

The Colors of the Rainbow in Snorri's *Edda*

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In the second part of his Edda, the Gylfaginning, Snorri Sturluson gives a systematic account of Norse mythology from the creation of the world to its end. The story is presented in the form of a dialogue, which involves three kings, who answer questions put to them by a certain King Gylfi of Sweden, who wishes to find out about the Æsir.

One of Gylfi's many questions concerns the way to heaven from earth. It is explained to him that Bifröst, the rainbow, is what links earth and heaven, that is has three colors, and that one of the colors is red (rauðr). The two other colors are not named in Snorri's Edda nor are they specified anywhere else in Old Norse-Icelandic literature with the exception of Hauksbók, which describes the appearance of the rainbow in rather unclear terms.

The article seeks to determine through an examination of Old Norse-Icelandic color terminology and an analysis of studies of the rainbow by medieval writers what Snorri might have had the three kings tell Gylfi, if Gylfi had asked for an identification of the other two colors of the rainbow. It is demonstrated that Snorri's idea of the three colors of the rainbow is most likely derived ultimately from Aristotle's Meteorologica and that the two unidentified colors in the Edda are probably green (grœnn) and blue (blár).

1

In the second part of his *Edda*, the *Gylfaginning*, Snorri Sturluson (1179–1241) gives a systematic account of Norse mythology from the creation of the world to its end. The story is presented in the form of a dialogue, which involves three kings, who answer questions put to them by a certain King Gylfi of Sweden, who wishes to find out about the Æsir, since all things seem to work according to their will. Accordingly, he sets off disguised as a tramp by the name of Gangleri. However, the Æsir see him approaching and devise an illusion for him. When he arrives in the Æsir's land, he sees an enormous hall, at one end of which there are three thrones occupied by three kings, Hár (High), Jafnhár (Just-as-high), and Þriði (Third). These

three rulers are prepared to answer Gylfi's questions, and they give him a complete account of the history of the world, from the emergence of the first giant to the apocalyptic events of Ragnarøkkr (Twilight of the Powers). After they have explained how a new world will emerge after Ragnarøkkr, the three kings refuse to answer more questions, and Gylfi then realizes that it has all been an illusion, because both they and the hall disappear, and he is left standing out on open ground.

One of Gylfi's many questions concerns the way to heaven from earth. The question is not met with approval, because Hár supposedly laughs at him and says: "Eigi er nú fróðliga spurt" (15.5; That is not an intelligent question [15.22–23]).¹ Nonetheless, Hár explains that Bifröst, the rainbow, is what links earth and heaven: "Er þér eigi sagt þat at guðin gerðu brú til himins af jörðu ok heitir Bifröst? Hana muntu sét hafa, kann vera at þat kallir þú regnboga" (15.5–7; Has no one ever told you that the gods built a bridge to heaven from earth called Bifrost? You must have seen it, maybe it is what you call the rainbow [15.23–25]). He proceeds to tell that the rainbow bridge has three colors ("Hon er með þrim litum" [15.7–8]), that it is very strong, but that it will break when Muspell's sons attack. At this point, however, Hár is temporarily distracted from his description by Gylfi's question about the activities of Alföðr (Allfather) when Ásgarðr (Home of the Æsir) was built. This leads first to a lengthy account of the creation of dwarfs and then to a description of the world-ash Yggdrasill, and it is not until that point that the topic of the rainbow again comes up, this time when Jafnhár explains that to get to their court beneath the third root of Yggdrasill the Æsir ride over Bifröst (which, he says, is also called "Ásbrú" [17.32; As-bridge]) but that Þórr walks to the court and wades rivers, "þvíat Ásbrú brenn ǫll loga" (18.4–5; for As-bridge burns all with flame [18.6–7]). Gylfi is clearly stunned by this information, because he promptly asks: "Brenn eldr yfir Bifröst?" (18.7; Does fire burn over Bifrost? [18.8]). The reply comes from Hár, who is evidently the expert on matters pertaining to the rainbow: "Þat er þú sér rautt í boganum er eldr brennandi. Upp á himin mundu ganga hrímþursar ok bergrisar ef ǫllum væri fært á Bifröst þeim er fara vilja" (18.8–10; The red you see in the rainbow is burning fire. The frost-giants and mountain-giants would go up into heaven if Bifrost was crossable by everyone that wanted to go [18.9–11]).

