

UCLA Research Workshop Series Summer 2020

PhotoShop

Anthony Caldwell

What is Photoshop?

Adobe:

Create With Precision: Photography, Graphic Design,
Compositing, Drawing & Painting.

Wikipedia:

Adobe Photoshop is a raster graphics editor

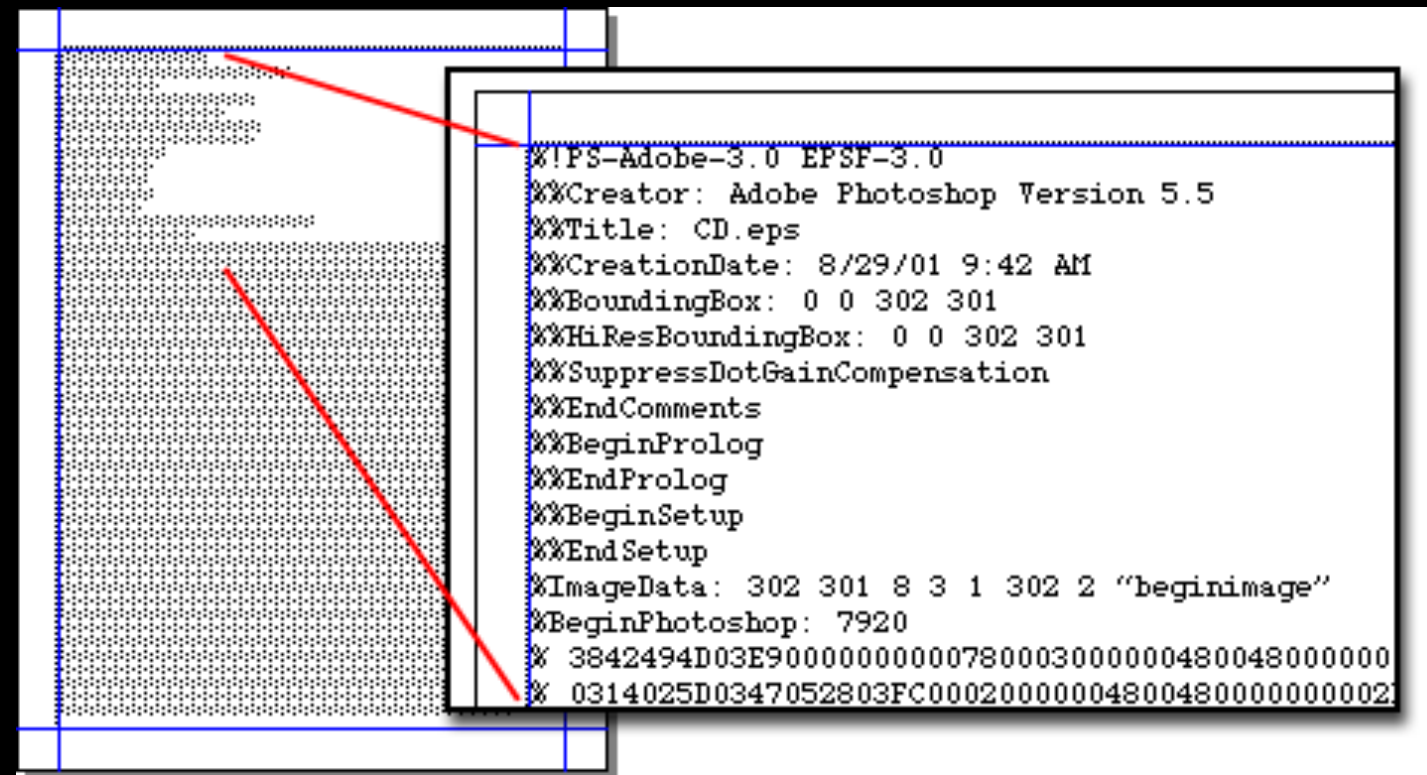
American Graphics Institute:

Adobe Photoshop is an application for image editing and photo retouching. Offering users the ability to create, enhance, or otherwise edit images, artwork, and illustrations.

