world as an aid to the reader in making the translation from our world to the world of the story. The “Concerning Hobbits” preface to *The Fellowship of the Ring* and the pronunciation guide in Appendix E would be non-cartographic paratexts, useful to the modern reader but meaningless if included in the actual Red Book. The maps aside from Thrór's Map seem to be intended by Tolkien primarily as paratexts of this sort. Something of this attitude can be gleaned from his discussion in his letters to his publishers of the necessity of producing such maps: “The Maps. I am stumped. Indeed in a panic. They are essential; and urgent; but I just cannot get them done. ... I feel that the maps ought to be done properly. ... Even at a little cost there should be picturesque maps, providing more than a mere index to what

is said in the text.” (Letter 141, to Allen and Unwin). In Letter 144, he apologizes to Naomi Mitchison, who read a page-proof of *The Lord of the Rings*, “I am sorry about the Geography. It must have been dreadfully difficult without a map or maps.” He then promises to enclose some of his own draft maps to aid her in reading (Tolkien 2000).

The maps of Middle-earth serve paratextual functions on at least two levels. First is the purely practical, helping the reader to follow the characters' journeys and keep track of where things in the story are located relative to each other. Second, the maps encourage immersion in the story. It is significant that the Tolkiens employed a pseudo-medieval style (“picturesque,” in the author's words quoted above), with orthogonal views of mountain peaks and trees, to give a feeling for the pseudo-medieval period in which the story is set (Ekman 2013, Pavlik 2010). As Shippey says, “Tolkien thought, and very probably thought rightly, that all this effort [to produce maps of Middle-earth for the books] was *not* wasted. The maps and the names give Middle-earth that air of solidity and extent both in space and time which its successors so conspicuously lack” (Shippey 1982). Nevertheless, the actual use of maps by readers of fantasy works is an area ripe for further empirical research (see e.g. Crawford and Day 1982).

Of his own relationship to maps, Tolkien famously said in Letter 137, “for of course in such a story one cannot make a map for the narrative, but must first make a map and make the narrative agree.” (see also a similar sentiment in Letter 144) (Tolkien 2000). Yet readers of the History of Middle-earth series know that this is to a large degree just the opposite of Tolkien's actual practice. In editing his father's papers, Christopher encountered great difficulties in sorting out the different layers of maps pasted together in the working document he used while writing *The Lord of the Rings*. The geography of Middle-earth – and in particular the region centered around the lower Anduin – changed repeatedly in response to the demands of the story (Tolkien 1989).

Yet whether the map came first or the story came first, Tolkien's statements and practice agree in treating the map as a repository of objective geography. Despite its pseudo-medieval aesthetic, the map was never conceived as an artifact from within Middle-earth. Instead, it was a method of tracking the facts of the world's geography in order to ensure that the story was plausible. The map of northwestern Middle-earth – like the map of Beleriand before it – was intended strictly as a paratext, first for the author and then (redrafted by Christopher) for the reader.

Another demonstration of Tolkien's attitude toward his own maps comes from his abortive attempt in the 1960s to re-write *The Hobbit* in a style and tone more consistent with *The Lord of the Rings*. One major sticking point that contributed to his abandonment of the project was the difficulty of making the travels of Bilbo and the Dwarves from Hobbiton to Rivendell match up with the map in *The Lord*

of the Rings (Rateliff 2011).

This paratextual attitude toward mapping Middle-earth is continued by Karen Wynn Fonstad in her magisterial *Atlas of Middle-earth* (Fonstad 1992). Fonstad's approach rested on the assumption that every detail contained in Tolkien's works – both those in the texts and, crucially, those in the maps – are objective facts, and the task of the cartographer is to compile and reconcile them all. She devotes much attention to the problem that stumped Tolkien in his *Hobbit* revision, of making the journey of Thorin's company consistent with the published map's portrayal of Eriador. Another illustration of the lengths to which Fonstad takes this approach can be seen by examining the inset map of Tol Eressëa (Fonstad 1992, p. 38), which includes the Cottage of Lost Play – a concept mentioned in the earliest part of the framing story of *The Book of Lost Tales*, but never mentioned after (Tolkien 1983). Though it is entirely reasonable to assume Tolkien abandoned the idea, Fonstad insists on compiling it as a piece of geographical data, on the same map as all of the other geographical facts gleaned from the maps and texts. Thus, Fonstad gives us an atlas *of* Middle-earth, not an atlas *from* Middle-earth.

