

# Cole's Chromatics:

## Color Theory and the Analogy of Sound and Color from the Writings of Thomas Cole and George Field

All Hail ye mountain solitudes! Ye wilds  
Untrodden by the city's noisy crowd!  
I come to dwell with you – reject me not,  
For I have lov'd you with an earnest love...

-Lysander, *Spirits of the Wilderness*, by Thomas Cole

By: Caroline Gillaspie

In 1825, America's first indigenous art movement was born, inspired by New York State's Catskill Mountains. It was in this year that the 24-year old painter, Thomas Cole (1801-1848), inspired by the Catskill Mountain landscape, sold his first three landscape paintings to fellow artist, John Trumbull. Impressed by Cole's talent, Trumbull stated, "This youth has done at once, and without instruction, what I cannot do after 50 years' practice."<sup>1</sup> Primarily self-taught, Thomas Cole, is regarded as the founder of the Hudson River School of painting. Cole was both an avid reader,<sup>2</sup> acquiring much of his artistic understanding from books, such as William Oram's *Precepts and Observations on the Art of Colouring in Landscape Painting*,<sup>3</sup> and a prolific writer, publishing his "Essay on American Scenery" in 1836.<sup>4</sup> Many of Cole's original papers, notebooks, and sketchbooks, containing poems, journal entries, and studies for painting techniques, can be found at the New York State library and archives in Albany, NY.

One subject that Cole often addressed in his notebooks is that of color. He was mainly interested in the character of colors, the placement and quantity of colors, the use of light and shade, and techniques to create warmer landscapes. Cole believed that color, as well as light and shade, created expressiveness in a painting, and could be used to deeply affect the viewer and manipulate the gaze. He explored the effect of opposing colors, opposing light and darkness, the initial steps to be taken in painting, such as creating a composition first in light and shade, and the use of underlying tones to create warmth.

In addition to being an accomplished painter, Thomas Cole's other artistic endeavors included poetry and music. Cole owned a number of flutes, which he may have played during his

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<sup>1</sup> Ellwood C. Parry III, *The Art of Thomas Cole: Ambition and Imagination* (University of Delaware Press, Newark, 1988), 26.

<sup>2</sup> Louis Legrand Noble, *The Life and Works of Thomas Cole*, ed. Elliot S. Vesell (London: Charles Tilt, Fleet Street, 1835), 4.

<sup>3</sup> Alan Wallach, "Thomas Cole: Landscape and the Course of American Empire," in *Thomas Cole: Landscape into History*, ed. William H. Truettner and Alan Wallach (New Haven: Yale University Press, 1994), 28.

<sup>4</sup> Thomas Cole, "Essay on American Scenery," *American Monthly Magazine* 1 (January 1836): 1-21.

hikes into the Catskill Mountains. A well-rounded painter and musician, Cole frequently wrote about what he referred to as the analogy of color and sound. Both expressions have an effect on the viewer or listener, whether pleasing or displeasing. Sounds as well as colors can be used in harmony with one another, which is something that Cole explores to the point of proposing a design for an instrument that could “play” colors.

In his notebooks, Cole writes about the use of colors, light, and shade in order to apply these ideas in his paintings, and contemplates the similarities in the expressions of music and painting as is relevant to an artist of many talents. However, many of the subjects that Cole addresses can be found in the publications of an Englishman by the name of George Field, whose first book on color theory was published in 1817, in London. The book contained technical descriptions of color and chromatics, but it also contained ideas similar to Cole’s on the use of light and shadow in painting, and the comparison between sound and color. While the exact date is unclear, Cole most likely encountered Field’s book, as well as his later publications. The artist seems to have absorbed and documented in his notebooks many of Field’s ideas about the use of light and shade, and the analogy between harmony of sounds and colors, while leaving out much of the more technical color theory.

Cole includes many original ideas in his notebooks as well, such as his assigned characteristics of colors, and suggestions for warm tones in the sky and foreground, developing Field’s ideas into techniques that could be applied to his own paintings. The following research will explore Cole’s understanding and use of color in his work, delve into his relationship to George Field’s writings on color theory, and present a portrait of an artist whose interdisciplinary philosophy on art, music, and poetry deserves awareness as the foundation for the Hudson River School.

## Introduction to Chromatics

George Field (1777-1854) was an English pigment maker and writer on various subjects including chromatics. He was one of the founders of *The British School*, and coordinator of an exhibition of British art that opened in 1802.<sup>5</sup> Although he did not create artwork himself, his writing influenced artists in England and abroad, as can be seen by the list of subscribers to his books.<sup>6</sup> In his first publication, *Chromatics, or, an Essay on the Analogy and Harmony of Colours*, from 1817, Field presents very technical and scientific explanations of chromatics. He begins his book by stating, “The term Chromatics denotes the science of the relations of *light, shade, and colours.*”<sup>7</sup> There are *inherent*, or solid, colors, such as pigment on canvas, and *transient* colors, which are refracted colors, such as through a prism. Field also uses the terms “light and shade,” which, in their inherent or transient state, are either white and black or light and dark, respectively.

The term “hue” will be used to denote color, and “tone” to denote the brightness or darkness of that color. Thomas Cole, in some of his papers, also uses the word “tint” to signify color, or hue. Field explains the difference between primary (red, yellow, blue), secondary (orange, green, purple), and tertiary colors (citrine, olive, russet), as well as the predominance and subdominance, or subordination, of colors when mixing. For example, in the color olive, blue is the predominant color because it is contained in both purple and green, which when combined make olive. Red and yellow are, therefore, subordinate in this case.

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<sup>5</sup> John Gage, *George Field and his Circle: From Romanticism to the Pre-Raphaelite Brotherhood* (Cambridge: Fitzwilliam Museum, 1989), 8.

<sup>6</sup> George Field, *Chromatography, Or, a Treatise on Colours and Pigments, and of their Powers in Painting* (London: Charles Tilt, Fleet Street, 1835), v-viii.

<sup>7</sup> George Field, *Chromatics, or, an Essay on the Analogy and Harmony of Colours* (London: A.J. Valpy, Tooke’s Court, Chancery Lane, 1817), 1

“Chromatics,” a term applicable to music as well as color, is more than just color theory for artists, but a theory of harmony. A comparison can be made between a poet’s use of words to describe a landscape, and a painter’s use of color. The same is true with a musician’s use of pleasing melodies and harmonies and painters choice of harmonizing dominant and subordinate colors. Thomas Cole recorded many ideas about both color and sound while expressing his love of nature through painting, poetry, and music.

### **Cole’s Statements Regarding Color**

In the majority of his writing on the subject of color, Cole discusses the effects of color on a painting’s composition. He is concerned with how the choice, quantity, and placement of colors will reflect the character or mood of the painting, how the viewer will respond to color, and how the technical application of colors will affect the finished hues. Concerning the choice of color, Cole believes that different colors are associated with different moods or characters. The appropriate colors must be chosen to reflect the subject or character of a painting, with a predominating color creating the character. Other colors included in the composition are considered subordinate. Cole writes, “If the subject is a gay one, the predominant colour should be in unison with that character. If a sad one, the colour should be sad also. If terrible, the colour that has most of that characteristic ought to be predominant.”<sup>8</sup> He assigns characters to colors; yellow being “gay,” blue “sad,” and red “terrible.” Cole also explains the effects of light and dark on the character of colors. He believes that darker colors will appear gloomier, while light colors have the opposite effect, creating a gentler appearance.

In an 1827 notebook, Cole has drawn a diagram of a semicircle above a horizon line and labeled it, “Order of colours in the Heavens at Sunrise as viewed from the top of a high

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<sup>8</sup> Thomas Cole, *Sketchbook*, 1827.

mountain.”<sup>9</sup> The primary colors are labeled at three points along the semicircle, along with “gay colours,” “sad colours,” “sun,” and “black.” This represents a north-facing view of the sun rising, producing the color yellow in the east, red in the center, and blue in the west, where the sunlight has not yet reached. By labeling the right side (east) where the sun is emerging as “gay colours,” and the left side (west) as “sad colours,” Cole is not only reinforcing the idea of the characters of colors, but may be suggesting a metaphoric use of daytime and nighttime to represent compositions that are “gay” or “sad” (as relative terms).