Photoshop allows you to see and think about the visual world
in different ways

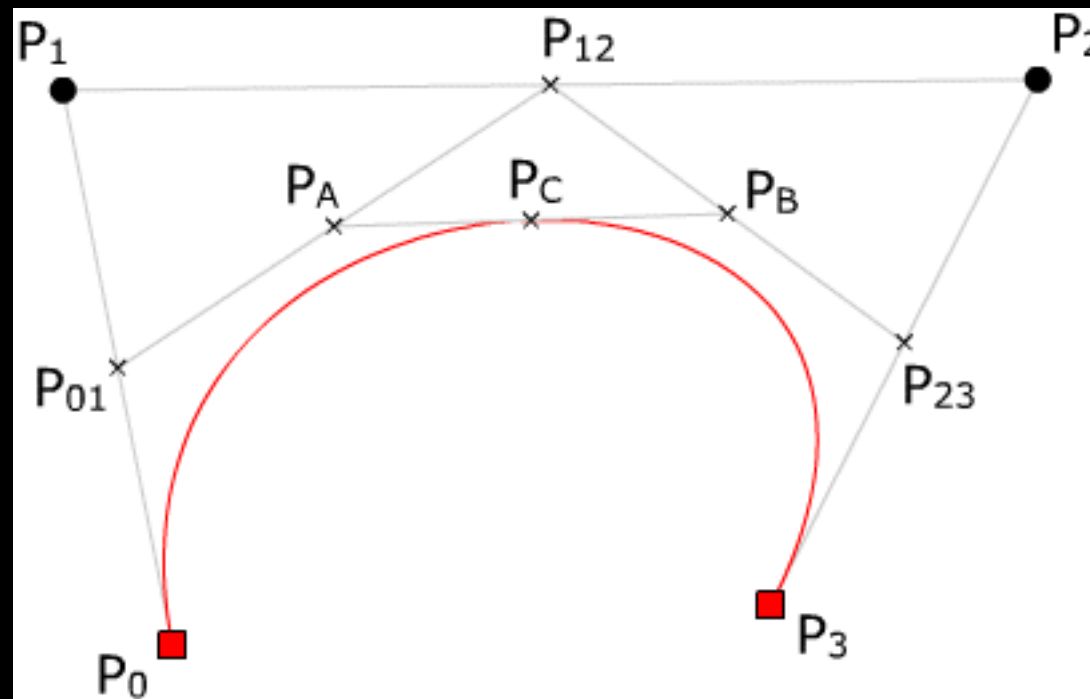
Vector vs. Raster Graphics

Vector Graphics



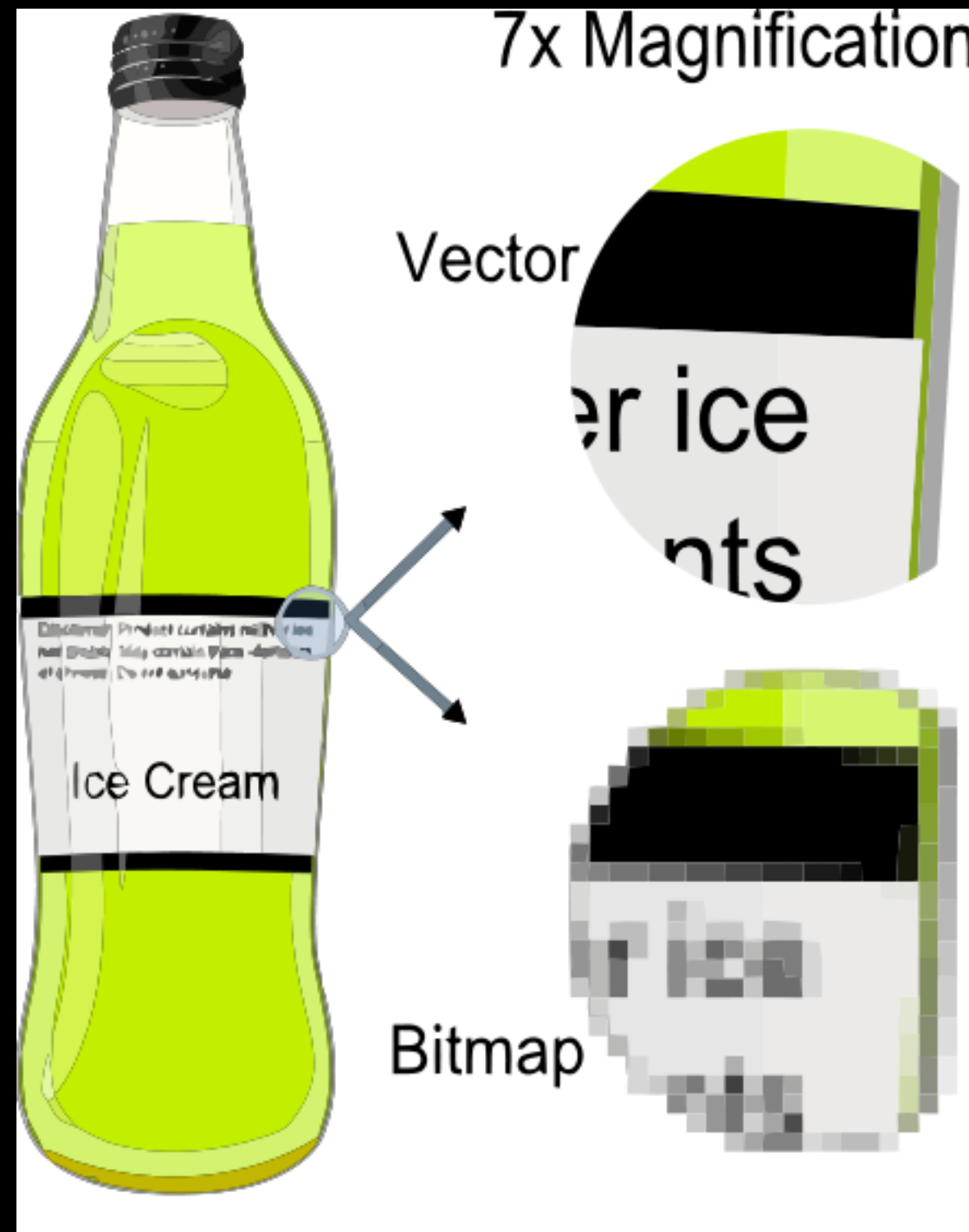
Uses geometrical primitives like points, lines, curves, and shapes based on mathematical expressions.