A similar heroic effort was made by Thomas Morwinsky, Stéphane Hœrlé, Gabriele Quaglia, Oliver Schick, and Christian Schröder in a series of articles for *Other Minds*, a magazine for players of the Middle-earth Role Playing game (Morwinsky et al. 2007, 2008). They aimed to integrate all of the geographical facts from Tolkien's writings, along with the extended map of Arda produced by Peter Fenlon in 1982 for the game. I call this effort “heroic” because of the deeply contradictory nature of the inputs, as Fenlon's map was drawn years before the publication of the “Ambarkanta” (Tolkien 1986) gave us any indication of Tolkien's own conception of the world beyond Christopher's map.

Fan Cartography of Middle-earth

While much attention has been given to fan fiction in Tolkien's legendarium, and some to fan art as well, no systematic studies have been done on fan cartography – the practice of fans drawing their own maps of Middle-earth. This is an area ripe for study, as hundreds of fan-produced maps have been drawn and shared with other fans over the last few decades.

No centralized repository for fan cartography exists parallel to the role of sites such as Archive Of Our Own, Fanfiction.net, or the Silmarillion Writers' Guild for fan fiction. To compile a database of fan maps for this project, I examined the following sources:

1. The website DeviantArt, where large amounts of fan art from a variety of fandoms are published (deviantart.com)
2. The Council of Elrond website, which has a gallery of fan and other maps from

2010 and earlier (councilofelrond.com)

3. General web searches for “Middle-earth map” and similar search terms

I examined maps that were wholly made by a fan artist (eliminating tracings and adaptations of published maps, such as Christopher Tolkien's maps or the map by Daniel Reeve done for Peter Jackson's films). For the purposes of this paper, I focused on maps which show all or most of the area encompassed by Christopher's map of northwestern Middle-earth in the Third Age (eliminating close-up maps or particular locations as well as maps attempting to envision the world beyond the areas visited in Tolkien's stories).

These search methods produced a collection of nearly 200 fan maps. With this database of fan maps in hand, I examined several points that could reveal historiocanonical thinking (or its absence) among fans. These points of examination are addressed in turn below.

Completionism and Thematic Mapping

The vast majority of fan maps in the sample hewed very closely to Christopher Tolkien's original in both content and artistic style – a pseudo-medieval presentation of the same places shown on the original map. Deletions occasionally occurred, usually in the interests of saving space in more crowded portions of the map. Additions were also occasionally made, nearly always to insert locations mentioned by Tolkien in the text or posthumous publications (such as labeling the forest of Eryn Vorn, first given a name in *Unfinished Tales*). This evidences a desire for completeness, to compile a “master map” containing all of the available geographical information in a single, self-consistent document along the lines of Fonstad's *Atlas*.

Within the boundaries of the area covered by Christopher's map, fan cartographers were very reluctant to add features not attested by the elder Tolkien. There is a dearth of what we might playfully call “geographical OCs,” after the “Original Characters” who populate fan fiction, filling in the social gaps left by the canonical stories. Thus, for example, the cities presumably inhabited by the people of Dorwinion, Khand, and Harad remain nearly absent from fan maps, despite the obvious inference that they must exist. A map of Rhovanion by SirInkman is an interesting exception, with a variety of cities and roads filled in in the space between Mirkwood and the Sea of Rhûn,¹ and likewise in a speculative Fourth Age map by laquia lasse.²

Nor are features copied from Christopher's map even given speculative names – we might search the fan map database in vain for a toponym to attach to the

1 . DeviantArt, 2015, <https://sirinkman.deviantart.com/art/Rhovanion-Middle-Earth-537627732>

2 . DeviantArt, 2009, <https://laiqua-lasse.deviantart.com/art/The-Great-Game-of-Middle-Earth-110942345>

river flowing through Forlindon, or for the mountains and forest which bracket the Sea of Rhûn. (Not considered here, as noted in the search criteria above, are a smaller group of fan maps which extend the map of Middle-earth *beyond* the boundaries mapped by Christopher, where creativity is of necessity given free rein in light of the extreme dearth of canonical information about the broader outlines of Arda.)