With his reply, Hár has specified one of the three colors of the rainbow: red (*raudr*). The two other colors are not named in Snorri's *Edda*. Only in *Hauksbók* are the colors mentioned, but in rather unclear terms, and here, too, they are said to be three: "A regn boga ero þrir lítir. vatnz lítr oc ældz lítr oc bræmo steins loga litr" (174.31–32).² Nowhere else in Old Norse-Icelandic literature are the colors specified. To be sure, the rainbow is mentioned in several works, including *Blasíuss saga* (ed. Unger [1877], 1, 268.6), *Elucidarius* (ed. Firchow and Grimstad [1989], 54.4), *Stjórn* (ed. Unger [1862], 62.21), *Veraldar saga* (ed. Jakob Benediktsson [1944], 13.7), and Óláfr Þórðarson hvítaskáld's *Hrynhenda* (ed. Finnur Jónsson [1912], 2, 108.7). But the appearance of the rainbow is nowhere discussed, which is peculiar considering its role in Norse mythology as the mighty bridge linking heaven and

earth and in Christian belief as the covenant between God and all living creatures (Genesis 9: 12–14).³ It is the purpose of this essay to determine through an examination of Old Norse-Icelandic color terminology and an analysis of studies of the rainbow by medieval writers what Snorri might have had Hár tell Gylfi, if Gylfi had asked for an identification of the other two colors of the rainbow.

2

Old Norse-Icelandic color terminology is extensive and falls naturally into two parts: basic color terms and secondary color terms. The terms in the former category are, according to Berlin and Kay's (1969) definition, characterized by being (1) monolexemic and their meanings not predictable from the meaning of their parts, (2) not subsumed under another color term, (3) not restricted to a narrow class of objects, and (4) of frequent use and psychologically salient for informants.⁴ Of the total of eleven basic color terms that are identified and located in the color space where most speakers of Germanic languages place typical examples of black, white, red, green, yellow, blue, brown, purple, pink, orange, and grey, Old Norse-Icelandic has eight: *svartr*, *hvít*, *rauðr*, *grænn*, *gulr*, *blár*, *brúnn*, and *grár*. It does not have basic color terms for orange, purple, and pink, which, according to Berlin and Kay's theory, makes Old Norse-Icelandic an early stage VII language (a late stage VII language being a language that contains all eleven basic color terms).⁵ The Old Norse-Icelandic term for purple, *purpuralitr*, does not fit the criteria for a basic color term in that it is not monolexemic and not of frequent use.⁶ The same applies to *rauðgulr*, the Old Norse-Icelandic term for orange.⁷ For pink, Old Norse-Icelandic appears to have no term, though it is possible that *fagrrauðr*, *rauðbleikr*, and *rauðljóss*, all secondary color terms, may have been used.⁸

In addition to these eight basic color terms, Old Norse-Icelandic has a vast number of secondary color terms. These comprise:

- varieties of black: *blásvartr*, *hrafnsvartr*, *kolsvartr*, *sótsvartr* and possibly *alsvartr*;
- varieties of white: *bláhvít*, *blikhvít*, *blómhvít*, *drifhvít*, *fannhvít*, *gollhvít*, *línhvít*, *mjallhvít*, *silfrhvít*, *skjallhvít*, *snjóhvít*, *sólvít*, and *svanhvít*;
- varieties of red: *blóðrauðr*, *brandrauðr*, *dreyrrauðr*, *dökkrauðr*, *glóðrauðr*, *írauðr*, *mórauðr*, *mosrauðr*, *rauðbleikr*, *rauðljóss*, *rjóðr*, *sótrauðr*, *tandrauðr*, *valrauðr*, and possibly *fagrrauðr*;
- varieties of green: *dökkgrænn*, *grasgrænn*, *iðjagrænn*, *ígrænn*, *laufgrænn*, *rauðgrænn*, *smaragðligr* (a non-color lexeme involving color by implication), *vetrgrænn*, and possibly *algrænn*, *eigrænn*, and *fagrgrænn*;
- varieties of yellow: *fótgulr*, *ljósgulr*, *rauðgulr*, and possibly *fagrgulr*;
- varieties of blue: *dökkblár*, *gráblár*, *heiðblár*, *helblár*, *himinblár*, *hrafnblár*, *íblár*, *indíblár*, *kolblár*, *ljósblár*, *myrkblár*, *rauðblár*, *svartblár*, and possibly *fagrblár*;
- varieties of brown: *dökkbrúnn*, *gulbrúnn*, *móbrúnn*, *myrkbrúnn*, *rauðbrúnn*,