Vector Graphics



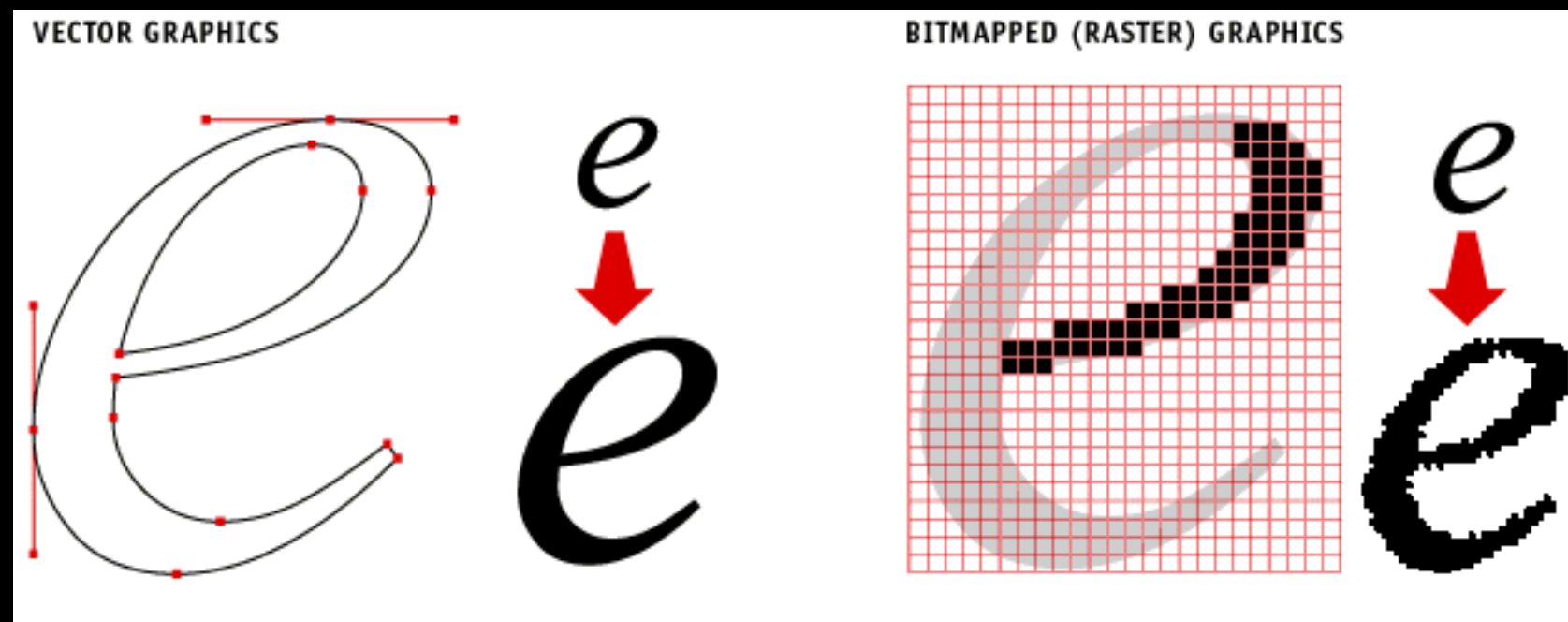
Vector graphics are based on vectors or paths which lead through locations called control points.

Vector Graphics



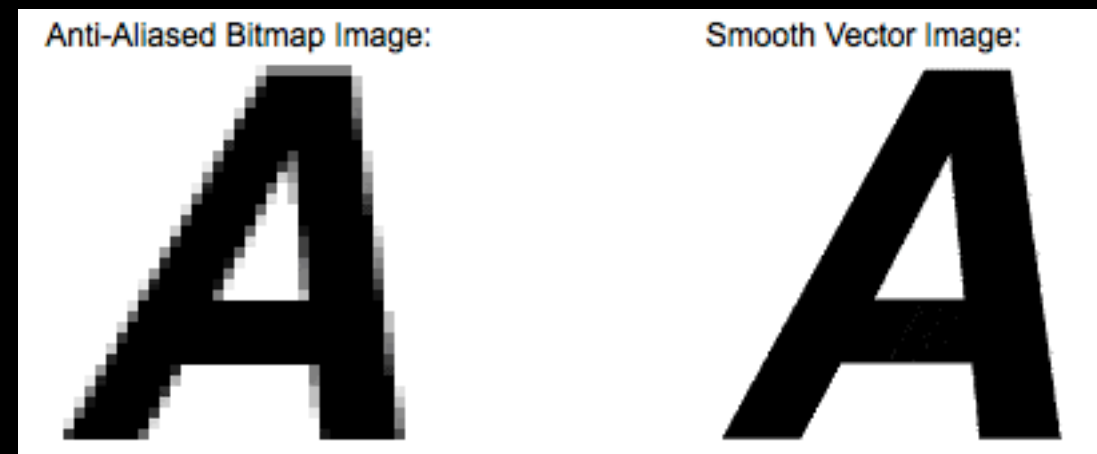
Small file size because all information resides in the structure describing how to draw the vector.

Raster Graphics



Raster or bitmap images is a dot matrix structure representing a grid of pixels.

Raster Graphics



Raster graphics are resolution dependent, they cannot be scaled up in resolution without loss of quality.

Raster Graphics



Raster graphics are best for graphics with photographs and photo-realistic images, but can become very big files.