A small number of fan maps do give a slightly different spin on things by mapping out additional thematic information of a sort not usually included by Christopher (outside of the small political map of Beleriand included in “Of Beleriand and Its Realms”). The most common variety is the political map, streamlining the other information on the map in order to highlight political borders at various points in time. Route maps showing the journeys of particular characters or movements of armies over the land are also to be found, as are a handful of maps showing other thematic data such as climate or population density. The most comprehensive set of such maps is found in Fonstad's *Atlas*, but other fans have tried their hand at the same approach as well.

These thematic maps are united by the same completionist impulse described above. They take canonical geographical information – especially that contained in the appendices to *The Return of the King* – and put it in cartographic form. Their paratextual goal is to make it easier for us to absorb the facts about, for example, the extent of Gondor's territory under Hyarmendacil. How Hyarmendacil himself might have mapped his conquests, and how we might have used such maps to stake and legitimate his territorial claims, remains an unconsidered question (see Harley 2001, Pickles 2004, and Sparke 1998 for examples of such questions being asked about real-world empires' use of maps).

Orientation

As noted above, one of the notable bits of information we get about Thrór's map is Tolkien's description of Dwarvish map orientation: “On the Map the compass points are marked in runes, with East at the top, as usual in dwarf-maps, and so read clockwise: E(ast), S(outh), W(est), N(orth)” (Tolkien 1966). This east-up orientation is followed by Thrór's map, though not by the map of Wilderland. A similar, but less cartographically explicit, comment is made in Appendix E of *The Return of the King* regarding Elvish compass directions: These letters [of the Tengwar] commonly indicated the points W, S, E, N even in languages that used quite different terms. They were, in the West-lands, named in this order, beginning with and facing west...” (Tolkien 1965c). These references would seem to be grounds for fans to explore alternative orientations for maps of Middle-earth.

Nevertheless, fan maps were practically unanimous in using a north-up orientation, similar to the official maps by Christopher Tolkien, Pauline Baynes, and Daniel Reeve. Only a single map was uncovered which deviated from this orientation – an incomplete east-up Dwarvish map of Middle-earth, drawn by an artist going by “The Dwarrow Scholar.”³ It is notable that this map also used Cirth runes, rather than the Latin alphabet, for its labels.



Figure 1: An imagined Elvish map of northwestern Middle-earth. Map by author.

Excluded from the official database for this paper as a conflict of interest was the author's own west-up Elvish map, designed as a historiocanonical attempt to imagine the source map in the Red Book from which Tolkien drew the published map (Figure 1). When the author posted this map to Tumblr, it was greeted with

3 . Dwarrow Scholar, 2013. <https://dwarrowscholar.wordpress.com/2013/01/20/traditional-dwarven-map-of-middle-earth/>

expressions of astonishment from other fans, who had never considered changing the map orientation in this way.⁴

Straight Mountains

A common complaint about the cartography and geography of Middle-earth is that the mountain ranges are unnaturally straight. As stated by Alex Acks in a recent widely-shared article on tor.com, “when you throw in the near perpendicular north and south mountain ranges? Why are there corners? Mountains don’t do corners. And Mordor? Oh, I don’t even want to talk about Mordor. Tectonic plates don’t tend to collide at neat right angles, let alone in some configuration as to create a nearly perfect box of mountains in the middle of a continent” (Acks 2017).

It is notable that Acks and other critics see straight mountains on the map, and immediately infer straight mountains in the actual geography of Middle-earth. Commenters on Acks' article made a similar assumption even when trying to rebut his argument by pointing out instances of straight mountains in the real world. Looking at medieval and renaissance European maps – whose aesthetic the Tolkiens borrowed for the original maps of Middle-earth – it is extremely common for mountain ranges to be stylized as straight lines meeting at right angles (see maps in Harley and Woodward 1987). Their cartographers were concerned with giving a schematic diagram of how the world is put together, not with indicating the precise coordinates of each peak. The medieval analogy suggests that a historiocanonical approach to mapping Middle-earth might question the factual accuracy of the straight mountains. Perhaps the unnaturally straight mountains on Christopher's map are simply a convention used by the map-maker, not a geographical fact.