- skjölbrúnn* (occurs only twice and is probably an error for *skolbrúnn*), *skolbrúnn*, *sólbrúnn*, *svartbrúnn*, *jarpr*, *jarplitaðr*, *dökkjarpr*, *hvítjarpr*, and *svartjarpr*;
 – purple: *purpuralitr*;
 – varieties of grey: *apalgrár*, *høss*, *ígrár*, *járngrár*, *kinngrár*, *úlfrgrár*, and possibly *algrár*;
 – and some other color terms (often compounded with names, objects, substances, or feelings) that are less easily identified in terms of hue: *blakkr*, *blóðslitr*, *brennusteinslogalitr* (see n. 2), *dögglitr*, *eirligr* (a non-color lexeme involving color by implication), *eldslitr*, *føstulitr*, *gullslitr*, *hermðarlitr*, *hørunð/hørunðarlitr*, *járns-litr*, *litfðrótt*, *ljósbleikr*, *mókollótt*, *móskjótt*, *sænautalitr*, *váðablár*, and *vatnslitr* (see n. 2).

3

The other area of study pertinent to this examination is medieval studies of the rainbow, which was a subject of reflections and thoughts by many writers. As Boyer (1959) points out, “[t]he rainbow has had hosts of admirers – more, perhaps, than any other natural phenomenon can boast” (7). Combining scientific observation with description, poetry, and symbolism, these writers consider the origin of the curve of the rainbow, the size of the arc, the relationship of the rainbow to the sun and the clouds, and, not least, the reflection and refraction of light rays. They focus in particular on isolating and naming colors in order to establish not only the number of colors visible in the rainbow, but also their sequence.

One of the reasons why the rainbow was frequently studied was no doubt that Aristotle’s (384–322 B.C.) thoughts on the topic were available in his *Meteorologica*, a text containing his theories about the part of natural science that corresponds to what is now called atmospheric physics and geophysics (Sayili 1939: 65). In fact, the *Meteorologica* remained a standard text until the scientific awakening in the seventeenth and eighteenth centuries, when it was established that the rainbow is an optical phenomenon of the atmosphere that resembles a multicolored arc in the sky (Boyer 1958: 379). Its coloring is the result of the dispersion of the sun’s rays into its component colors by the water drops that are in the part of the sky opposite the sun. The color sequence in the rainbow is therefore the same as in the solar spectrum with red usually located on the outside edge of the bow and violet on the inside edge. The visible part of the rainbow arc is determined by the sun’s position. If the sun is more than 42° above the horizon, no rainbow can be seen, because no part of the rainbow is above the horizon; below an altitude of 42°, the lower the sun the larger the rainbow. Occasionally, a secondary bow outside the primary bow can be seen, which is considerably less intense than the primary bow and has its color sequence reversed. It is caused by rays that undergo a second internal reflection within the water drops.

In his *Meteorologica*, Aristotle made significant progress toward a scientific

explanation of the rainbow. He knew that the rainbow is caused by the existence of water drops in the atmosphere, and he also knew that the circularity of the bow is due to a geometrical relationship between the positions of the sun, the bow, and the observer. As Sayili (1939) points out, “[t]hese are two important steps towards the complete explanation of the rainbow and we see them already accomplished by him” (5). Aristotle also discusses visual perception, especially color perception, as illustrated by the rainbow. His theory was derived from the basic assumption that light and darkness or white and black produce through mixture the other colors from red, which contains more white and less black than other colors, to blue (or purple), which possesses more black and less white. Colors corresponding to all conceivable proportions are possible, but Aristotle believed that there are three primary colors, and arranged from the strongest to the weakest (that is, from that containing the largest proportion of light or white to that containing the smallest proportion), these are red, green, and blue (or purple). In Aristotle’s words:⁹