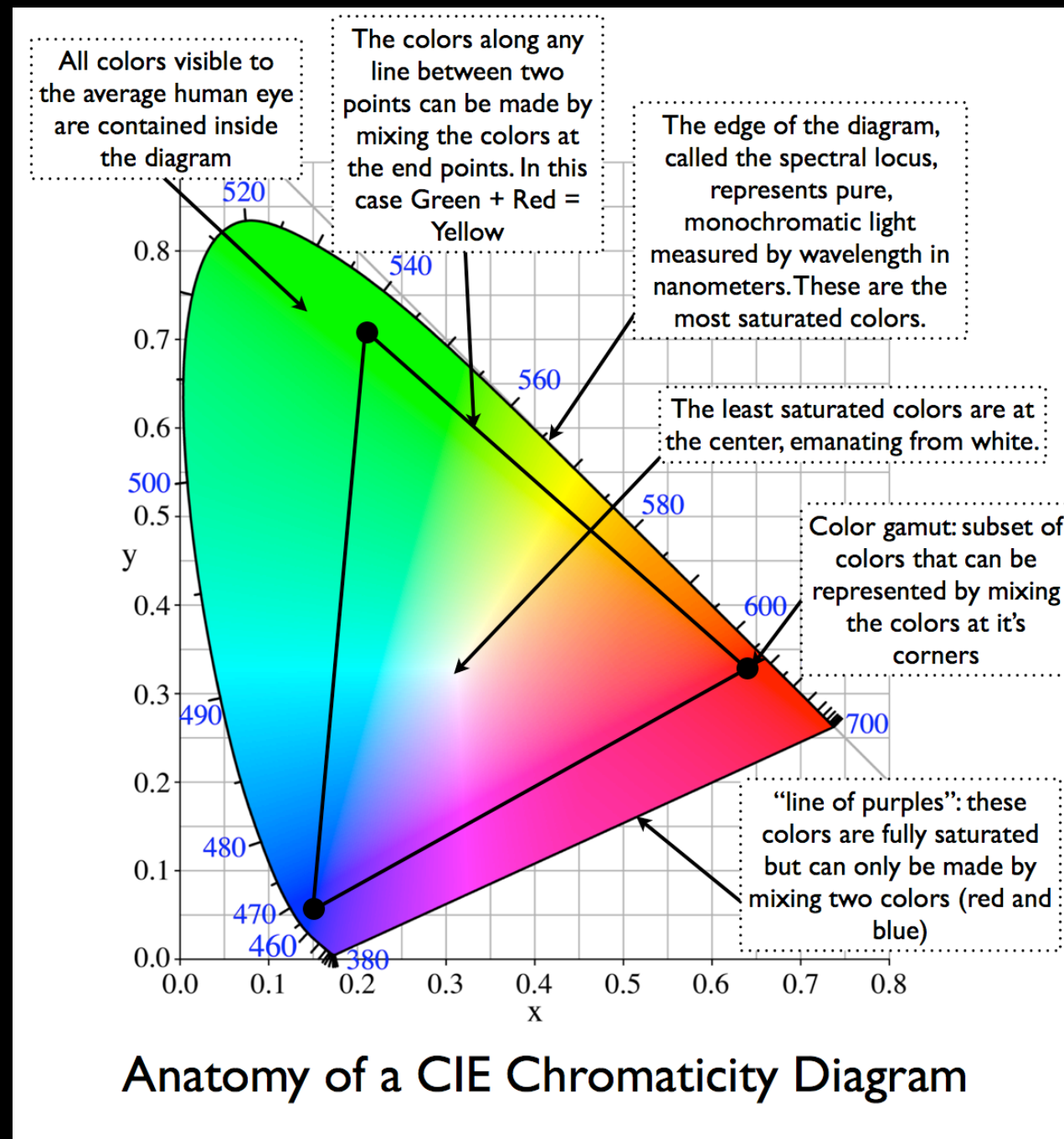
Color

Color Space

Wikipedia:

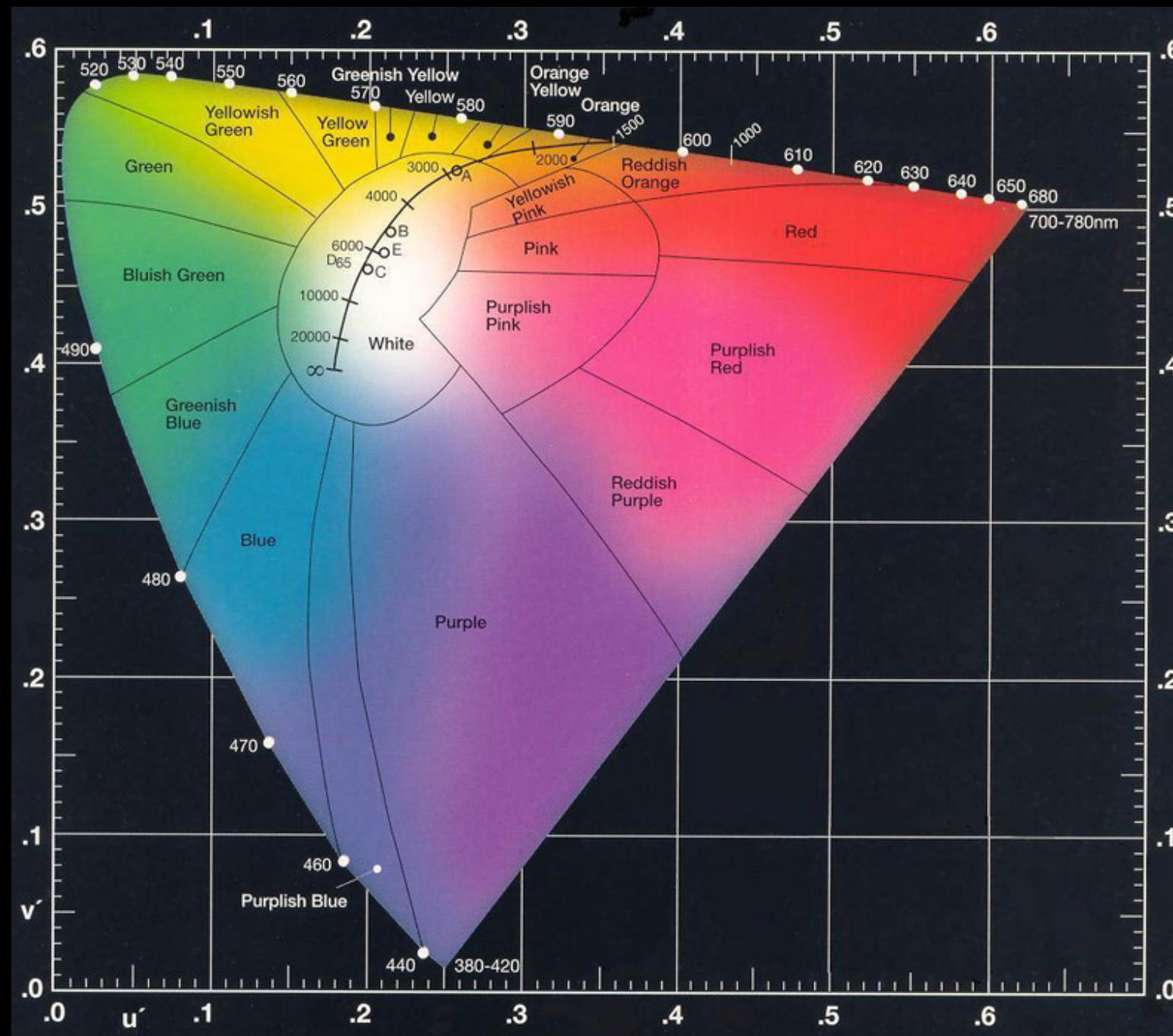
A color space is a specific organization of colors. In combination with physical device profiling, it allows for reproducible representations of color, in both analog and digital representations.