Cole enters this diagram in his notebook with the belief that these effects do occur in nature. He writes, “I have observed their effects on my own mind,”<sup>10</sup> and seems determined to examine these effects so as to best emulate them in his work. Based on his observations of nature, the color choices used by Cole are incredibly powerful and vibrant. However, these colors may not be so far off from reality. Cole experiences and documents the Catskill Mountain landscape with its ever-changing play of light that can be observed today in naturally occurring daybreaks, sunsets, and seasonal weather patterns. Observation and enjoyment of the natural scenery from the porch of Cedar Grove, the Catskill farm where Cole resided for many years, can yield similar effects on the modern viewer as those described in Cole’s journals.

Cole writes that the quantity, as well as the choice of colors, is important for creating certain effects. The predominating color, which creates the character of the painting, must be used in large quantities. According to Cole, large amounts of bright color should be used for a powerful subject, as a bright color “seldom, if ever effects as such when scattered or in small masses.”<sup>11</sup>

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<sup>9</sup> Cole, *Sketchbook*, 1827.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

Interestingly, Cole does not mention predominating dark colors, but he does discuss the opposition of colors; dark and light, warm and cool. Opposing colors will draw the viewer's eye around the painting and to certain points, and will create a brilliant composition. Stressing the importance of quantity, Cole believes that opposing large masses of light and dark will attract the eye. He writes, "The eye is attracted by light in the middle of dark, and by dark in the midst of light."<sup>12</sup> Cole mentions lines of light and dark in the next sentence, suggesting that the use of alternating lights and darks will move the eye through the painting. The opposition of masses of warm and cool colors is important in a composition as well, giving "the most value and brilliancy" to the colors.<sup>13</sup>

An important point in Cole's descriptions of the effect of colors is the use of warm tones, mainly red, underneath the finished painting. Cole believes that landscapes are best painted on a red base, "as it gives to the skies and distance an aerial diaphanous appearance that cannot be produced otherwise."<sup>14</sup> This technique will deliver a warmer tone in the end. More specifically, the underlying red tone used for the sky and distant landscape should be painted as light or as dark as the finished sky and distance will appear. "These painted upon with blue, white, and yellow will have a hazy yet clear appearance..."<sup>15</sup> The use of red underneath the blue makes the sky appear warmer, and allows for pure blue to be used without appearing harsh. Cole concludes this entry with the technique of using a little yellow mixed with the blue of the sky when approaching the horizon to create "a beautiful amber sky."<sup>16</sup>

A final point is the application of paint in "light and shadow," in which the initial construction of the composition focuses on applying warm colors on the canvas. This initial

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<sup>12</sup> Cole, *Sketchbook, 1827*.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

pigment should be applied in the degree of light or dark (tone) that the finished painting is intended to have.<sup>17</sup> The final hues will reflect the tone of the underlying pigment in their brightness or darkness. Cole describes this technique through the choice of reddish pigments as underlying warm tones. He uses the terms “light and shadow,” which seem to imply the *transient* state of colors, such as sunlight or a rainbow, versus the *inherent* state, which is pigment. In the initial phases of painting, Cole believes, it is important to focus on the brightness or darkness of a landscape as observed under natural light. “By this means you make certain of your light and shadows and make a ground that will give a tone to the picture and give a warmth and beauty to the true tints afterwards laid on.”<sup>18</sup>



Thomas Cole, “View of Lake Mohonk”, n.d.  
Photo courtesy of Mr. Henry Martin

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<sup>17</sup> Cole, *Sketchbook*, 1827.

<sup>18</sup> *Ibid.*

Cole's ideas about underlying red tones can be recognized and understood in the unfinished painting by Cole above, "View of Lake Mohonk." While the sky appears close to completion, the hillside and lake are all painted in a warm rusty color, seemingly in the tone of light or dark intended for the completed composition. Cole has begun to paint the final green hue on top of the rusty-orange hillside to the left. We can also see the use of white in the lake where Cole intends to paint the reflected sky, as well as the beginnings of what may be a craggy, wind-blown tree in the foreground.

Two of Thomas Cole's original palettes can be examined with the ideas of underlying warm tones and light and shadow in mind. The larger palette (below) is almost entirely covered in paint. The hues of the pigments, however, are solely variations of reddish-oranges, yellows, and browns, along with black and white.



Thomas Cole, Palette  
Thomas Cole National Historic Site, Catskill, NY  
Photo: Caroline Gillaspie

The smaller palette (below) contains pigment only on two edges, but the hues span a wider range of the spectrum. It seems likely that the large palette was used to apply warm reddish tones in light and shadow. The small palette may have then been used to apply the final hues in smaller amounts.



Thomas Cole, Palette  
Thomas Cole National Historic Site, Catskill, NY  
Photo: Caroline Gillaspie

Cole sketched directly from nature, brought his sketches back to his studio to paint, and included many notes in his sketches on color, descriptions of specific landscape features, and notes on movement. Two undated pages have small sketches containing color notations. In one particular sketch,<sup>19</sup> Cole labels the sky with different layers of color: “gold” is written close to the horizon, then “greenish,” then “soft orange.” These particular color notations relate closely to his diagram of the horizon, mentioned above. Secondly, he specifies which part of the composition is in sunlight, and which is in shade. A second sketch on the bottom of the same

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<sup>19</sup> Thomas Cole, Sketch, n.d.

page includes description of colors, as well as descriptions of the clouds. The upper-most portion of the sky is to be painted “pale blue,” with the addition of “dusky soft clouds” and “fine clouds.”

The second page also contains descriptions of sky and cloud color and cloud characteristics.<sup>20</sup> The top sketch includes notes stating that there should be “bright light” with “warm clouds” in the top left, moving into “warm gray loose clouds” when nearing the horizon. Cole also includes the note, “clouds moving over the mountain.” He not only reminds himself of warmth or coolness of color, or light or shade, but also the sense of movement.

A sketch of Cole’s that was done overlooking the Oxbow in Northampton, MA also contains extensive notes. The sketch, which is in a sketchbook at the Detroit Institute of Arts, is included in Oswaldo Rodriguez Roque’s article about Cole’s *View from Mount Holyoke, Northampton, Massachusetts, after a Thunderstorm—The Oxbow*,<sup>21</sup> where the writing has been transcribed. This sketch contains some notes on color, such as “reddish gray rock”, however it mainly identifies specific details in the landscape, such as pines, elms, and cornfields.

In his essay, *Thomas Cole: Landscape and the Course of American Empire*, Allan Wallach states that Cole studied the writing of William Oram, who, it is believed, influenced Cole’s work greatly.<sup>22</sup> One of the main techniques that Cole picked up from Oram, says Wallach, is that of creating very simple sketches with notes on color, light and shade, composition, etc. Two examples of Oram’s engravings from his book, *Precepts and Observations on the Art of Colouring in Landscape Painting*, are found in the article. The two sketches from Cole’s journals

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<sup>20</sup> Cole, Sketch, n.d.

<sup>21</sup> Oswaldo Rodriguez Roque, “‘The Oxbow’ by Thomas Cole: Iconography of an American Landscape Painting.” *Metropolitan Museum Journal* 17 (1982): 65.

<sup>22</sup> Wallach, “Thomas Cole: Landscape and the Course of American Empire,” 28.

at the NYS library are very similar to Oram's engravings. Both contain notes on varying colors in the sky, as well as specifications of light and dark throughout the sketches.

### **Application of Color Theories in Cole's Paintings**

In his notebooks, Cole records what appear to be tried and proven techniques, with some ideas or words crossed out or adjusted. Many of these ideas are based on his affinity with nature and wilderness; he focuses on ideas that are less technical and more concerned with warmth and character. The ideas that are more technical, such as colors in opposition to one another, are important for effects on the viewer, a powerful portrayal of the wilderness, as well as composition. All of these techniques can be seen in practice in Cole's work.

In *The Oxbow* (1836), Cole uses opposing colors, both light and dark, and warm and cool. The composition can yet again be divided down the middle, this time in terms of use of color, half being painted light and warm, and the other half painted dark and cool. The sky is divided between dark, cold, raging clouds on the left, and opposed with a bright, warm, clear sky on the right. The tangled forest on the left is painted in dark, cool greens, while the peaceful farmland on the right is bright, and depicts warm, yellow-gold fields. The main technique here is the use of large masses of color in opposition to one another. However, there are also alternating light and dark areas in the cultivated land. As Cole writes in his notebooks, alternating light and dark areas will lead the eye through the composition. This idea of alternating light and shade is applied through the farmland, leading the eye to the hill in the background.