When the sight is fairly strong the colour changes to red, when it is less strong to green, and when it is weaker still to blue. There is no further change of colour, the complete process consisting, like most others, of three stages; any further change is imperceptible. (261)

According to Aristotle, “[t]his is why the rainbow is three-coloured, and why, when there are two of them, each is three-coloured, but the colours are in the reverse order in each” (261). Aristotle also mentions yellow, but this color does not fall into the category of the other three and is due only to contrast:

The yellow colour that appears in the rainbow is due to the contrast of two others; for red in contrast to green appears light. (And the yellow colour in the rainbow lies between the red and green). (263)

As Boyer (1959: 48) notes, Aristotle’s trichromatic theory was not new; before him Aristophanes had distinguished three colors in the rainbow: purple, green, and yellow. Boyer believes that this may be because even before the advent of Christianity three was a sacred number.

Several later writers propose four colors in the rainbow, a theory that probably goes back to Empedocles (ca. 490–ca. 430), the first Greek writer to speculate on the nature of color, who insisted on four basic colors, associating them with his four elements: white with fire, black with water, red with air, and yellow-green with earth (Beare 1906: 14–15; Halbertsma 1949: 6–7; Boyer 1959: 48). In his description of the rainbow in *De natura rerum*, Isidore of Seville (560–636), for example, argues that from fire (which he calls “coelum”) it acquires “color igneus”; from water it derives “purpureus”; from air it draws “albus”; and from earth it gets “niger” (Austin 1929: 317).¹⁰ His statement is reiterated by the Venerable Bede (673–735)

in his *De natura rerum* (though for air and earth Bede gives “hyacinthinus” and “gramineus,” respectively),¹¹ and by Rabanus Maurus (784–856) in his *De arcu coelesti* (ed. Hellman 1904: 11–19; though Rabanus modified Isidore’s commentary by arguing that the colors of water and fire [blue and red] in the rainbow mean that the earth will not again be destroyed by flood but by fire).¹² Honorius Augustodunensis (ca. 1080–ca.1150), too, accepted this quadrivium of colors in his *Imago mundi*:

Arcus in aere quadricolor ex sole et nubibus formatur dum radius solis cavæ nubi immissus repulsa acie in solem refringitur. Sicut dum sol in vas aqua plenum fulget, splendor in tecto redditur. De cœlo igneum, de aqua purpureum, de aere hyacinthinum, de terra colorum gramineum trahit. (col. 137)¹³

Roger Bacon (ca. 1214–1294) pushed the number of the colors of the rainbow to five in his *Opus Majus* (ed. Bridges 1900): white, blue, red, green, and black; but otherwise he contributed little to the discussion of the rainbow.¹⁴ As Boyer (1959: 102) points out, his views are those of Seneca (ca. 4 B.C.–A.D. 65), who also saw five colors in the rainbow (though Seneca describes purple, violet, green, orange, and red), together with an admixture of theology and numerology. Bacon’s reasons for choosing the number five are as follows:

Nam quinarius est melior numeris omnibus, ut Aristoteles dicit libro Secretorum ... Et quia numerus quinarius res certius distinguit et melius, ut dictum est, ideo natura magis intendit quinque colores. Et ideo isti quinque colores sunt in iride magis quam alii, ex ordinatione communi naturae operantis et intendentis quod melius est. (2, 197)¹⁵

