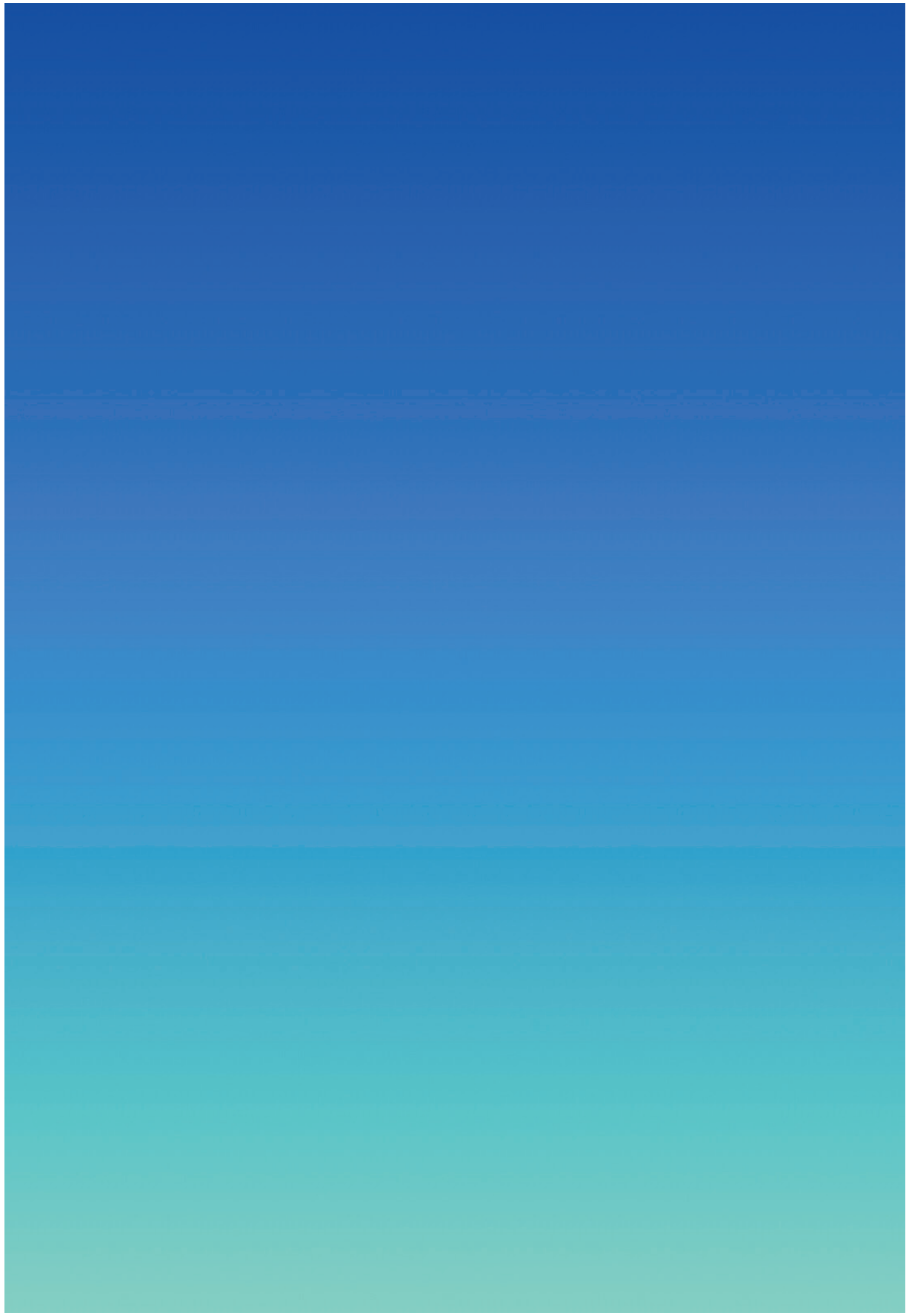

The Chromatic Illusion within the Photographic Universe, Ongoing

The Chromatic Illusion within the Photographic Universe is a practice-based research project developed within the *Thinking Tools* research group at the Royal Academy of Fine Arts in Antwerp. This work analyzes the technical, political, and cultural factors that determine colour rendering within photographic representation. Another aspect explored in the study is the "chromatic legacy" that certain technologies leave behind once they are discontinued. Starting from the awareness that colour is always artificially produced by photographic devices—and never faithfully recorded—the project centers on a series of experiments inspired by those conducted by Isaac Newton with sunlight and prisms.