The use of these techniques is intended to create specific effects for the viewer. The left half of the sky depicts storm clouds, while the land depicts the wilderness. In some way, the subject celebrates the raw power of nature, and the untouched beauty of the American

wilderness. The right side of the painting depicts a clear sky after the passing of a storm, and the neat, cultivated farmland surrounding a peaceful river: the influence of human behavior on the land. The colors Cole chose reflect the character of the subjects. On the left, the green of the land, and the gray of the sky are dark and cold, representing the wilderness as untamed and unfamiliar, whereas the warm yellows and browns of the farmland are inviting and familiar. There are, however, some hints of warm and cool, dark and bright, within the masses. The touches of bright red in the bark of the tree in the foreground suggest to the viewer that the wilderness is still appealing, while the patches of shadow cast by the storm clouds over the fields reflect nature's dominance.

The *Course of Empire* series (1833-36) is a fine example of the application of Cole's color theories, as there is a wide variety of techniques used, and a repetitive use of techniques in different ways. In the *Pastoral State*, one of the most prominent of Cole's ideas is the underlying red tone in the foreground. It creates warmth, and assists with the peaceful composition, reflective of the subject, or stage of the empire, as pastoral: familiarity and equality with the land. The alternating light and shade throughout the foreground leads the eye back to the ever-standing mountain in the background, and the warm, hazy sky painted in cool blue over a warm undertone, with the addition of yellow in the clouds near the horizon.

The use of colors to reflect the character of the painting is repeated in each state. In the *Consummation*, the dominance of the empire over the land is apparent through the composition of man-made structures, as well as the choice of cold, but dazzling, white as a dominating color. The bright reds and oranges contrast with the blinding white to create a strong opposition, and the direct sunlight reflected off the white structures suggests the brilliance and power of the empire. In *Destruction*, dark and bright are contrasted again, but this time dark is predominating.

Cole again uses bright reds and oranges in opposition with cool colors, but this time they contrast the cold, dark gray of storm clouds.

The metaphorical use of day and night, as described previously of Cole's semi-circle of color above a horizon line, is applied to this famous series depicting the rise and fall of civilization. Cole's diagram related the rising sun and the accompanying yellow color with feelings of happiness, and the dark blue sky of the setting sun with sadness. While *Course of Empire* doesn't use day and night to symbolize "gay" and "sad," the course of an empire over time is reflected in the course of the sun through the sky, from morning to twilight. The breaking dawn is used to represent the infancy of civilization, the brilliance of the sun at noontime is reflected in the victorious empire at its height, and the sun sets on deserted ruins.

### **Cole as a Renaissance Man: The Analogy of Sound and Color**

Thomas Cole's notebooks are full of poetry, compositions celebrating the wilderness, documentation of his travels in Europe, and letters written in elegant prose and penmanship. His interest in music was integrated into his life as an artist, as he believed music had a great deal in common with painting. Cole believed that the elements comprising a song corresponded with elements in a painting.<sup>23</sup> For example, the melody in a song is equivalent to the arrangement of a painting, the time or meter in a song is equivalent to the continuity of the composition, and the harmony of sound is equivalent to the harmony of colors. As Cole writes about these comparisons, he assigns a color to each note.<sup>24</sup>

A diagram drawn by Cole in his sketchbook from 1827 is made up of lines intersecting in the middle to form 12 points.<sup>25</sup> The inscription at the bottom of the page indicates that this is an

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<sup>23</sup> Cole, *Sketchbook*, 1827.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

“analogy between sounds and colour.” On first inspection, the diagram resembles the circle of fifths (sometimes called the circle of fourths) used in music, which is based on key signatures. Either a sharp or a flat is added to the key signature to create a new key. There is a determined order in which sharps and flats are added to the key signature, and therefore the position of the key signatures around the circle of fifths always remains the same. Cole inscribed six colors on his diagram – red, orange, yellow, green, blue, violet – and placed them in order clockwise around the circle. The colors do not correspond to the same notes that Cole had assigned to them when comparing music to painting as discussed above, nor do the letters around the circle follow the same order as the circle of fifths, making this diagram a bit puzzling. However, it is possible that Cole is making a connection between the order of sharps and flats, and the order of colors in the spectrum, as well as the addition or combination of colors (such as in the formation of secondary and tertiary colors).

A page from Cole’s 1829 notebook contains the statement, “Harmony appears to be the product of gradation.”<sup>26</sup> On this page, Cole creates a comparison between harmony of sounds and gradation of light and shade, with two diagrams to show this comparison. The first diagram shows gradation between notes in a right angle. There are five lines within the right angle, each forming an acute angle. Each acute angle corresponds with a different musical note, ordered in a specific way so as to creating gradation. The second diagram shows light and shade in gradation; black to white with shades of gray. These degrees of change in light and shade from black to white correspond to the steps between notes, which Cole believes creates harmonious sounds and appearances.

Not only do both sound and color create harmony within themselves, but both have similar effects on the viewer or listener. Cole writes in an entry to his notebook, dated from

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<sup>26</sup> Cole, *Sketchbook*, 1827.

1835-1848, that both sound and color can cause either pleasure or pain. A pleasant color compares to a pleasant note played by an instrument, while a disruptive noise, such as the sound of a firing cannon, compares to the appearance of lightning.<sup>27</sup> It is in this entry that Cole proposes the idea of creating an instrument that “plays” colors. Because he had previously experimented with assigning notes to colors, he believes that there can be created an instrument that would use this understanding of both notes and colors. In this idea, he brings all his propositions about the relation between sound and color together.

### **The Influence of George Field**

Thomas Cole certainly encountered the works of George Field, and perhaps Field himself and his followers, during his trip to Europe between 1829 and 1831. Along with Cole’s own writings at the NYS Library, is an announcement, or advertisement, for the publication of one of Field’s later works, *Elements of Analogical Philosophy: or, a Primary View of the Principles, Relations, and Purposes, of Nature, Science, and Art*,<sup>28</sup> which was published in 1839. Although he was not a subscriber to Field’s books, Cole was clearly a reader and follower.

Amongst Cole’s original writings are a number of pages that were copied from one of Field’s books. A page, titled “Field’s Optical Instruments – In Chromoscope & Metrochrome,”<sup>29</sup> includes a short hand version of pages 222-223 from Field’s *Chromatography; or, a Treatise on Colours and Pigments, and of their Powers in Painting*. Another series of 4 pages is also a summary of this book, and is titled on the first page as “Extracts from Field’s Chromatography; or a Treatise on Pigments and Colours.”<sup>30</sup> Much of what Cole wrote in his notebooks was less

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<sup>27</sup> Thomas Cole, *Notebook, 1835-1848*. Entry dated November 8, 1935.

<sup>28</sup> Announcement for the publications of work by George Field, n.d. Book was published in 1839.

<sup>29</sup> Thomas Cole, *Thomas Cole Papers*, n.d.

<sup>30</sup> Cole, *Thomas Cole Papers* (set of 4 pages), n.d.

technical and often focused on techniques that he had tried and found successful. But what he has copied out of Field's book is more technical, and deals, for example, with the mechanics of a prism and optical effects.

In an article by William I. Homer, titled "Thomas Cole and Field's 'Chromatography,'" a comparison is made between a diagram found in one of Cole's notebooks (1839), now at the Princeton Art Museum, and a diagram appearing in Field's *Chromatography*.<sup>31</sup> Both diagrams are circular, and contain overlapping circles with different areas representing different colors. There are a total of six circles that overlap, representing the three primary colors and the three secondary colors, placed in order clockwise. The circles overlap to represent the mixing of colors to form tertiary colors. There is a small circle in the middle labeled "neutral," representing the combination of all (inherent) colors, which, in theory, forms black. Homer suggests that the finished appearance of the diagram and text, and lack of mistakes, or cross-outs, in the writing indicate that it may have been copied from somewhere else. He says, "the text is written in the methodical, logical style of a scientist, not in Cole's picturesque and colorful prose, as found in his letters," and "the physical appearance of the writing does not indicate any struggle to formulate ideas, as might have been revealed by word changes, cancellations, and insertions."<sup>32</sup>

Cole proposes that there is an advantage to painting a landscape initially in "light and shadow" in a warm tone, which will make the overall tone of the finished painting warmer. Field, however, complicates the subject when discussing light and shade by focusing on three different states: *sensible*, *latent*, and *compounded* (a combination of both).<sup>33</sup> In a *sensible* state, light and shade appear as white, black or grey and in a *latent* state as red, blue or yellow. Field