Color Space



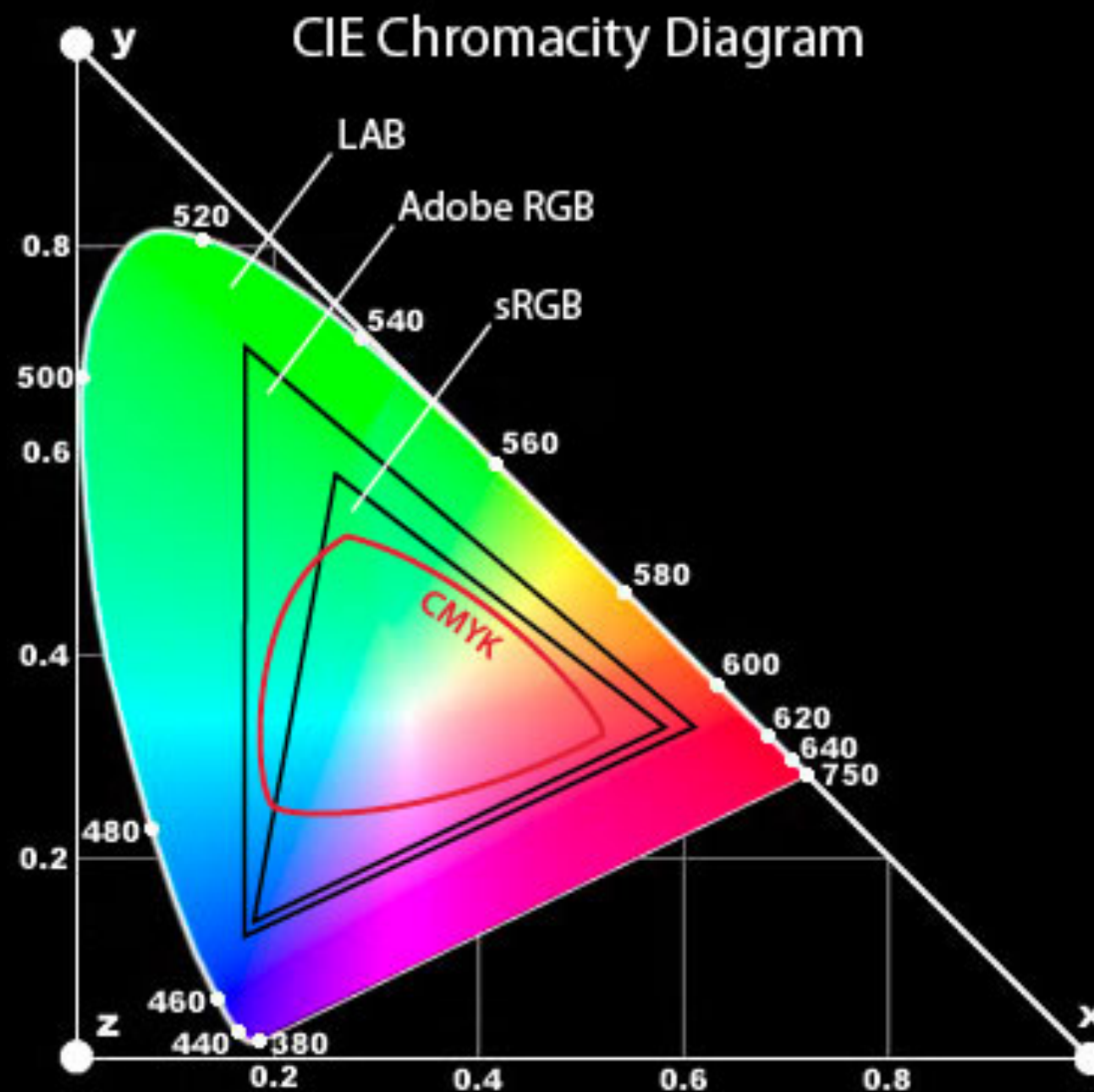
Commission internationale de l'éclairage 1931 color space

Color Space



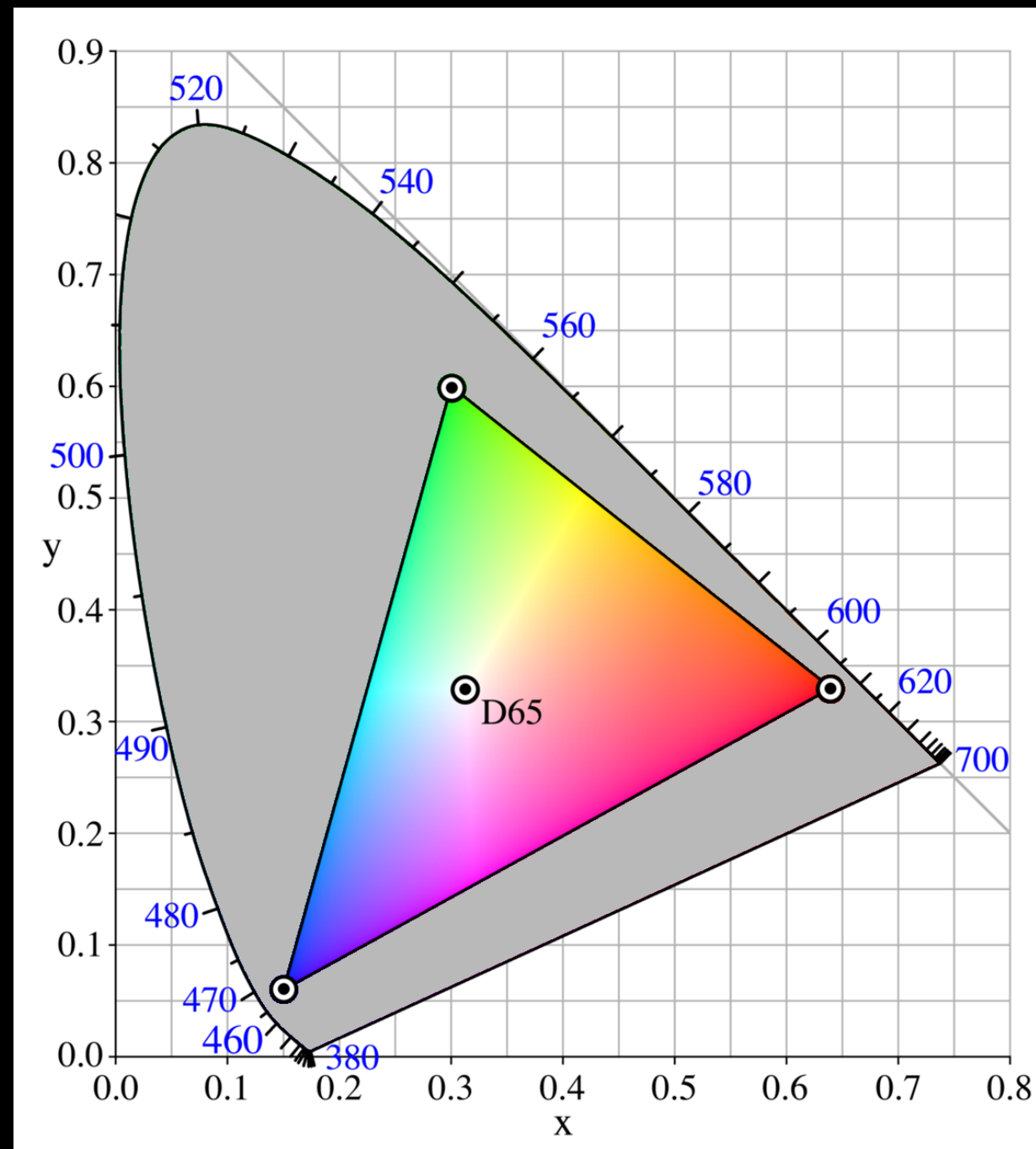
Commission internationale de l'éclairage 1976 Revised color space