We can focus on Mordor, called out by Acks as the worst offender as far as unnatural mountain ranges go. Here, on fan map after fan map, the mountains are presented as straight and meeting at right angles. This can perhaps be somewhat excused by the fact that nearly all fan maps imitate the aforementioned medieval aesthetic. One might argue that fan cartographers are in effect (if not consciously) holding to the straight mountains convention, rather than implying any assumptions about the underlying geography. Nevertheless, the straight mountains remain even in works that use a different style to depict Middle-earth. For example, several fan maps created a sort of satellite image of Middle-earth, depicting areas as they might look photographed from above. In these maps, the mountains around Mordor (and elsewhere) remain just as straight.

It is worth noting two instances in which the mountains around Mordor were

⁴ . Tumblr, 2017. <https://mapsburgh.tumblr.com/post/162925229946/i-was-thinking-about-some-of-the-ideas-i-was>

altered to be less stylized in shape. One is a “Google map of Middle-earth” by Reddit user mbingrosby⁵. The other is from Fonstad's *Atlas of Middle-earth*. Notable among the changes is a significant rounding-off of the southwest corner made by the Ephel Duath. In both cases, it seems that adopting a more modern mapping style did lead the map-makers to reconsider the underlying geography and its representation.

The Forest of Rhûn

A third point we may examine to evaluate historiocanonical thinking among fan cartographers is the area around the Sea of Rhûn. This region is not visited by any of the characters in any of Tolkien's stories about Middle-earth. Rhûn receives only passing reference in the text, and no statement is made about the size or parameters of the inland sea. Moreover, no mention is made anywhere in Tolkien's writings of the forest depicted to the northeast of the sea, or the small mountain range to the southwest. We know of their existence only because they were included in Christopher's map (copied from features drawn on his father's working map). The earliest map re-uses the name “Neldoreth” for the forest, though this was dropped from the published versions (Tolkien 1989).

For a historiocanonically minded reader, Rhûn provides an excellent playground for rethinking the geography of Middle-earth. If we infer that our source maps come from the Shire and/or Gondor, then Rhûn is well outside of the likely knowledge of the map-maker. Similar locations on medieval and renaissance European maps show wild distortions and fictional places. For example, the Caspian Sea (located in a similar location relative to western European cartographers as the Sea of Rhûn is to Gondor and the Shire) is usually depicted in early maps as an ellipse stretched east to west, when in reality it is far longer in its north-south dimension (Harley and Woodward 1987).

Examining the fan maps in the database, however, we see a great deal of fidelity to the geographical details as represented on Christopher's map. The Sea of Rhûn is shown in more or less the same location, size, and shape. In nearly all cases, the unnamed mountain range and forest are shown, with the same location and size as on the original map. It is clear that the fan cartographers are treating Christopher's map of Rhûn as data about the geography of Middle-earth, not as an in-world document whose accuracy may be questioned.

Nevertheless, in looking at the Sea of Rhûn in fan maps there is one small bit of historiocanon that crops up repeatedly. The fan cartographers all follow the published maps in showing the Sea of Rhûn as having four sharp bays at the four

5 . <http://imgur.com/gallery/yB3YDjW/new>

corners, with the River Celduin flowing into the northwestern one. About a fifth of the fan maps introduce additional, unnamed rivers entering the sea at one or more of the other points. They are thus taking the mouth of the Celduin as a suggestion of other features that were left off of Christopher's map. Even if the motivation is primarily aesthetic (giving material with which to fill in an otherwise fairly empty sector of the map), to justify adding these rivers one must entertain the historiocanonical thought that the maker of the published map left off notable rivers either due to ignorance or because they weren't relevant to the story of *The Lord of the Rings*.