Aside from Ptolemy (d. after 161), whose *Optics* did not exercise much influence and no longer exists in its entirety,¹⁶ the first to place the number of the colors in the rainbow at seven was, curiously, Dante (1265–1321). In his *Divina Commedia*, he calls attention to the rainbow in both the *Paradiso* and the *Purgatorio*, and in the latter, in canto 29, he writes that “... li sopra rimanea distingo / di sette liste, tutte in quei colori / onde fa l’arco il Sole e Delia il cinto” (vv. 76–78; ... the sky became a painted flow / of seven bands of light, all the same shades / as Delia’s cincture or Apollo’s bow).¹⁷ Dante does not specify the colors, but Austin (1929) argues that “[i]t is possible that Dante had in mind as his rainbow colors the four by which he characterizes the Virtues: red, white, and green, for the three theological virtues, and purple for all the (four) cardinal virtues” (318). It was not until the experiments in 1666 of Sir Isaac Newton (1642–1727) with a prism, showing that each color has its own distinct degree of refrangibility, that the number of the colors of the rainbow was categorically and authoritatively demonstrated to be red, orange, yellow, green, blue, indigo, and violet (Newton 1902: 34; Halbertsma 1949: 42, 50).

4

Considering the fact that Aristotle's works remained in vogue until the late Middle Ages, it seems probable that Snorri's idea of the three colors of the rainbow is derived ultimately from the *Meteorologica*. By the end of the twelfth century, almost the whole of Greek science had been translated into Latin, and by the end of the first quarter of the thirteenth century nearly all of the Aristotelian corpus was required at Paris for candidates for the masters degree (Boyer 1959: 86). At this time, due to its popularity, translations of the *Meteorologica* into the vernacular began to appear; in fact, a translation of the work had been made at the beginning of the century from Arabic into Latin (Boyer 1959: 87).

Snorri defines the outermost color of the rainbow as red and associates it with fire. A similar association is made by Aristotle:

Bright light shining through a dark medium or reflected in a dark surface (it makes no difference which) looks red. Thus one can see how the flames of a fire made of green wood are red, because the fire-light which is bright and clear is mixed with a great deal of smoke; and the sun looks red when seen through mist or smoke. (256–257).

Following Aristotle, the next color in Snorri's rainbow would, then, be green (*grænn*). There seems no reason to question this color, for most of the medieval commentators include this term in their rainbow colors. Also, if one applies Berlin and Kay's evolutionary theory of color terms to Old Norse-Icelandic, green was by the time Snorri wrote his *Edda* a well established color term. Indeed, the slips of the Arnamagnæan Commission's *Dictionary* shows that it covers a wide range of objects or substances, including grass, trees, fruit, fabric, clothing, swords, helmets, ale, and bodily fluids and wounds.

An identification of the third color in Snorri's rainbow is more problematic. As Sayili (1939: 69) points out, in the English versions of Aristotle's *Meteorologica* there is no consistency in the translation of the color names used by Aristotle.¹⁸ Webster (1923: 374b) translates the last color term (*halourgon*) as "violet," Lee (1952: 261) as "blue," and Boyer (1959: 47–48) as "purple" and "violet." Most dictionaries render it as «purple.» The term is related to the word for the sea, so probably a purplish blue is meant here (perhaps as in Homer's "wine dark sea").¹⁹ In his study of the color blue, Pastoureau (2001: 23) comments that in Greek the color lexicon did not stabilize for many centuries, and also notes that it is difficult to determine which Greek or Latin words designate blue because both languages lack basic, recurring terms for it.²⁰ Old Norse-Icelandic has terms for both blue and purple/violet: *blár* and *purpuralitr*, respectively. As noted above, the former may be classified as a basic color term, the latter as a secondary color term. It would seem probable that Snorri would select from the list of basic color terms rather than choose a sec-

ondary color term, which appears to have been a fairly recent addition to the Old Norse-Icelandic lexicon by the time Snorri wrote his *Edda*, and which never managed to firmly establish itself. *Purpuralitr* is a Latin (ultimately Greek) loan word, and Berlin and Kay argue that “[c]olor terms that can be shown on linguistic grounds to be loan words are likely to be more recent additions than native color terms” (37).²¹ It appears not to have been widely used; it is not listed in Finnur Jónsson’s *Lexicon Poeticum*, and the Arnamagnæan Commission’s *Dictionary* has only five occurrences. In three of these, the term is used about precious stones, all non-native objects: one concerns the jacinth (*Stjórn* [ed. Unger 1862: 210.117–119]); two concern the amethyst (*Hauksbók* [ed. Eiríkur Jónsson and Finnur Jónsson 1892–1896: 227.1]; *Alfræði Íslenzk* [ed. Kålund 1908: 1:81.1]), and in both the term is equated with the color of a drop of wine. In the fourth example, it is used about the color of marble (*Mariú saga* [ed. Unger 1871: 113.22]). And in the fifth example, it is used about the middle piece (*meðalkafl*) of a sword (*Íslendzk æventyri* [ed. Gering 1882–1884: 1, 37.3]). Although *purpuralitr* still exists as a color term in Icelandic, it is archaic and rare.

