Lesson 6 — Color Fundamentals

Color Mixing

BEGINNER

Colors mixed together make new colors — this is how all painted images work. The three primary colors (red, yellow, blue in the traditional model) cannot be made by mixing others; everything else comes from combining them. Mix two primaries and you get a secondary color: red plus yellow equals orange, yellow plus blue equals green, blue plus red equals purple. Adding white lightens a color (tints). Adding black darkens it (shades). The most important beginner lesson: start with less paint than you think you need, and add more as you go.

HOBBYIST

Color mixing in practice is far messier than theory suggests because real pigments do not behave as idealized primaries. Cadmium yellow and ultramarine blue do not make a clean green — they make a muddy khaki. Cadmium yellow and phthalo blue make a vivid, clean green. Understanding the bias of each pigment — which direction it leans on the color wheel — is essential for mixing cleanly. Having two yellows, two blues, and two reds (one warm, one cool of each) gives you the ability to mix clean secondaries in any direction.

PROFESSIONAL

Professional palette design is an exercise in optical physics applied to specific pigment chemistry. The Dutch Golden Age palette was built around the optical properties of oil and natural pigments; the Impressionist palette expanded to include newly synthesized bright pigments. For contemporary oil painters, understanding pigment permanence, granulation (for watercolor), and transparency (relevant to glazing) is part of professional material knowledge. For digital artists, understanding gamut limitations — the range of colors a specific display profile or print output can reproduce — is the equivalent professional knowledge.