Projections

In mapping an area as large as that covered by the map of northwestern Middle-earth, one is forced to confront the issue of projection. By the end of the Third Age, Middle-earth is a round world, and its status as the prehistory of our Earth suggests we are dealing with a planet of the same size. A round planet cannot be simply represented on a flat map – locations must be projected into a new coordinate system. In doing so, certain desirable geographical qualities (such as correct relative sizes of areas) can only be preserved at the expense of distorting others (such as correct compass angles). A cartographer must make a careful decision as to which projection to use in mapping a subcontinental or larger area. Different projections have different technical merits as well as different ideological implications in how they portray the world (Crampton 1992, Monmonier 1996). This means that we ought to see significant differences in the appearance of Middle-earth when mapped using different projections.

Projections were clearly not on either Tolkien's mind in preparing the original maps for *The Lord of the Rings*. Fonstad captures the resulting problems, and the frustrations they create for her in re-mapping Middle-earth for her atlas:

The maps of Middle-earth included in *The Lord of the Rings* showed both a north arrow and a bar scale. This means that both distance and direction were considered to be accurate – an impossibility in mapping a round world. ... Tolkien's world, at least after the Change, was round; yet it appears to have been mapped as flat. The only reasonable solution is to map his maps – treating his round world as if it were flat. (Fonstad 1992)

To illustrate the significance of projections, I took Christopher's original map and brought it into G.Projector, a program that can easily alter the projection of a map.⁶ I made the simplifying assumption that the original map was in the equirectangular projection – a projection in which one degree of latitude or

⁶ . <https://www.giss.nasa.gov/tools/gprojector/>

longitude is the same size everywhere on earth, a common default format for geographical data (note that if the map is equirectangular, then both the scale *and* any non-cardinal directions on the compass rose are inaccurate). I then re-projected the map into several common projections.⁷ Two of them are shown in Figure 2. First is the Mercator projection. While frequently misused as a general world map because it inflates the sizes of polar regions, the Mercator is useful for sailors as it allows one to read compass angles accurately, meaning that a map of this sort might be found among the people of the Grey Havens, Pelargir, or Umbar. Second is an Albers Equal-Area projection, which as the name suggests keeps the areas of things in correct proportion to each other. This is an extremely common projection for mapping mid-latitude regions like Europe or the United States.