Blár, on the other hand, appears to have been firmly established as a color term by the early thirteenth century. The approximately 90 occurrences listed by the Arnamagnæan Commission’s *Dictionary* cover a wide range of objects or substances, including bruised flesh, skin color, eyes, stones and marble, metal, smoke and flames, and fabrics and clothing. *Blár* is not particularly common in nature, but it is sometimes used about the color of water, air, stones, plants (the Iris), and birds. The fact that *blár* is used interchangeably with *svartr* about, for example, the color of coal and ravens suggests that it took a while for the dark color lexicon to stabilize. Indeed, in the Arnamagnæan Commission’s *Dictionary*, the term is translated as “blue, blue-black, black.” It seems likely that in origin *blár* simply meant a dark color, which may have covered also purple.²² In fact, in his study of the liturgical colors in medieval Iceland, Wallam (1910: 121) maintains that *blár* designates violet or purple.

Gangleri did not pursue the topic of the rainbow and did not ask Hár, Jafnhár, and Þriði about its colors. If he had, it is, of course, possible that he might have received the answer: “Eigi er nú fróðliga spurt” (cf. above). But, given Hár’s willingness to inform and explain, it is also possible that Hár would have deigned to answer: “Litir hennar eru rauðr, grœnn ok blár.”

Notes

- ¹ Here and in the following, I refer to Faulkes’s (1982) edition and (1987) translation.
- ² The compiler proceeds to explain that the three colors are reminiscent of Gods threefold anger: “Þat minnir oss a at ottast þrefallda reiði guðs þa er kemr oc komet hefir yfir heimenn. Vatn kom i Noa floð. Brennu steins loge kom yfir Sodomam oc Gomorram. ælldr man ganga yfir allan heimenn fyrir doma dag. þessir hínir somo lítir regnboga iij merkia þrefallda fyrir gefning synda. Ein er i skirn heilagre. onnor er i iðran synda. hín þriðia er liflat þeira er pindir ero fyrir

guðs sacar. vatnz litr iartegnir firir gefning synda i skirn heilagre. þui fylgir bliðleikr mikill en eí toruelde. Brenno steins loge merkir iðran synda. þui fylgir beiskleikr mikill. Eldz litr merkir oc biartleikr mikill. þessa pefalda ogn oc reiði guðs tacnar regnbogenn. ham var eigi sem firir Noa floð. Siðan er ham syndr i mining vitnis burðar guðlegs satt mals oc friðsendar þeirar er guð het Noa at vera skildi millim guðs oc mann kynsens meðan regn bogenn seist oc nokor miseri siðan at eigi skildi oftar floð koma þat er heimen öyddi sua sem a hans dogum hafðe orðet” (174.32–175.11). Simek (1990: 382) points out striking parallels between this section of *Hauksbók* and Lambertus Audomarensis’s *Liber Floridus*, but is reluctant to posit it as a direct source. The color terms *vatnslitr* and *brennusteinslogalitr* do not occur elsewhere in Old Norse-Icelandic literature.