The first work created within this research is titled *Black and White Rainbows* and was presented during the Brussels Photo Festival 2025 as a wall installation composed of 60 silver gelatin prints. Five different black-and-white films were used to capture twelve segments of an artificial rainbow. Recording the vivid tones of a colourful phenomenon in grayscale may seem counterintuitive; however, this process recalls the historical essence of photography, namely the translation of the infinite range of visible light into gradations of gray. The installation is systematically organized: prints corresponding to violets and blues occupy the left side, greens and yellows extend across the center, while oranges and reds are arranged on the right. Each column corresponds to the same portion of the spectrum, while each row shows the specific chromatic response of a given film. The colours of the rainbow are thus translated into different shades of gray depending on the spectral sensitivity of each emulsion. Darker prints highlight the inability of certain films to register specific wavelengths—revealing a sort of "chromatic blindness"—while brighter ones indicate the point of maximum sensitivity.

Similarly, the *Gradients* series records broader portions of the visible spectrum using colour films from different historical periods and produced by various companies, such as Kodak and Fujifilm—the two giants of the photography industry that until a few years ago largely determined the colour rendering of photographic and cinematic production. The video *From Infrared to Ultraviolet* shows the recording of a digital camera moving through the same rainbow used in the previous experiments. The resulting footage scrolls continuously across the entire spectrum, from the infrared side to the ultraviolet end. By emphasizing the subjective nature of colour perception, the work questions how the technical specifications of cameras and monitors profoundly influence our chromatic experience.

Through this research, the distinctive genetic imprints of different films and the characteristics of various digital tools are brought to light, while also showing the constraints that technology imposes on the representation of reality.

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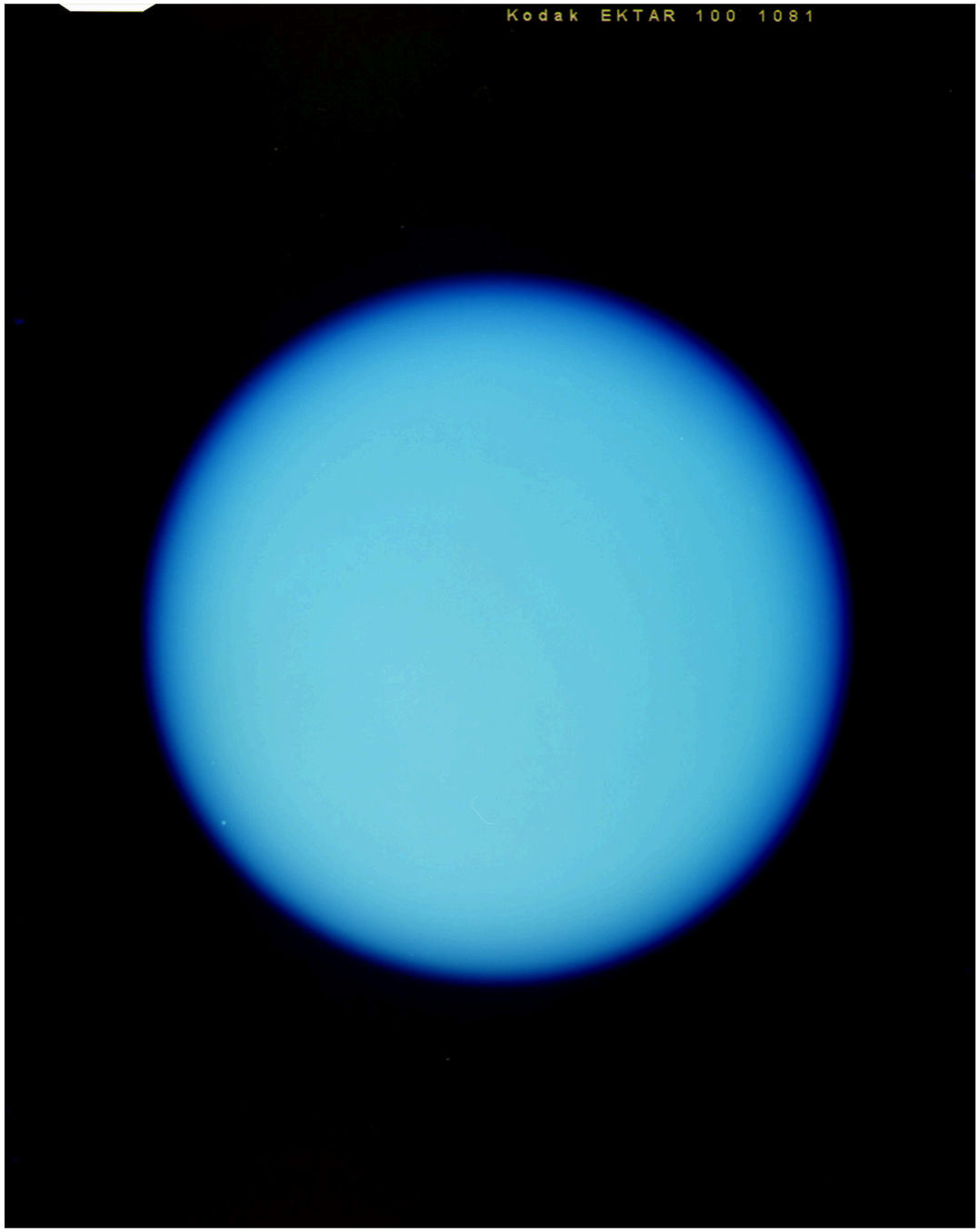
On the left:
Fig. 1 Gradient #1

