

colors gives *white*, yet another proportion will produce *black*. While, then, red and green look beautiful side by side, it does not generally answer to print red ink on *gray paper*. The reason is, that as the ink is slightly transparent, some of the green shows through it, and appears somewhat black, and thus lowers the brilliancy of the red in the same degree as so much black ink would, if mixed with it. This remark will apply to orange or yellow on a blue paper, etc. The darker and fuller the body of color used the less it is affected in this manner.

The most perfect contrasts are those above mentioned, which are formed by the complementary colors; yet the primaries blue, red and yellow also agree well together. But if such colors as are not in harmony are placed near each other the effect is very damaging to their brightness. While red is made more brilliant by the proximity of green, it is dimmed and spoiled by placing it next an orange. Neither blue nor red contrasts well with violet, because the latter contains each of these colors in its composition. In any case where they must come into juxtaposition, the unpleasant effect may be lessened by adding a little of the opposite color: so, if a violet is to contrast with red, it will be well to give it a shade of blue, making it more *purple*; if, on the other hand, it is to contrast with blue or green, it should be made *redder*.

II. COLORS WITH BLACK. In all contrasts the depth of the color is an important element, but especially so in such as are to be affected by the presence of black. In but few instances will the latter bear the neighborhood of a very deep color to advantage, whilst it harmonizes with the lighter ones by contrast of tone. Yellow, from its near approach to white, should always be worked "full;" orange and green should also be full, and moderately deep in tone, to contrast with black. If a blue is employed it should be light, or it will impoverish the black and be weakened itself. A very light blue border, with a broad margin of white between it and the body of matter enclosed, will give a clean, bright look to black ink, and whiteness to the paper. A light pink (such as carmine reduced with flake white or with clear varnish) is also good; yet perhaps the preceding is preferable. Dark and heavy borders are frequently a positive injury to printing, where the working in a light shade would have secured

a good effect; for the border should always be so far secondary to the matter enclosed as not to draw off the attention too much to itself.

III. COLORS ON TINTED PAPERS AND TINTED GROUNDS. Besides the kind of harmony already mentioned, there is another which is produced by the contrast of light and dark shades of the *same* color. This might be employed in letter-press more frequently than it is at present, with some advantage, as the effects it is capable of yielding are very chaste and pleasing. In a photograph or an engraving all the effect is dependent on difference of tones of one color; and the beauty of a wood in summer consists chiefly in the contrast displayed by a variety of shades of green only. A deep green ink on a paper of a light tone of the same color is especially good, if a heavy letter is used; and indeed in most printing in colors, full, solid-faced letter should be preferred to outlines or shaded ones, which are difficult to work, and have at best but an inferior appearance unless the darkest tones are employed. A deep blue on a light blue ground, or against a light blue border, is also good; and without the latter accompaniment it is not unpleasant on a blue wove writing paper. To secure the proper effect, however, the tints should be of the same *hue*; that is, if the groundwork is of a bluish green, the color that is to be worked upon it should also be a green inclining to blue; if, on the other hand, the ground is of a yellower green, the body of ink should also be yellower; and so on. This may easily be managed by adding a small portion of ink of the color required, until the hue is matched.

IV. NEUTRAL TINTS. In selecting borders for the more chaste description of printing, it is a pretty safe rule to avoid such as cover much surface, if they are to be worked in any strong color or in black. When lighter tints are used they will bear extension over a larger surface; and in this case a pale gray or neutral border will have a beneficial effect on any body with which it is contrasted, as well as on black itself, which is purified by its proximity: If the central printing is in black *only*, or in black and yellow, a *lavender* gray may be substituted for the border. And in any case in which the central matter is all in one color it will improve it to have a border of gray which is *slightly tinged with the complimentary of such color*. Thus, if the body be red, a very small portion of *green* may be added to the gray; and so forth.—*Am. Printer.*