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<sup>31</sup> William I. Homer "Thomas Cole and Field's 'Chromatography,'" *Record of the Art Museum, Princeton University*, Vol. 19, No. 1, (1960): 26

<sup>32</sup> *Ibid.* 26

<sup>33</sup> Field, *Chromatics*, 2

then writes about the mixing of primary colors to form secondary and tertiary colors. Cole, however, seems to adapt this scientific approach to light and shade for his own use, and focuses more on the application of light and shade on a white canvas so that they will “give a warmth and beauty to the true tints afterwards laid on.”<sup>34</sup>

The final comparison that can be made between the ideas found in Field’s published books and Thomas Cole’s journals is the theory of the relation between the effects of color and the effects of music.<sup>35</sup> Like Cole, Field discusses harmony of color and harmony of sound, which occurs when “three or more sounds or colours [are] in consonance or opposition.”<sup>36</sup> He compares gradation of color to gradation of melody, as Cole does through a diagram of acute angles and the corresponding diagram of shading from white to black. Understood by both the writer and artist, colors and sounds can either be in concordance or discordance with one another. Like in mixing colors, musical and painterly compositions have a predominating color or sound, and subordinate colors or sounds, which are harmonious.<sup>37</sup>

The list of subscribers to Field’s *Chromatography* is extensive, numbering 216 men and women in 1835,<sup>38</sup> including artists such as John Constable and J.M.W. Turner, establishing Field’s significant contribution to contemporary artistic techniques and color theory. Field dedicated *Chromatography* to his subscribers and followers, saying, “You will consummate a field of colouring which is already celebrated and followed throughout Europe... you will bequeath to posterity standards of perfection in colour.”<sup>39</sup> Thomas Cole, a self-motivated student of music, poetry, and art, with little formal artistic training, and a follower of George Field,

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<sup>34</sup> Cole, *Sketchbook*, 1827

<sup>35</sup> Field, *Chromatics*, 13

<sup>36</sup> *Ibid.*, 14

<sup>37</sup> *Ibid.*, 18

<sup>38</sup> Field, *Chromatography*, v-viii

<sup>39</sup> Field, *Chromatography*, iii-iv.

would have been included in this group of artists as he passed on his theories and techniques to the next generation of Hudson River School artists.

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# Appendix

Images from the Thomas Cole Papers, New York State Library, Albany, NY

Transcriptions of papers by Caroline Gillaspie



~~All pictures ought to have a principle of colour - If the~~  
~~subject is a gay one the predominant colour should be~~  
~~in unison with that character - If a sad one the predom-~~  
~~inant colour should be in unison with that character - If a~~  
~~tragic one the colour should be sad also -~~  
All pictures ought to have a principle of colour -  
If the subject is a gay one the predominant colour  
should be in unison with that character - If a  
sad one the colour should be sad also -  
If terrible the ~~color~~ colour that has most of that  
characteristic ought to be ~~un-~~ predominant -  
I should call yellow gay; blue sad; Red ter-  
-rible - ~~Light should be the effect of the~~  
~~to the mind~~ - Light as the opposite of  
dark enhances - dark ~~and~~ causes gloom -  
But light <sup>in white</sup> though it ameliorates does not destroy  
the characteristics of colour as it regards their effect  
on the mind - When yellow is made light  
it is more delicate - blue has a more tender effect  
equivalent to a lesser degree equivalent to  
what we call pensiveness - ~~Red is the~~  
Red is stimulating - The peculiarities of  
colours as to their effect on the mind are ~~very~~  
badly explained in what I have said - but I believe  
true effects are found in nature - ~~the~~ Blue  
I have observed their effects on my own mind on  
entering rooms - Blue is commonly called the  
melancholy colour - red is the violent -  
yellow the gaudy -  
One

Image 2  
Thomas Cole's Sketchbook, 1827  
New York State Library, Albany, NY

Colours & Tints of Tints

Colours always have the most value and brilliancy when they are contrasted (the warm <sup>with</sup> the cool) not only in touching a warm colour with a cool one or a cool with warm, but in lay[ing] them in masses opposed to each other. By this means great brilliancy and clearness is preserved. ~~Used when one is white~~ in foreground, and you will always have a richness that cannot otherwise be given and the distance will be thrown off.

Reds & oranges are the best for painting Landscapes on. ~~as they give~~ to the sky and distance an aerial and diaphanous appearance that cannot be produced otherwise. It will do very well to lay in the sky and distant mountains in red and white not the darker than they are intended to be when finished. These paintings of snow will be blue and yellow will have a happy yet clear appearance. Advantage arises from just painting red & blue tints are purer from not being so much mixed as in the common manner of painting. Red & white the yellow red and blue are mixed together and often produce a dirty tint. The fewer Colours the tints are composed of. The clearer they are. By using the red under

Image 3  
Thomas Cole's Sketchbook, 1827  
New York State Library, Albany, NY



I think great advantage might be derived from  
painting the landscape in water and then  
first in warm glowing colours on a white  
ground - by this means you obtain certain of  
your light and shades - and make a  
ground that gives ~~you a true~~  
the picture and give a ~~truly~~ soft beauty  
to the ~~entire~~ scene thus into reflections  
last in ~~the~~  
~~the~~  
ground in ~~the~~ perspective and mixed with ~~the~~  
gel varnish - instead of oil