Fig.2,3 The Blue of the Sky on Kodak Ektar, 2021



In the next page:
Fig. 4 Large Format Camera with Rainbow

Ten Hues of the Rainbow Recorded with Two Different Colour Negative Films

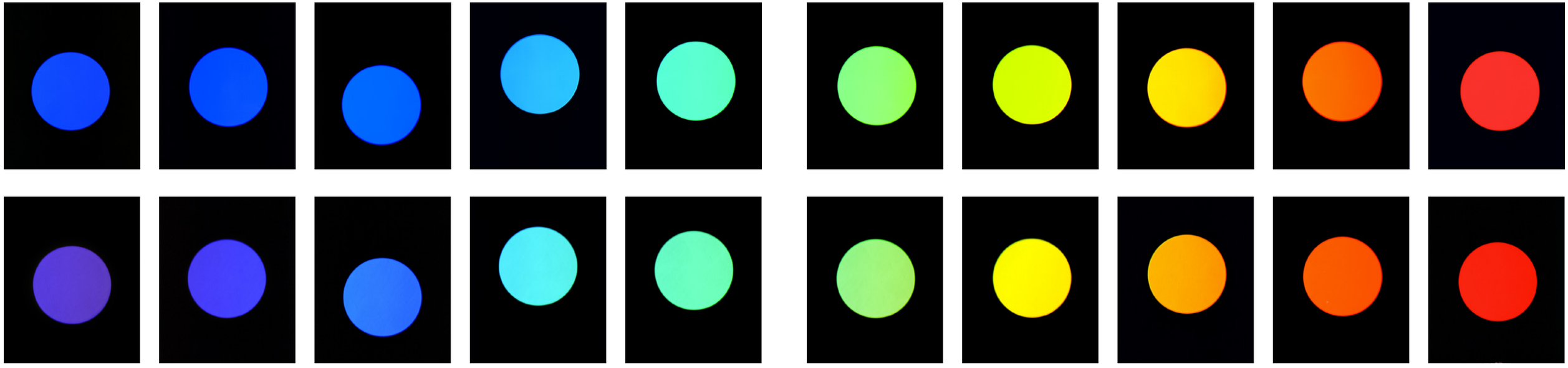
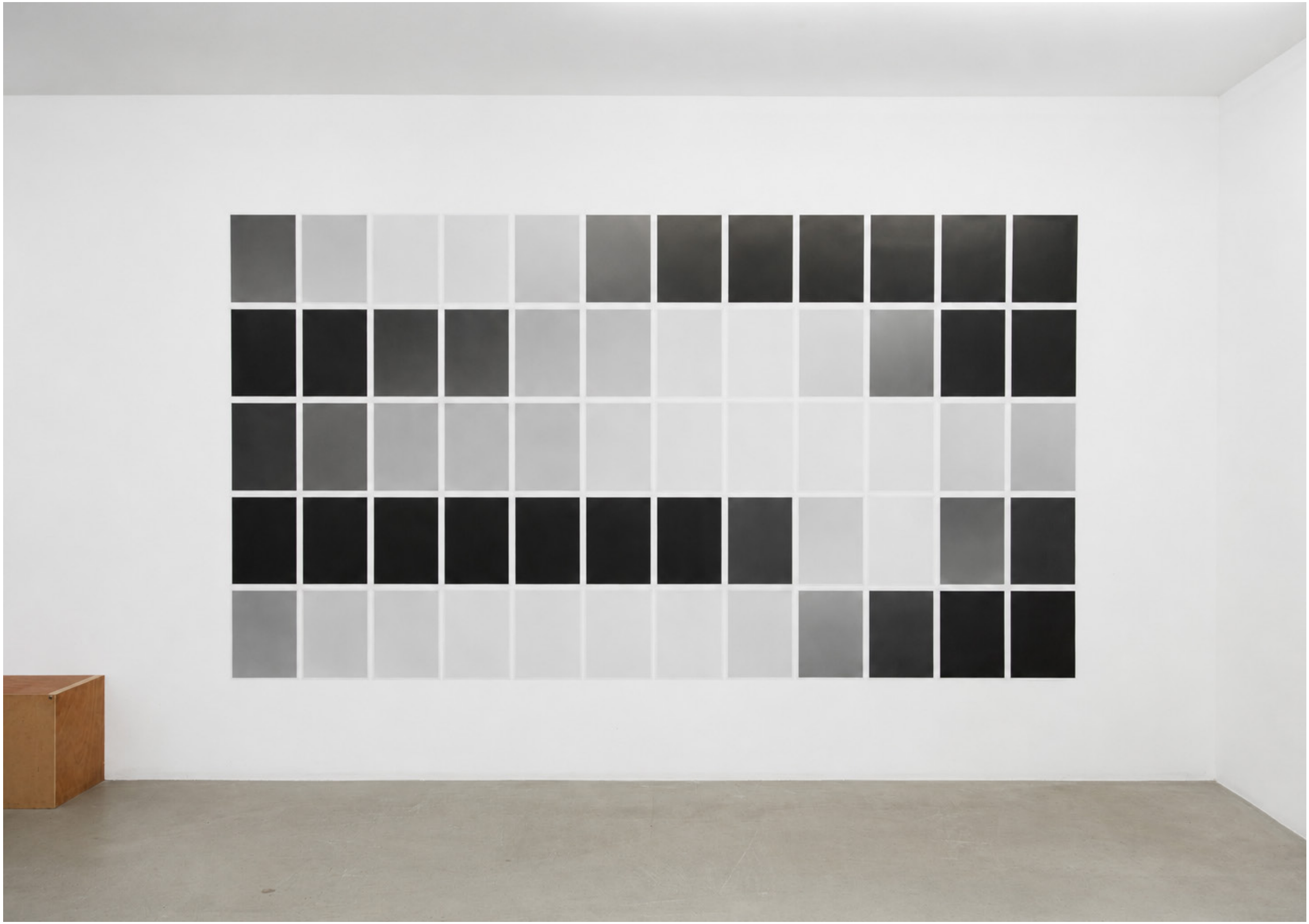