- 3 As Boyer (1959) points out, the idea of the rainbow as a pathway or bridge has been widespread: “North American Indians were among those who thought of the rainbow as the Pathway of Souls, an interpretation found in many other places. Among the Japanese the rainbow is identified as the ‘Floating Bridge of Heaven’, and Hawaiian and Polynesian myths allude to the bow as the path to the upper world. In the Austrian Alps the souls of the righteous are said to ascend the bow to heaven; and in New Zealand the dead chieftains are believed to pass along it to reach their new home. In parts of France the rainbow is called *pont du St. Esprit*, and in many places it is the bridge of St. Bernard or of St. Martin or of St. Peter. Basque pilgrims knew it as the ‘puente de Roma’. Sometimes it is called instead the *Croy de St. Denis* (or of St. Leonard or of St. Bernard or of St. Martin). In Italy the name *arcu de Santa Marina* is relatively familiar” (27).
- 4 Berlin and Kay (1969). Crawford (1982) suggests a redefinition of the term “in order to eliminate contradictory and ambiguous criteria” (338): “A basic color term occurs in the idiolects of all informants. It has stability of reference across informants and across occasions of use. Its signification is not included in that of another color term. Its application is not restricted to a narrow class of objects” (342).
- 5 Berlin and Kay (1969) set up seven evolutionary stages, in which focal colors were encoded by basic terms: Stage I, white, black; Stage II, red; Stage IIIa, green or Stage IIIb, yellow; Stage IV, green and yellow; Stage V, blue; Stage VI, brown; Stage VII, purple, pink, orange, grey. Witkowski and Brown (1977) criticized the evolutionary sequence, arguing that a grey category can emerge at any stage, the later the more likely. For an assessment of the applicability of Berlin and Kay’s theory to Old Norse-Icelandic as an evolutionary stage in the history of the Icelandic language, see Wolf (2006).
- 6 *Purpuralitr* is a Latin (ultimately Greek) loan word, which appears not to have been widely used. It is not listed in Finnur Jónsson (1931), and the archives of the Arnarnagnaean Commission’s *Dictionary of Old Norse Prose* has only five occurrences. The current term for purple in modern Icelandic is *ffólublár*, a secondary color term, which first occurs in writing in the late eighteenth century.
- 7 The Arnarnagnaean Commission’s *Dictionary of Old Norse Prose* has only three occurrences. The term still exists in Icelandic, but, like *purpuralitr*, it is now rarely used. The current term for orange in modern Icelandic is *appelsínugulur*, a secondary color term. It first occurs in writing in the mid-twentieth century.
- 8 The modern Icelandic term for pink is *bleikur*. *Bleik(u)r* exists also in Old Norse-Icelandic but denotes different colors according to its context. Although the term appears most frequently in the meaning “pale (∴ of weak or reduced color), wan, ?bleached” (the Arnarnagnaean Commission’s *Dictionary of Old Norse Prose*, s.v. *bleikr*), it is not uncommonly used in the meaning “blond, fair, light-coloured” (translation offered by the *Dictionary of Old Norse Prose*). When used to describe the color of horses and cows, the term seems to mean “light-coloured, ?fawn, ?pale yellow, ?dappled” (translation offered by the *Dictionary of Old Norse Prose*). In two instances (both in *Stjórn* [ed. Unger (1962), 161.5, 161.8]), *bleikr* may, according to the

Dictionary of Old Norse Prose, denote “?(light) red,” though this meaning has been debated by Wolf (2005). As argued in this article, it is quite possible that *bleikr* should be regarded as a macrocolor covering, at least partly, the category of pale or light colors. Evidently, the term lost some of its semantic portfolio in the course of the history of the Icelandic language. It is difficult to determine when the semantic change took place, but it seems that it was not until the mid-twentieth century that *bleik(u)r* appears in the meaning pink and that it continued to denote pale until the late twentieth century.