Image 5  
Thomas Cole's Sketchbook, 1827  
New York State Library, Albany, NY

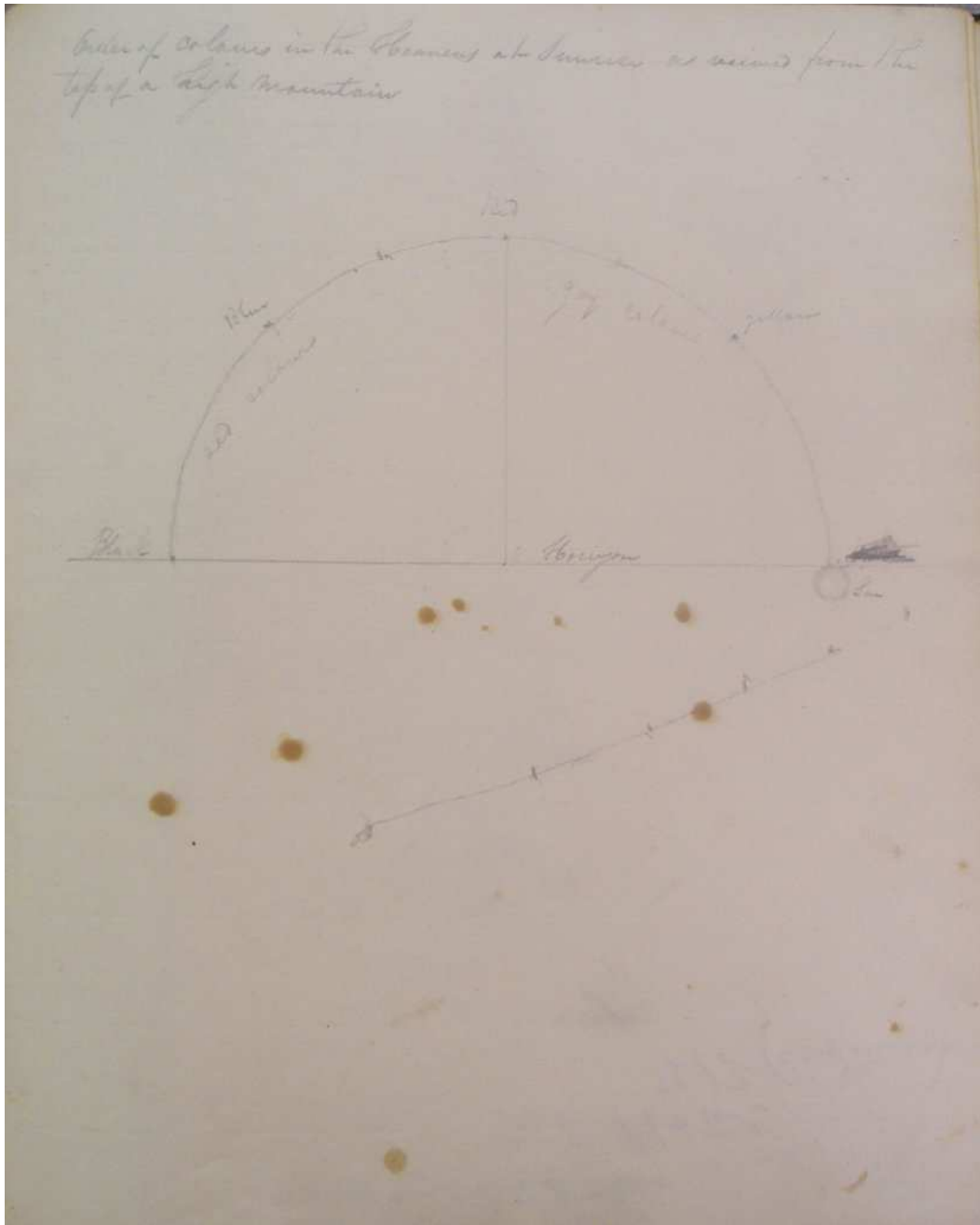


Image 6  
Thomas Cole's Sketchbook, 1827  
New York State Library. Albany, NY

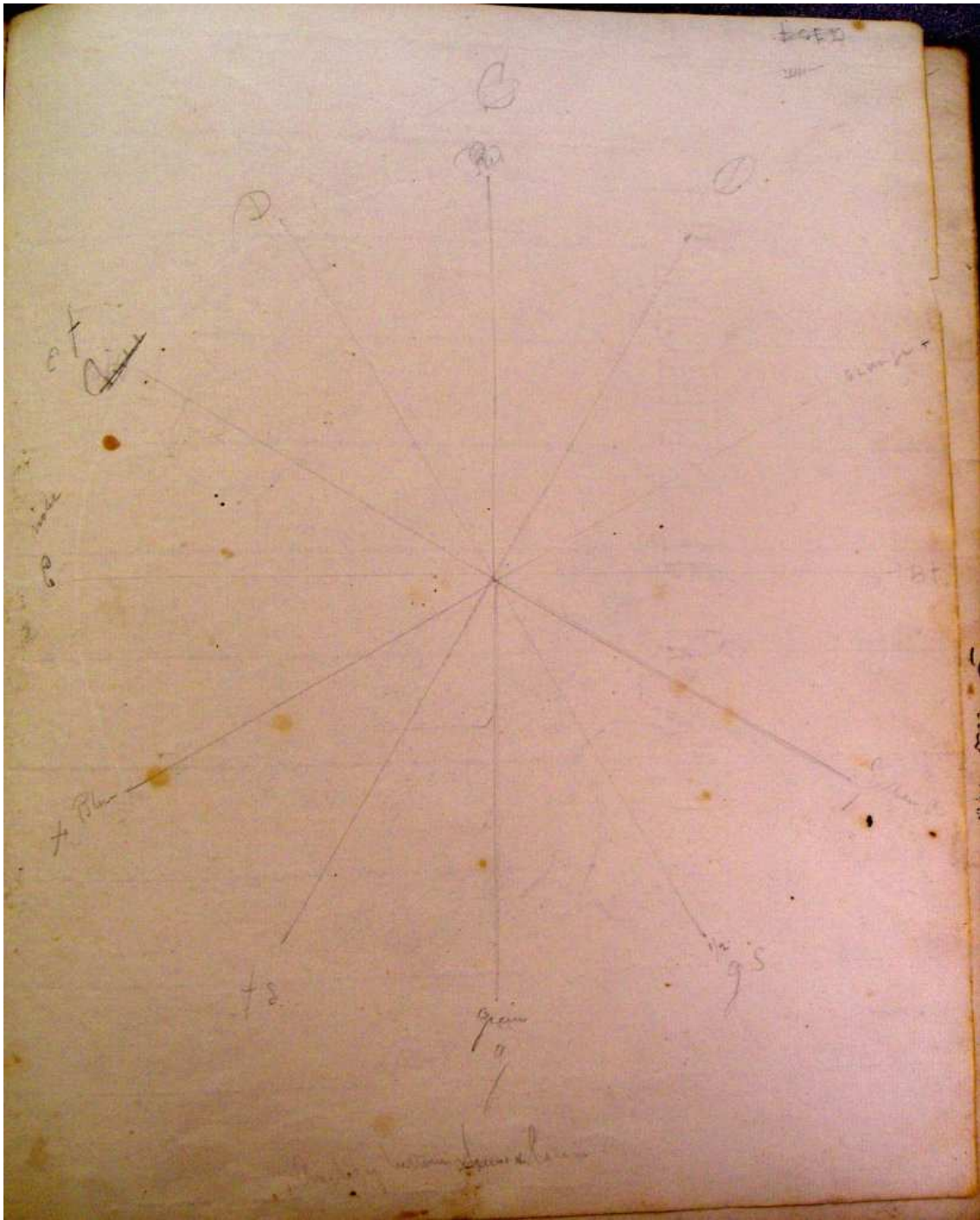


Image 7  
Thomas Cole's Sketchbook, 1827  
New York State Library. Albany, NY

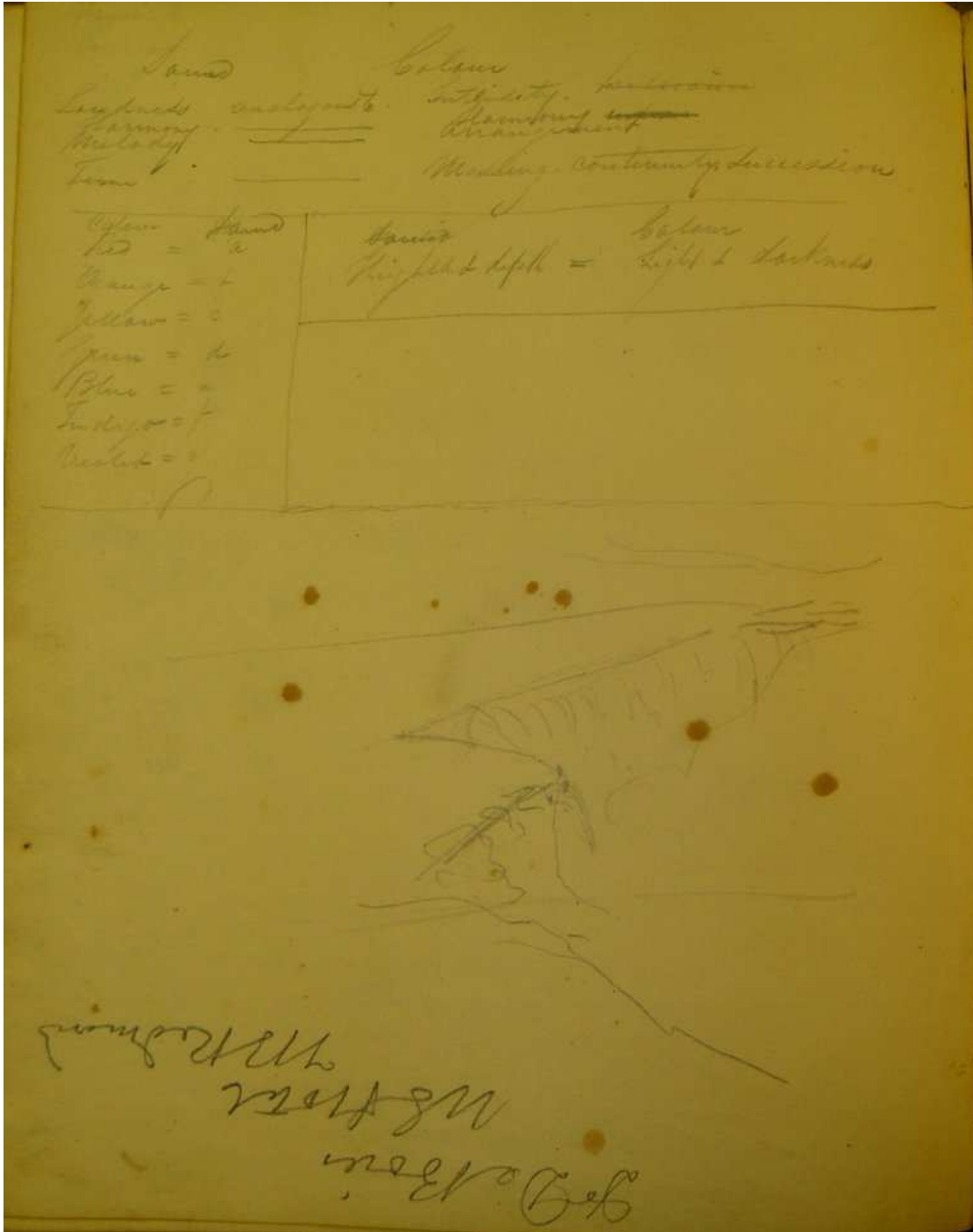


Image 8  
 Thomas Cole's Sketchbook, 1827  
 New York State Library. Albany, NY

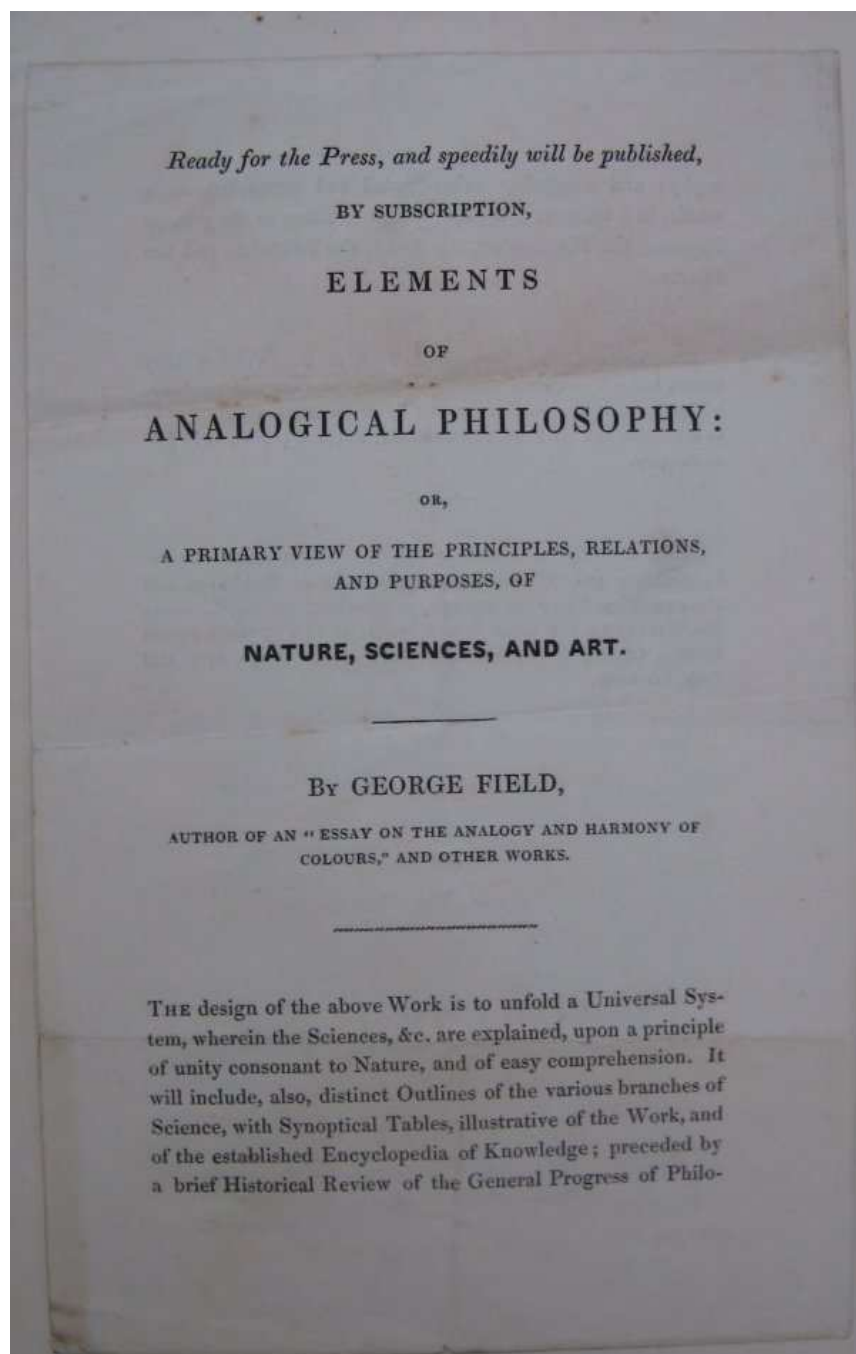


Image 9

Announcement for the Publication of a book by George Field. Date unknown. Book was published in 1839.

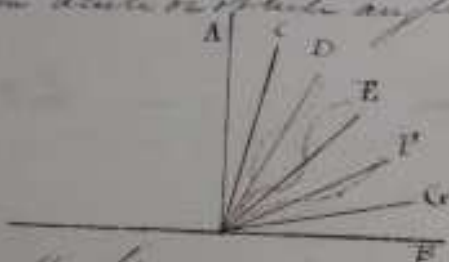
New York State Library. Albany, NY



Thoughts on the principle of Harmony -

Harmony appears to be the product of gradation -

The straight lines drawn from one point to another in a right angle are gradations from the lines that form that angle, and are more or less in a number, or harmony, with those lines, according as they form acute or obtuse angles with them -



A & B are the lines that form the right angle all the radiating ones are gradations - G is more in harmony with B than C is - †

\* Recombination of harmonies produces a new and great result -  
Light and shade in gradation harmony -



\* Forms being, included in lines of gradation for harmony on the gradations of lines, will have other other gradations, etc.

⊕ Perhaps it is not only a line that the harmony of the tones may be applied to anything else suitable -

Image 11  
Thomas Cole's Notebook, 1829  
New York State Library, Albany, NY

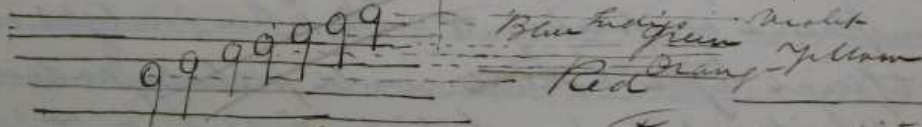
by combination - degree + arrangement of sounds -  
 In the first place a simple sound may give pleasure or  
 pain - as the <sup>to the ear</sup> report of a cannon note of an instrument or  
 the report of a cannon - so rose-colour for instance  
 gives pleasure <sup>to the eye</sup> - the lightning flash of pain\* -  
 The first modification of <sup>sound</sup> in its approach to music  