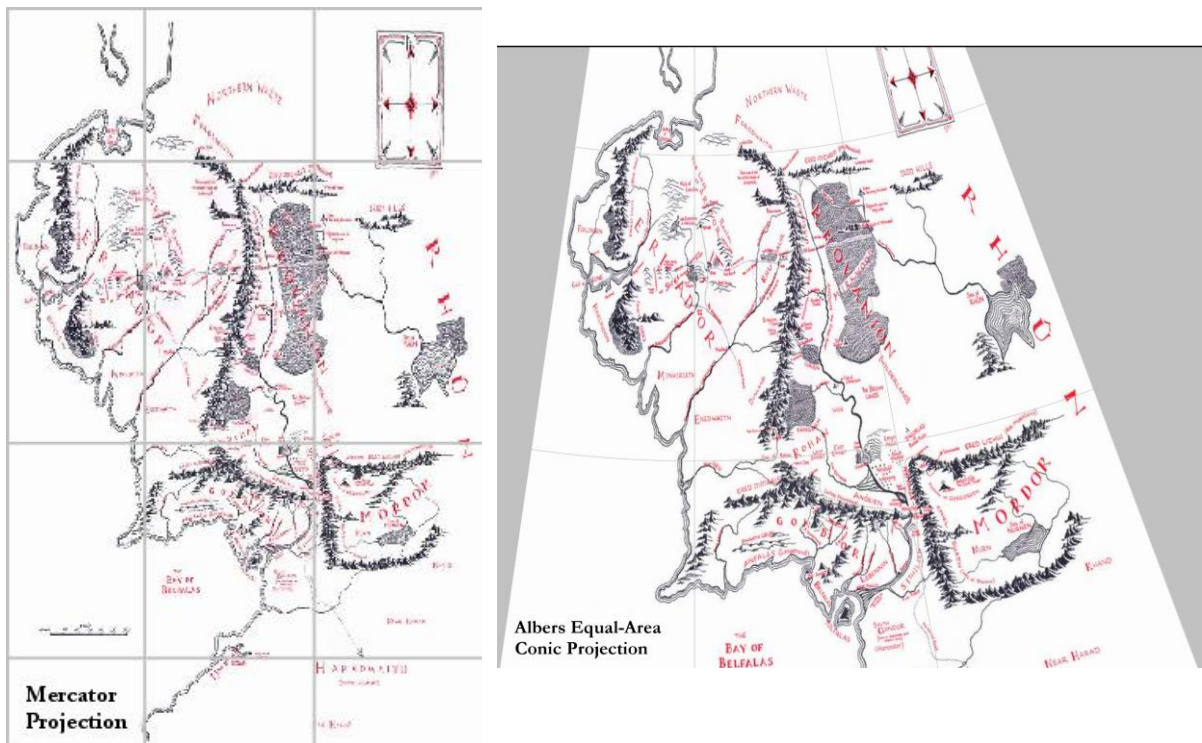


Figure 2. Christopher Tolkien's map of northwestern Middle-earth, treated as equirectangular and re-projected into Mercator and Albers equal-area projections.

Among the fan maps in the database, not a single one gave explicit attention

⁷ . For a fuller treatment of this re-projection project, see “The consequences of making Middle-earth round,” <https://mapsburgh.tumblr.com/post/112701741801/the-consequences-of-making-middle-earth-round>

to projection. Nevertheless, the proportions of the maps varied considerably. A more detailed analysis could use “rubber sheet” techniques to evaluate the precise stretching and squishing that would be required to match up a given fan map to the original, thus allowing us to determine its implied projection. For the purposes of this paper, a simpler approach was chosen to give an overview of the changes in the proportions of Middle-earth on different fan maps.

Three distances were identified on Christopher's original map, which all measure exactly 800 miles by the provided scale, and which are due north-south or east-west according to the provided compass rose. They are: A) From Laketown to the west shore of Lake Evendim, B) from Erebor to the point at which the eastern spur connects to the Ephel Duath, and C) from Mount Doom to the west shore of Gondor.⁸ The distance of each of these was measured on a sample of 50 fan maps from DeviantArt, and ratios between them were then calculated.

On Christopher's map, the ratio between any two of the distances given above would be 1, as they were chosen for being the same size on that map. The average ratio across the fan maps was quite similar, as shown in Table 1. However, the range of ratios was quite striking. For each pair of distances, some maps showed the first much smaller than the second, and others showed it much larger. This demonstrates that fan cartographers feel free to alter these proportions, implicitly re-projecting the map, even if they are not doing so on the basis of any concrete historiocanonical theory about the source materials' projection.

	A:B	A:C	B:C
Mean	0.96	1.03	1.09
Maximum	1.20	1.69	1.75
Minimum	0.62	0.65	0.84

Table 1: Ratios of distances on fan maps.

Conclusion

⁸ . A reviewer pointed out an interesting practice problem included in Steven Weinberg's textbook *Gravitation and cosmology* (Weinberg 1972). The author presents a sketch map of Middle-earth with distances among Hobbiton, Erebor, Dagorlad, and the City of the Corsairs. The reader is challenged to use these distances to calculate whether Middle-earth is round or flat, as an exercise in understanding non-Euclidean geometry. Of course Weinberg's distances are invented for the purposes of the mathematical exercise, as there is no independent source for the exact distances given, and measuring distances on Christopher's flat map with the provided constant scale would naturally add up to a flat world without telling us anything about the underlying geography.

It would be unfair to simply criticize Tolkien for not putting more worldbuilding detail into my own personal hobbyhorse, when he invested so much effort in realizing other aspects of his world. Nevertheless, the cartographic lacuna in our knowledge of Middle-earth speaks to the larger question of how maps are understood and used, even when depicting imaginary lands. Tolkien did just what Jan Broek would warn map readers about: he treated his maps as objective mirrors of geography, rather than as constructed texts about geography. The fan community has made a parallel oversight even at the same time that they turned their critical eyes upon the content of Tolkien's texts. Adopting a critical cartography perspective opens up new vistas for both scholars and fans of Tolkien's legendarium.

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