



by Gavriolo Princip

Black and white film records shades of gray 'logically'. If you take a B&W (black and white) picture of a blue and yellow beach ball, you expect that the blue will record dark and the yellow light. Of course. Except, it wasn't always so. If you had asked someone in 1920 what a photograph of a blue and yellow beach ball should look like, they would have said the blue is light and the yellow dark. Their expectation of 'correct' was based on the color-blind film in use at the time.

This early film used an **ORTHOCHROMATIC** emulsion. It has a high sensitivity to blue, generally correct sensitivity to green, but has too low sensitivity to oranges and deeper yellows, and is practically insensitive to red.

PANCHROMATIC films first appeared in the early 1930's, though ortho films were still commonly used into the early 1940s, and that is why some wartime photos can be so difficult to interpret. Kodak moved entirely to panchromatic by the mid-1950s.

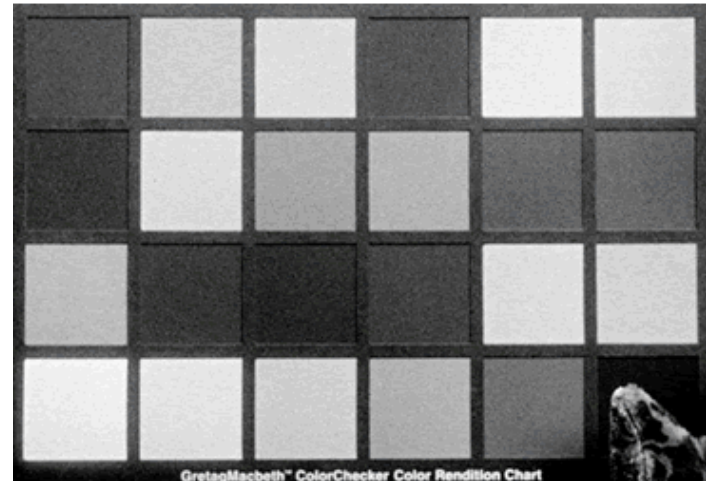
Panchromatic means sensitive to all colors of light. This is a photographic emulsion capable of recording all colours in shades of grey closer to what we expect them to look like.

Let's start by looking at a standard photographic colour chart, along with a B&W photo taken using orthochromatic film. Two things are especially worth noting. Look at the blues and colours with blue in them, and how much lighter they reproduce than what you might expect. Then look at the red, orange, and yellow colours and see how they photograph as being very much darker. And look at how the shades of green and brown in the top row reproduce very similarly. It is by no means what our mind's eye 'expects' the colours to look like, and makes it very difficult – if not impossible – to determine just what the colours are without something to refer to. In this case we have the colour original, so you know where the reds, blues, greens, etc. are. But where would you be without that?

Or...
What's with that weird roundel?



Reproduction of a standard colour reference chart.



The same chart photographed using orthochromatic black and white film.

*Stop... stop...
you're hurting my head!
What does all this mean
in the real world?*

ORTHO
film



PANCHROMATIC
film

Here's a good example of what this means in the real (modeling) world. We have two 92 Sqn. Spitfires wearing essentially the same markings. The upper one was photographed on ortho film. Note the red and blue in the roundels and fin flash compared to the lower photo, taken with pan film. Also note the yellow on the A1 fuselage roundel. Sometimes, in such photos, it's claimed that the yellow ring has been 'painted out'. Be very careful and examine the entire photo before you accept this. On another level, note how the camouflage colours on the upper photo have very little contrast between them. In extreme cases this has given rise to claims of 'single upper surface colour'.

But, of course, we know what colour roundels and fin flashes are, so here's a more challenging question: What colour is the wide fuselage stripe on this A.W. Siskin III? And without further research into provenance, squadron markings, etc., all you can say is, "Who knows?"



ORTHOCHROMATIC film