 is ~~the~~ being measured - such is the music of the drum †  
 colour is ~~in~~ path of this modification -  
 The second modification of sound is the rising & sinking  
 in the scale - here some difficulty arises in the analogy for  
 although there are the seven prismatic colours to correspond  
 with the seven notes in music - yet each colour has ~~its~~  
 own expression or character peculiar to itself - as far as I am  
 at present acquainted with music the <sup>same</sup> notes are altogether  
 arbitrary & have no analogy with colours as red blue -  
~~from the~~ though they may depend on Ray - The melody of sound  
 depends upon arrangement - so colour may be arranged  
 with corresponding effect - The harmony of sounds depends  
 on combination - so does that of colour -  
 It is evident that there is ~~some~~ analogy between colour  
 & sound & with study & experiment it may be  
 traced through all its ramifications, which I am not  
 \* I consider light as colour. It is the primitive energy cannot exist without light  
 † Perhaps the first modification is degree or intensity -  
 ‡ by the audible & in harmony

Image 12  
 Thomas Cole's Notebook, 1835-1848, entry dated November 8<sup>th</sup>, 1835  
 New York State Library, Albany, NY

aiming to prove the analogy, but to show that an instrument might be constructed by which colour could be played & to those who had cultivated their taste in the art as much as our taste in music is generally cultivated would experience a pleasure by no means inferior to that given by music —

~~A scale of the Organ~~

<p>Landness</p> <p>Harmony</p> <p>Melody — —</p> <p>Time or Measure</p> <p>Height - Depth</p> <p>Volume — —</p>	<p>Colour</p> <p>Intensity or Quantity *</p> <p>Harmony</p> <p>Arrangement or Melody</p> <p>Measure (Continuity &amp; succession)</p> <p>Light - Darkness</p> <p>Quantity —</p>
---	---



A - Red  
 B - Orange  
 C - Yellow  
 D - Green  
 E - Blue  
 F - Indigo  
 G - Violet