- ⁹ Here the translation by Lee (1952) is used.
- ¹⁰ “Quadricolor enim est, et ex omnibus elementis in se rapit species. De cœlo enim trahit igneum colorem, de aquis purpureum. De cœlo enim trahit igneum colorem, de aquis purpureum, de aere album, de terris colligit nigrum” (col. 1004).
- ¹¹ “Arcus in aere quadricolor, ex sole adverso nubibusque formatur, dum radius solis immissus cavæ nubi, repulsa acie in solem refringitur, instar ceræ imaginem annuli reddentis: qui de cœlo igneum, de aquis purpureum, de aere hyacinthinum, de terra gramineum trahit colorem” (col. 252).
- ¹² “Nam quod in eodem arcu color aquæ et ignis simul ostenditur, quia ex parte cæruleus est et ex parte rubicundus, apparet, quod utriusque iudicii testis sit: unius videlicet faciendi, et alterius facti, id est, quia mundus iudicii igne cremabitur, non aqua diluvii ultra delebitur” (14).
- ¹³ “The quadricolored arc is formed in air when the sun’s rays shining into a hollow cloud are driven back toward the sun, just as when the sun shines on a water vase and the brightness is sent back onto the ceiling. From the heaven it gets the fiery color; from water, the purple; from air, the blue; and from the earth the grassy color.”
- ¹⁴ “Quinque vero sunt colores principales, ut albedo, glaucitas, rubedo, viriditas, et nigredo” (2, 197).
- ¹⁵ “For five is better than all other numbers, as Aristoteles says in the Book of Secrets ... Because the number five distinguishes things more definitely and better, as is said; nature therefore rather intends that there shall be five colors. Therefore, these five colors are in the rainbow, rather than other colors, in accordance with the general arrangement of nature, which carries into effect and purposes that which is better.”
- ¹⁶ For a discussion of Ptolemy’s *Optics*, see Boyer (1959: 61–62).
- ¹⁷ *Dante Alighieri’s Divine Comedy* (1996–2004: 3, 286). In his commentary (4, 292), Musa explains that the seven bands of light symbolize the seven gifts of the Holy Spirit (wisdom, intellect, counsel, strength, knowledge, piety, and fear of God) but notes that others read in this symbol the seven beatitudes. Delia is Diana, and her cincture is the halo around the moon. Apollo’s bow is the rainbow.
- ¹⁸ For a discussion of Aristotle’s color terms, see Rowe (1974): 345–350.
- ¹⁹ Carole Newlands (personal communication 7 May 2006).
- ²⁰ Pastoureau (2001: 23) claims that in Greek, the words most commonly used for blue are “glaukos” and “kyaneos”: “The latter probably referred originally to a mineral or a metal; it has a foreign root and its meaning often shifted. During the Homeric period it denoted both the bright blue of the iris and the black of funeral garments, but never the blue of the sky or sea. An analysis of Homer’s poetry shows that out of sixty adjectives describing elements and landscapes in the *Iliad* and *Odyssey*, only three are color terms, while those evoking light effects are quite numerous. During the classical era, *kyaneos* meant a dark color: deep blue, violet, brown, and black. In fact, it evokes more the ‘feeling’ of color than its actual hue. The term *glaukos*, which existed in the Archaic period and was much used by Homer, can refer to gray, blue, and sometimes even yellow or brown. Rather than denoting a particular color, it expresses the idea of a color’s feebleness or weak concentration. For this reason it is used to describe the color of water, eyes, leaves, or honey” (23, 25). Concerning Latin terms for blue, Pastoureau says: “The difficulty that the Greeks had in naming blue recurs in classical Latin

(and later in its medieval form). There were, of course, numerous terms for blue (*caeruleus*, *caesius*, *glaucus*, *cyaneus*, *lividus*, *venetus*, *aerius*, *ferreus*), but they were all polyvalent, chromatically imprecise, and sometimes contradictory. The most common word was *caeruleus*, whose etymology evokes the color of wax (*cera*—a color between white, brown, and yellow); it denoted certain shades of green and black before attaching firmly to the blue spectrum” (26). The gap in Latin color vocabulary was later filled by two foreign words for blue, “blavus” (Germanic) and “azureus” (Arabic).

- ²¹ Berlin and Kay (1969) further maintain that “[c]olor terms that are analyzable are likely to be more recent additions than unanalyzable terms” (37). Analyzability can, in their view, take five forms, four of which apply to *purpuralitr*. One is that the term contains more than one stem (which makes it a more recent addition than a color term containing a single stem). Another is that the term has an analyzable stem and/or affix (which makes it a more recent addition than a color term containing an unanalyzable stem and/or affix). A third is that the term contains an affix whose gloss is “color/colored/color of”) which makes it a more recent addition than a term not containing such an affix). And a fourth is that the term is also the name (or contains the name) of an object characteristically having the color in question (which makes it a more recent addition than a color term which is not or does not contain such a name).
- ²² For a discussion of the colors *blár* and *svartr*, see Wolf (2007).

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