Color Space



Color Space Comparison

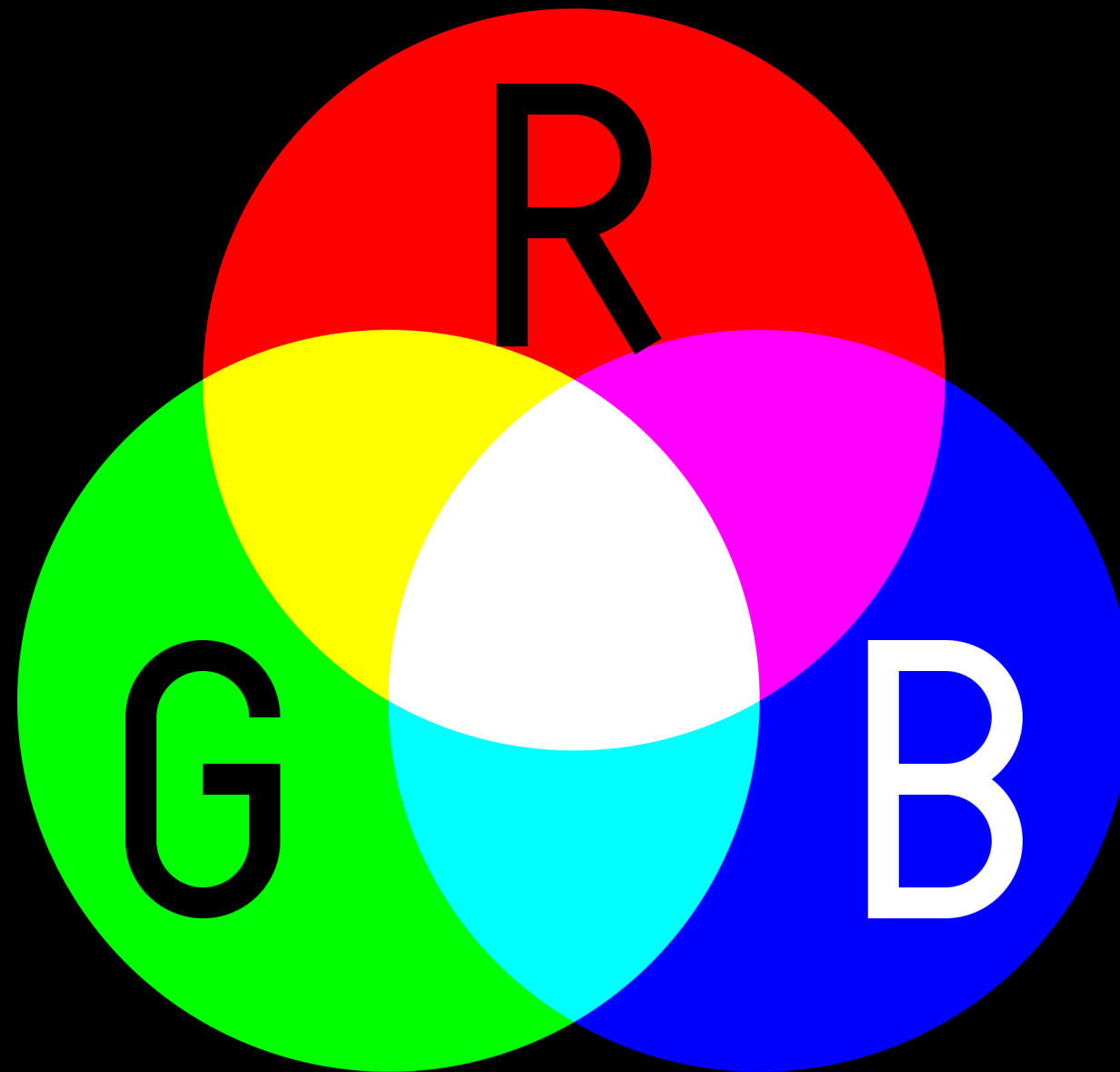
Color Space



RGB Color Space

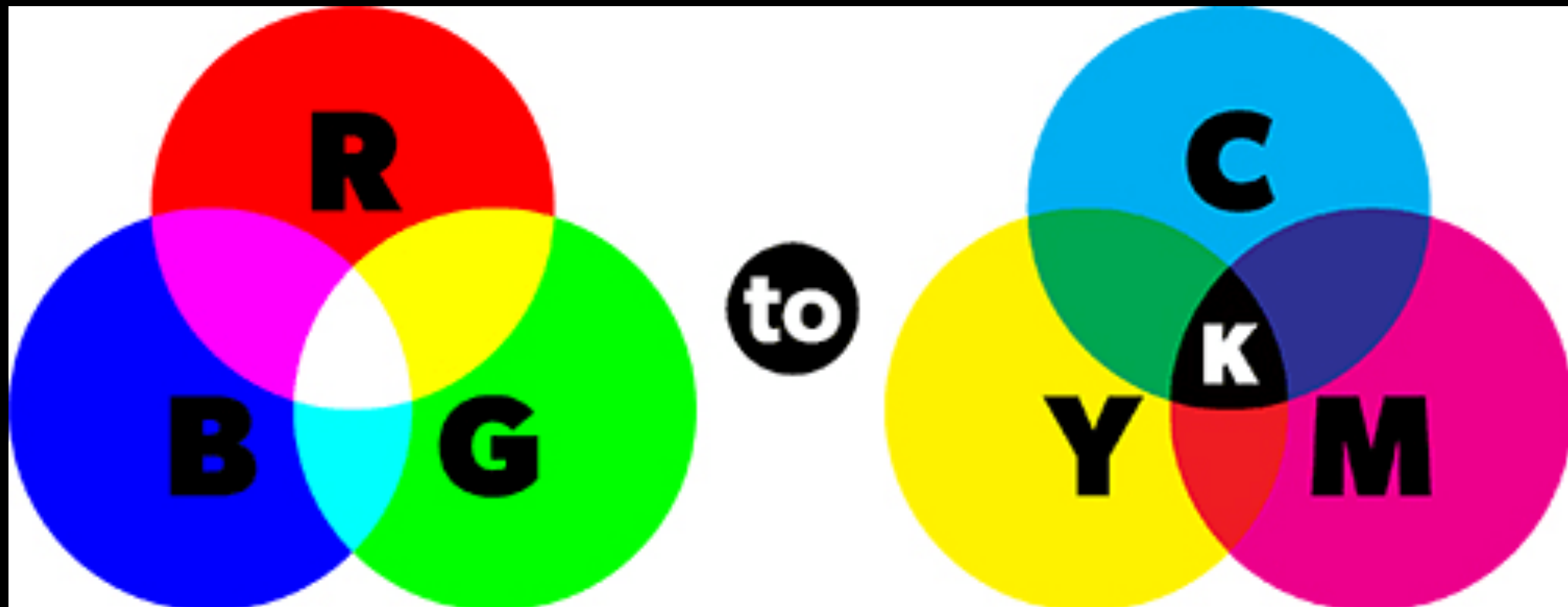
Image Source: <https://en.wikipedia.org>