This scale of notes is a mere guess —

gentle in light & shade — of course have their natural names  
 \* Many such - London or better in some  
 have analogy with colour is made first by light  
 & darkness — and then by intensity  
 not strong through quantity of mass but  
 through intensity — the stronger colour  
 being the least shadow — the weaker the  
 most — the less or more — analogous  
 to intensity in colour — pictures to  
 weakness  
 Will come on my depend on face —  
 -ity in most in colour —  
 Colours have their natural names  
 yellow is the lightest — Red the darkest  
 Blue the least — Indigo the  
 most intense of dark shades

Image 13  
 Thomas Cole's Notebook, 1835-1848, entry dated November 8<sup>th</sup>, 1835  
 New York State Library, Albany, NY

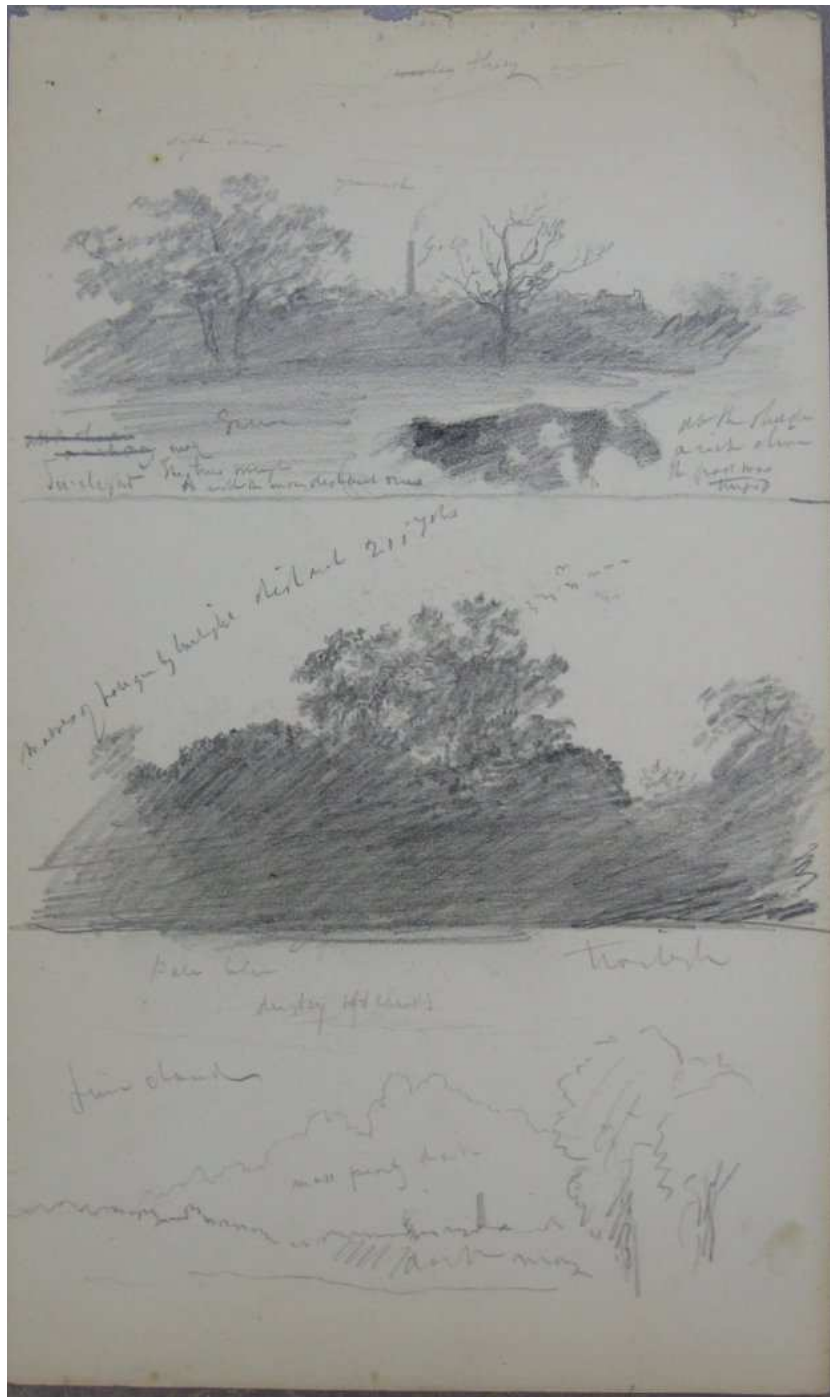


Image 14  
Thomas Cole, sketch.  
New York State Library. Albany, NY

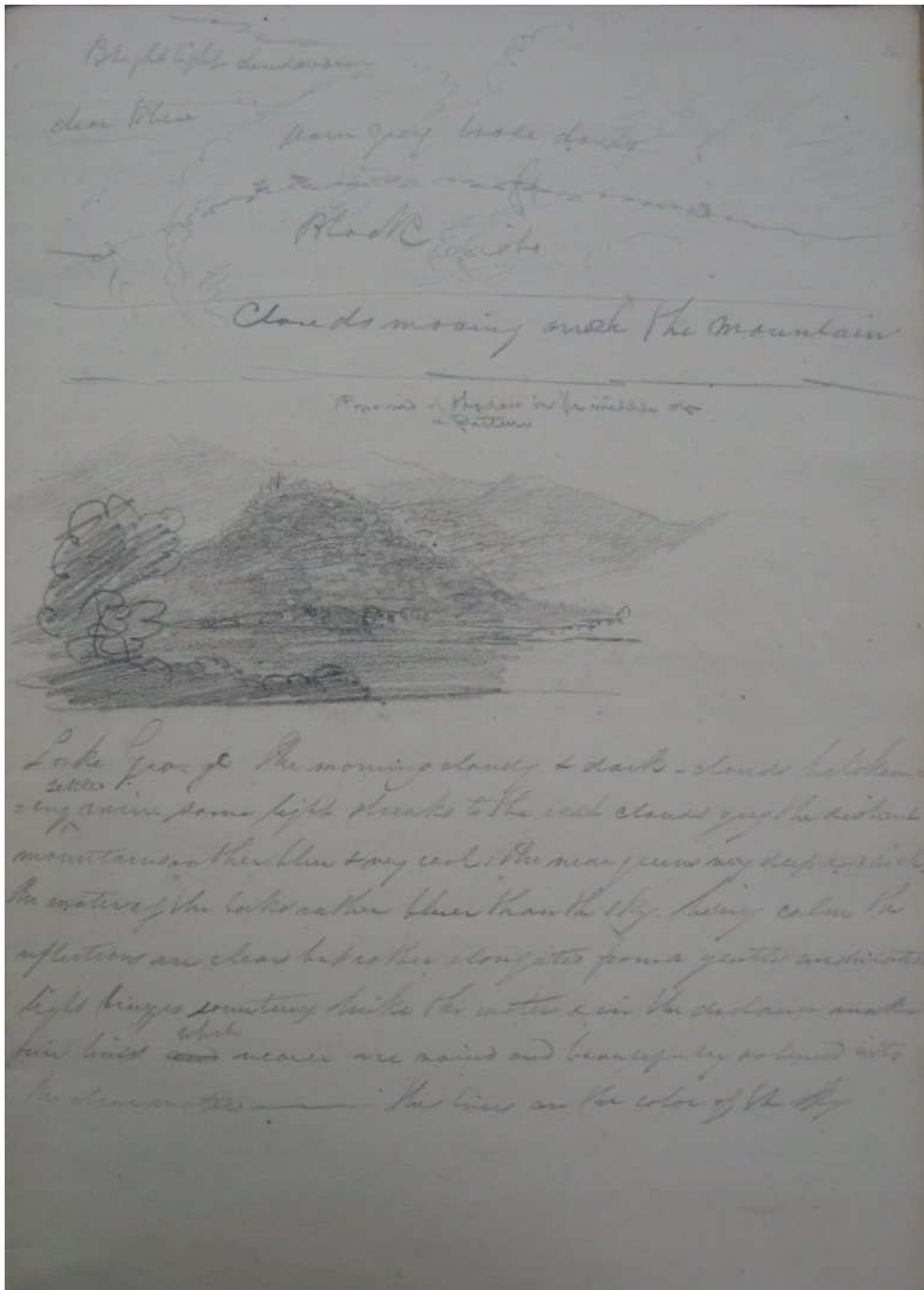


Image 15  
 Thomas Cole, sketch  
 New York State Library. Albany, NY

## Transcription of image 1

In painting an object intended to be powerful and bright, it is necessary to have a [illegible] mass of lights & colour. For the brightest colour that can be placed in a picture seldom, if ever affects as such when scattered or in small masses.