Fig.5 This test was produced entirely by chemical means, except for the digitalization of the negatives necessary to this presentation

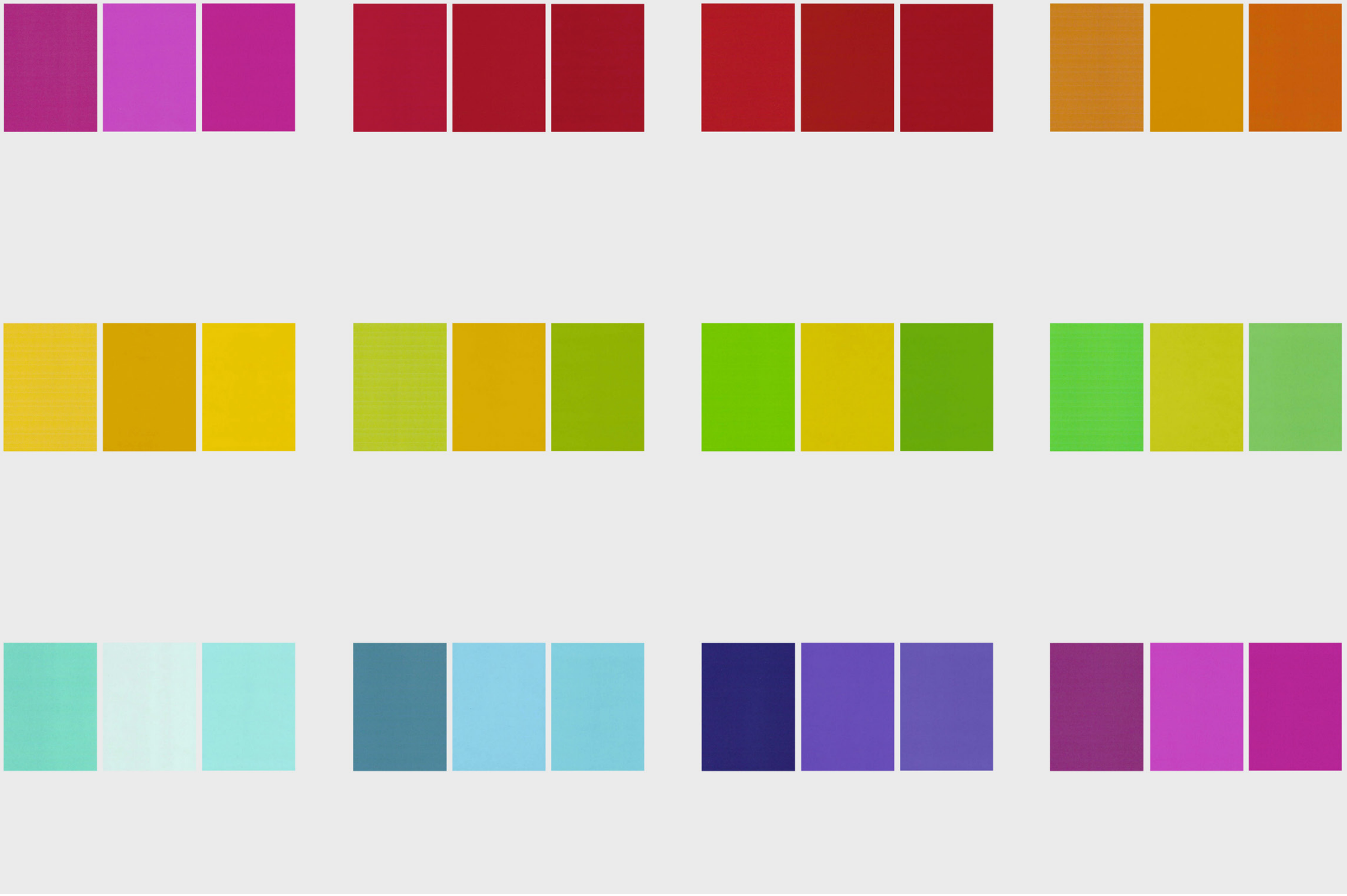
On the right:
Fig. 6 Large Format Camera, Diffraction Grating and Light Source



In the previous page:
Fig. 7 Installation view, V/MSP Gallery, Brussels, 2025

On the right:
Fig. 8 From Infrared to Ultraviolet, video, 2025

Fig. 9, 10, 11 Vintage 4x5 films showing the importance of colour rendering in the photographic representation of commercial products



Colour Chart 36 shows the impact that the photographic production line — recording, scanning, and printing devices — has on colour rendering, precisely with the primary colours of the RGB and CMY colour systems, together with six intermediate hues.

Using a photographic enlarger equipped with a colour head, three different slide films were exposed to twelve colours generated through the enlarger's filtration system. The films used were Agfachrome, positioned on the left of each triptych, Fujifilm Provia in the centre, and Kodak Ektachrome on the right. The emulsions were exposed directly to the enlarger's light in the darkroom, without using lenses or cameras. The next step involved processing the films at three different photographic laboratories. The condition of the chemicals and their operating temperatures are factors that can significantly influence the colour casts produced within the emulsions. The films were then digitised and printed using different imaging systems. Finally, all prints were scanned again using the same scanner.

Just as photographic chemicals affect colour reproduction, the software and the components embedded in digital imaging devices also interpret colour according to their own parameters. Colour therefore undergoes a complex journey, shaped by every technological stage it passes through. Each step in this process produces a shift between the original colour—the light emitted by the enlarger—and the final result presented here.

The most pronounced deviations can be observed within the green region of the colour spectrum, a range of hues that has historically proven particularly challenging to reproduce accurately. Yet these discrepancies should not be understood merely as technical imperfections. Rather, they reveal the extent to which photographic colour is the result of a continuous process of translation. Every component involved in the production of an image—from photosensitive emulsions and chemical processes to scanners, software, and printers—actively participates in shaping the visual outcome.

By tracing the trajectory of colour through different analogue and digital systems, this work makes visible a series of transformations that usually remains hidden behind photographic representation. What is supposed to be a faithful reproduction of reality emerges instead as the result of multiple layers of mediation, each introducing its own biases, limitations, and possibilities. The chart suggests that colour is not a fixed or objective property of the world, but a negotiated phenomenon continuously reconstructed through the interaction between light, matter, technology, and perception.

In the previous page:
Fig. 12 Colour Chart 36, printed and digital format, 2025

On the right:
Fig. 13 Magenta, Yellow, and Cyan