Color Space



Additive color mixing

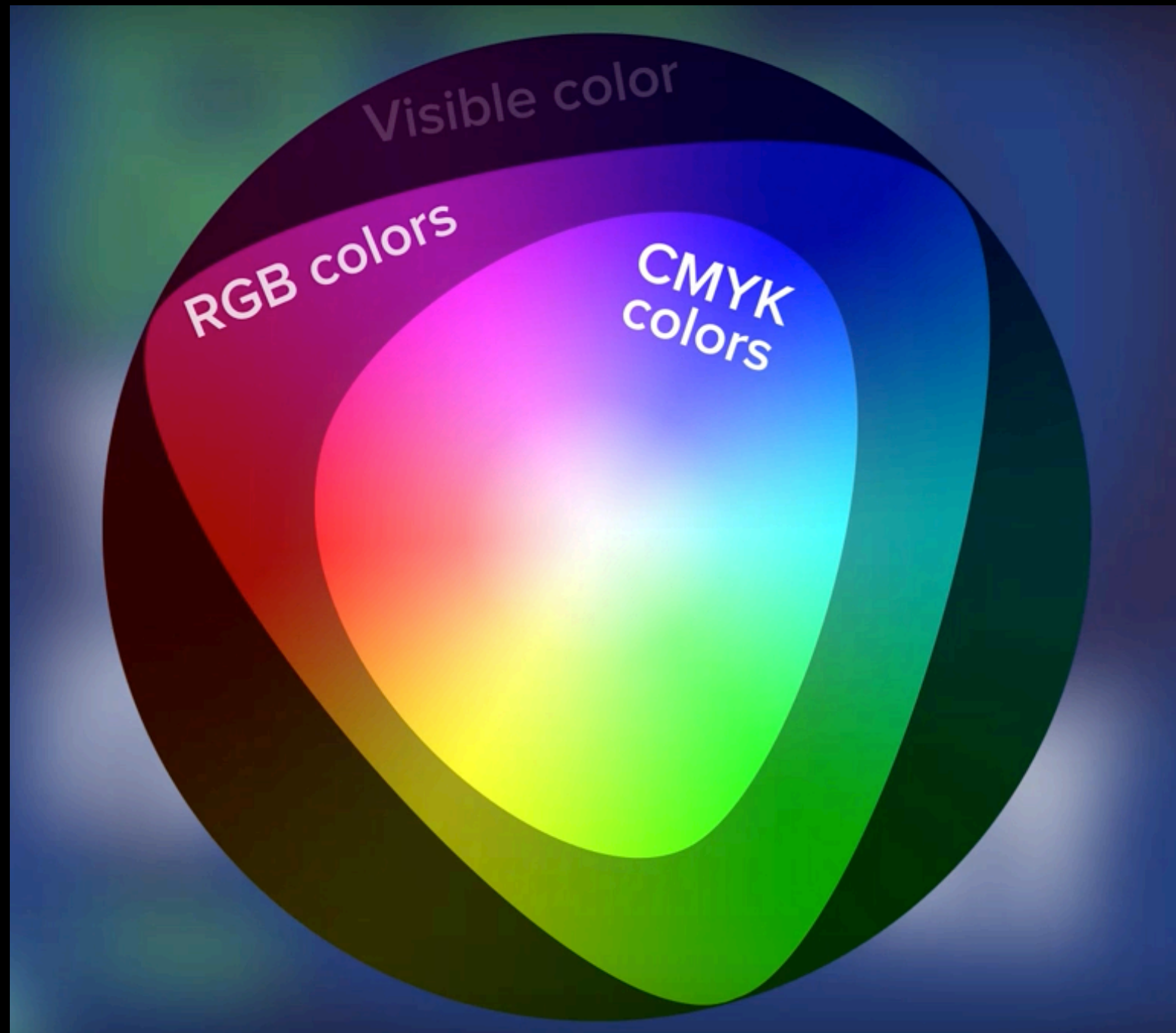
Color Space



RGB and CMYK

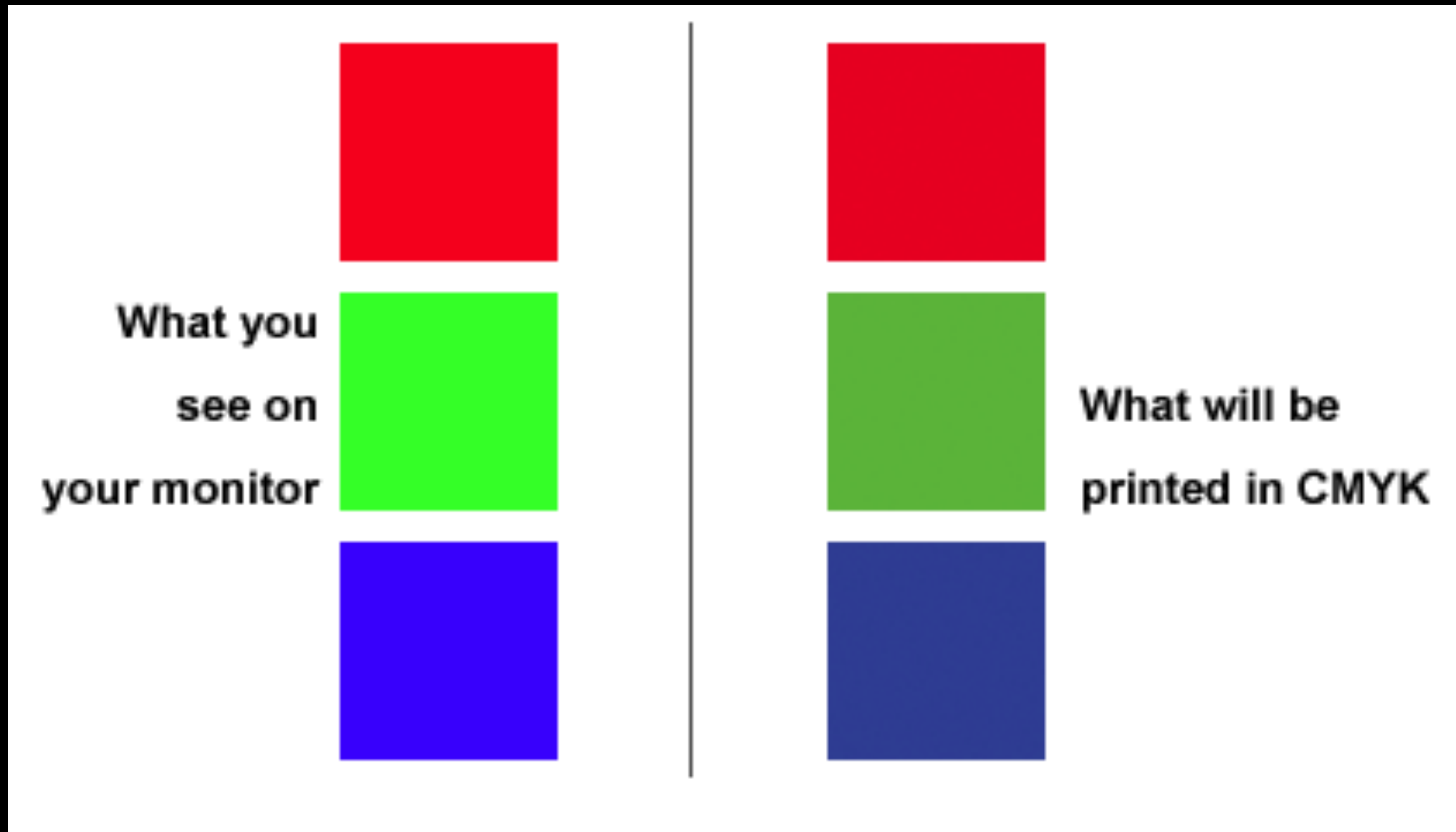
Image Source: <https://printrninja.com>

Color Space



RGB and CYMK

Color Space



RGB and Printing

Image Source: <https://www.graphpad.com>

PhotoShop Tutorial Links:

Raster Bitmap vs Vector Graphics https://youtu.be/U-X_rosRORg

What is the difference between RGB and CMYK? <https://youtu.be/9hirYMZ7PQc>

How Photoshop Sees Color <https://helpx.adobe.com/photoshop/using/color.html>

A Beginner's Guide to LAYERS and Layer MASKS in PHOTOSHOP <https://youtu.be/PQhgUB4d1cE>

How to Use Layer Masks in Photoshop <https://youtu.be/h5yW5hHjQrE>

How to Create Perfect Selections Using Channels in Photoshop <https://youtu.be/1VbaqBg9Xc>

Two POWERFUL Photoshop Cut Out Techniques - Difficult Selections Made FAST and EASY <https://youtu.be/v-Yg-dJlSeU>

How To Read An Image Histogram In Photoshop <https://www.photoshopessentials.com/photo-editing/histogram/>

How to Use the Histogram in Photoshop <https://youtu.be/ZrxH6UYY42w>

The Amazing Power of Curves in Photoshop <https://youtu.be/2ZX7H6DuMPU>

The Power of "Horizontal Curve" in Photoshop! <https://youtu.be/LfrerC80h84>

Blending modes <https://helpx.adobe.com/photoshop/using/blending-modes.html>

Default keyboard shortcuts <https://helpx.adobe.com/photoshop/using/default-keyboard-shortcuts.html>

Questions?

Anthony Caldwell

UCLA Digital Research Consortium

Scholarly Innovation Labs

11630L Charles E. Young Research Library

sil@ucla.edu