Quantity as much as quality is necessary to produce [a strong?] effect on the eye. I have observed that the pictures of [illegible – an artist's name?] and others (as seen in prints) that the sunny light appearance is produced by having a broad [masses?] of the lightest colours. The bright light predominates and they take their character pleasant [sunshiny?] picture from that in great measure

-----

The picture sent to Mr. Roger London. A scene from the Last of the Mohicans. Was first painted in light and shadow in the warmest colours possible. In the sky [illegible] and [illegible] in the warm parts much Terra Sienna. This ground gave a tone to the picture where finished. The foreground was painted with the richest colour possible with fine grays. They [run?] in [illegible] afterwards. The clear sky was painted over with cobalt blue, fine raw Terra Sienna & whites [perhaps?] a touch of vermillion. The clouds were painted with warm purples & [yellows?] afterwards. Thinly painted with cooler colours in the shadows and higher lights put on

-----

The eye is attracted by light in the middle of dark. And by dark in the prudest of light. The eye may be led through a picture by lines of dark as much as by lines of light.

## Transcription of image 2

All pictures ought to have a principle of colour. If the subject is a gay one, the predominant colour should be in unison with that character. If a sad one, the colour should be sad also. If terrible the colour that has most of that characteristic ought to be predominant. I should call yellow gay; blue sad; red terrible. Light as the opposite of dark enhances. Dark causes gloom. But light, as white, though it ameliorates, does not destroy the characteristics of colours as it regards their effect on the mind. When yellow is made light it is more delicate. Blue has a more tender effect. Sadness is a lesser degree equivalent to what we call pensiveness. Red is stimulating. The peculiarities of colours as to their effects on the mind are badly explained in what I have said. But I believe such affects are found in nature. I have observed their affects on my own mind on [illegible] coloured rooms. Blue is commonly called the melancholy colour – red - is the violent – yellow is the gaudy.

### **Transcription of image 3**

Colours always have the most value and brilliancy when they are contrasted the warm with the cool, not only in touching a warm colour with a cool one, a cool with warm, but in laying them in masses opposed to each other. By this means great brilliancy and clearness is preserved.

#### **Crossed out:**

(Never use much white in foregrounds and you will already have a richness that cannot otherwise be given and the distance will be thrown off)

Red grounds are the best for painting landscapes on as [it?] gives to the skies and distance an aerial diaphanous appearance that cannot be produced otherwise. It will do very well to lay in the skies and distant mountains [unknown] in red and white not [here?] darker than they are intended to be when finished. These painted upon with blue, white, and yellow will have a hazy yet clear appearance and advantage arising from first painting red is that the tints are purer from not [having?] so much mixed as in the common manner of painting skies & when the yellow red and blue are mixed together and often produce a dirty tint. The fewer colours the tints are compounded of, the clearer they are. Sky using the red under.... [continued on image 4]

### **Transcription of image 4**

The upper part of a sky may be painted with pure blue and white without appearing cold and gradually mixing a little yellow to the blue as you approach the horizon a beautiful amber sky is produced.

Green herbage are always [illegible] on a reddish or gray ground or rock

Burnt brown, ochre, Lehigh, black, white, perhaps [illegible] Indian red make a fine distance in the shadow of a rain storm

In painting [ragged] and violent clouds to give that loose effect it is [well?] to (sometimes) bring the lighter colour over the dark ....

Black, Terra Siena Brown, broken with [R Siena?] black and white for the ground makes a fine colour for shadowy cool rocks.

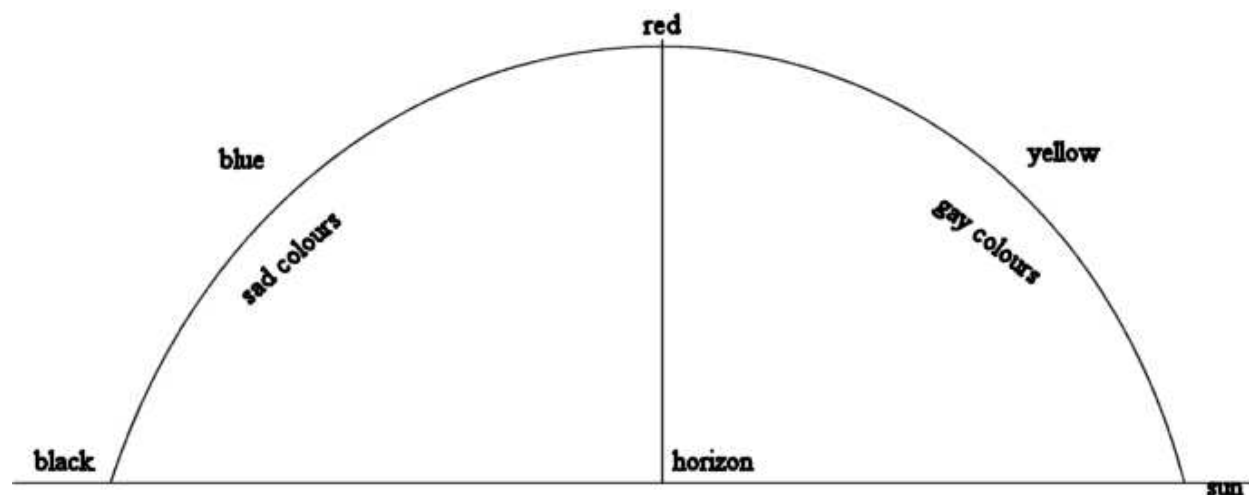
Harmony of forms is analogous to harmony of colours, and the knowledge of one facilitates the study of the other.

### **Transcription of image 5**

I think great advantage might be derived from painting landscapes in light and shadows first, in warm glowing colours on a white ground, by this means you make certain of your light and shadows and make a ground that will give a tone to the picture and give a warmth and beauty to the true tints afterwards laid on.

### Transcription of image 6

Order of colours in the Heavens at Sunrise as viewed from the top of a high mountain.



### Transcription of image 8

Sound		Colour
Loudness	analogous to	Intensity
Harmony	----	Harmony
Melody	----	Arrangement
Time	----	Massing, Continuity, Succession

Colour	Sound	Sound	Colour
Red =	a	Heighth [sic] & Depth =	Light & Darkness
Orange =	b		
Yellow =	c		
Green =	d		
Blue =	e		
Indigo =	f		
Violet =	g		

## **Transcription of image 11**

Thoughts on the Principle of Harmony

Harmony appears to be the product of gradation. All straight lines drawn from one point and included in a right angle are gradations from the lines that form that angle, and are more or less in agreement (or harmony) with those lines, according as they form acute or obtuse angles with them.

A and B are the lines that form the right angle. All the included ones are gradations. G is more in harmony with B than C is.

Light and shade in gradation harmonize.

Forms being included in lines depend for harmony on the gradations of those lines, but have also other gradations.

Perhaps it is melody rather than harmony of the [term?] may be applied to anything but musick[sic].

## **Transcription of image 12**

...by combination, degree & arrangement as sound.

In the first place a simple sound may give pleasure or pain to the ear as the note of an instrument or the [report?] of a cannon. So rose-colour for instance gives pleasure to the eye, the lightning flash pain. \*

The first modification of a sound in its approach to music is being measured. Such is the music of the drum.+ Colour is capable of this modification.

The second modification of sound is the rising and sinking in the scale. Here some difficulty arises in the analogy, for although there are the seven prismatic colours to correspond with the seven notes in music, yet each colour has an expression+ or character peculiar to itself. As far as I am at present acquainted with music, the [many] notes are altogether arbitrary and have no analogy with colours as red blue & [some], though may depend on [unknown]. The melody of sound depends upon arrangement. So colour may be arranged with corresponding effect. The harmony of sound depends on combination. So does that of colour.

It is evident that there is an analogy between colour & sound & with study & experiment it might be traced through all its ramifications, but I am not... [continued in image 16]

\*[illegible] light as colour. It is the primitive. Colour cannot [illegible] without light.

+ Perhaps the first modification is degree or intensity

+ Of this I will speak hereafter

## **Transcription of image 13**

...aiming to prove the analogy, but to show that there is plausibility in the thought that an instrument could be constructed by which colour could be played & to those who had cultivated

their task in the art as much as our taste in music is generally cultivated would experience a pleasure by no means inferior to that given by music.