7. **Contrast of extension** (contrast of proportion)

- Involves the relative areas of two or more color patches; the contrast between much and little, great and small
- We should inquire what quantitative proportion between two or more colors may be said to be in balance
- Two factors determine the force of a pure color – its brilliance and its extent (area covered)

To estimate brilliance or light value, we must compare the pure colors on a neutral gray background of medium brilliance. We find that the intensities or light values of the several hues are different.

Goethe set up simple numerical ratios for these values, best suited for our purpose. They are approximate, but pigments vary so widely. Ultimately, vision must decide. Furthermore, the color areas in a painting are often fragmentary and complicated in shape, and it would be difficult to reduce them to simple numerical proportions.

Goethe’s light values are as follows:

<table>
<thead>
<tr>
<th>Primary Color</th>
<th>Secondary Color</th>
<th>Third Color</th>
<th>Fourth Color</th>
<th>Fifth Color</th>
<th>Sixth Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>Orange</td>
<td>Red</td>
<td>Violet</td>
<td>Blue</td>
<td>Green</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

The proportions for complimentary pairs are:

- yellow : violet = 9 : 3 = 3:1 = 3:1 = ¾ : ¼
- orange : blue = 8 : 4 = 4 : 2 = 1 = 2/3 : 1/3
- red : green = 6 : 6 = 1 : 1 = ½ : ½

In converting these values to harmonious areas, you must take the reciprocals of the light values: that is, yellow, being three times as strong, must occupy only one-third as much area as its complimentary violet.

The harmonious areas for the primary and secondary colors are as follows:

<table>
<thead>
<tr>
<th>Primary Color</th>
<th>Secondary Color</th>
<th>Third Color</th>
<th>Fourth Color</th>
<th>Fifth Color</th>
<th>Sixth Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>Orange</td>
<td>Red</td>
<td>Violet</td>
<td>Blue</td>
<td>Green</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Or:

- yellow : orange = 3 : 4
- yellow : red = 3 : 6
- yellow : violet = 3 : 9
- yellow : blue = 3 : 8
- yellow : red : blue = 3 : 6 : 8
- orange : violet : green = 4 : 9 : 6

Other colors are to be related to each other similarly.

Harmonic areas yield static, quiet effects. Contrast of extension is neutralized when the harmonious proportions are used.

The ratios stated above are valid only when all the hues appear in their maximum purity. If these are altered, the equilibrium areas also change. The two factors of light value and extent of area turn out to be the most intimately related.

If other than harmonious proportions are used in a color composition, thus allowing one color to dominate, then the effect obtained is expressive.

Example: “Landscape With Fall Of Icarus” by Pieter Brueghel the Elder