

The colour scheme of the Munich Olympic Games 1972.

From concept to materials

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The so-called “rainbow” palette, whose colours were inspired by the Bavarian landscape, was the protagonist of the design concept conceived and realized by Otl Aicher and his collaborators for the Olympic Games of Munich 1972. The eight hues were used as basic elements in printing materials, architectural elements, etc. This paper focuses the attention on the importance of the investigation and conservation of the original materiality of these evidences of a relatively recent past. In fact, the bright colours chosen as symbol of a new positive ideology, which had the aim of promoting a “New Germany”, are already vanishing and with them their social impact. Here, we present some preliminary results of the analytical campaign of the identification of the original material and the principal pigments, used to achieve the different hues. The overall objective of the future project is the study of the industrial production of the inks/laquers, a systematic analytical campaign of the original materials as well as the development of a conservation strategy.

Introduction

Olympic Games are and always have been, besides a celebration of sports activities and culture, also a means to transmit a political message to the world, and the Games held in Munich in 1972 were no exception. The attention of millions of people was focused on the city and on the new Federal Republic of Germany. The entire design of the visual image had the specific objective to present a new joyful image of the country that distanced itself from the Games of the XIth Olympic Games held in Berlin in 1936 under the National Socialist regime. In 1967, Otto “Otl” Aicher was commissioned by the Organization Committee to develop a concept for this visual image. In 1968, his proposal was accepted, further developed and carried out with the support of 30 collaborators advised by a Committee of Visual Design.¹

Otl Aicher

The German designer, typographer and author Otto Aicher was born in Ulm in 1922. He was always a politically active person.

Because of his refusal to join the Hitler Youth, he was denied admission to the final exams at his secondary school (1941) (Negrelli, 2012, 53). He was finally sent to the front lines in Russia (1942–43) and France (1944–45). In 1946, after the end of the Second World War, Aicher began stud-

ying sculpture at the Academy of Fine Arts in Munich. In 1947, he opened his own studio in Ulm. In 1953, along with his wife and Max Bill, he founded the Ulm School of Design (Hochschule für Gestaltung Ulm), which became one of West Germany’s leading educational centres for design from its founding until its closure in 1968 (Wengert 2003, 6).

Colour concept

The coordination of thousands of participants at multiple different levels implies a consistently regulated visual language, in order to ensure maximum uniformity and orientation. For the concept of Munich ‘72, every detail was thoughtfully and meticulously designed, from the printed materials to the pictographic system, merchandising and clothing for the staff. The choice of the colour scale was inspired by the typical colours of the Bavarian landscape. The palette, which originally had been limited to blue, white and silver, was later complemented by orange, bright-orange, light-green, blue violet and dark green. Every colour associated with political power, pessimism and death as well as those that could remind the visitors of the Games of Berlin in 1936 were strictly banned. These were red, gold, brown, purple and black (as areas).

Materials

The colour code and the reproduction of the poster dedicated to cycling (Fig. 2) printed in an original copy of the Olympia Official Issue 1972 (Haas 1972, 102–104) were analysed by means of Raman spectroscopy¹ and X-ray Fluorescence². Five different synthetic organic pigments and a metal-based lacquer were identified. A summary of the results is presented in Table 1.

All the identified pigments have been largely used in offset printing technique. Below, there is some general information about each pigment based on the literature (Herbst and Hunger 2004, 22; Colour Index 1971).

Pigment Green 7 (PG7, C.I. 74260) like copper phthalocyanine Pigment blue 15 (PB15, C.I. 74160), demonstrates good overall fastness properties. The same compounds have also been identified in blue lacquers used for painting internal tubular elements of the ticket booths of the Olympiapark.



Fig. 1 Cover of the Official Issue 1972 for the Olympic City of Munich

Pigment Red 57 (PR57, C.I. 15850) is a reddish synthetic azo dye. It has the appearance of a red powder and is magenta when printed. In this case, it has been used as magenta in the four colour printing processes of the poster reproduction (Fig. 2).

Pigment Yellow 17 (PY17, C.I. 21105) is a highly transparent diazo pigment and is used primarily in the printing ink field. In the case of the yellow lacquers used for the ticket booths of the Olympiapark an inorganic Lead(II)chromate pigment (PY34, C.I. 77603) was applied instead.

Pigment Orange 34 (PO34, C.I. 21115) is one of the most frequently used disazopyrazolone pigments. This type of pigments provides a clean, yellowish orange hue and a high tinctorial strength. However, it exhibits insufficient solvent fastness to be used in decorative printing inks. Moreover, it also performs poorly as far as light-fastness is concerned.

Summary of the pigments identified in eight different colours used to print the Official Issue 1972 for the Olympic City of Munich:

Hue	NCS code	^Pigment/s
White/Papier	S0300-N	/
Green, dark (Olympia-Dunkelgrün 72)	S2070-G10Y	Pigment Green 7 + Pigment Blue 15
Blue, dark (Olympia-Blauviolett 72)	S3040-R80B	Pigment Blue 15 + Pigment Red 57:1 (Ca lake)
Blue (Olympia-Blau 72)	S1050-B10G	Pigment Blue 15 (Ba-based filler)
Green, light (Olympia-Hellgrün 72)	S0570-G30Y	Pigment Green 7
Orange, light (Olympia-Hellorange 72)	S0580-Y10R	Pigment Yellow 17
Orange (Olympia-Orange 72)	S0580-Y30R	Pigment Orange 34 (+ Calcite)
Silver (Farbe silber 72)	DB701	Al-based lacquer

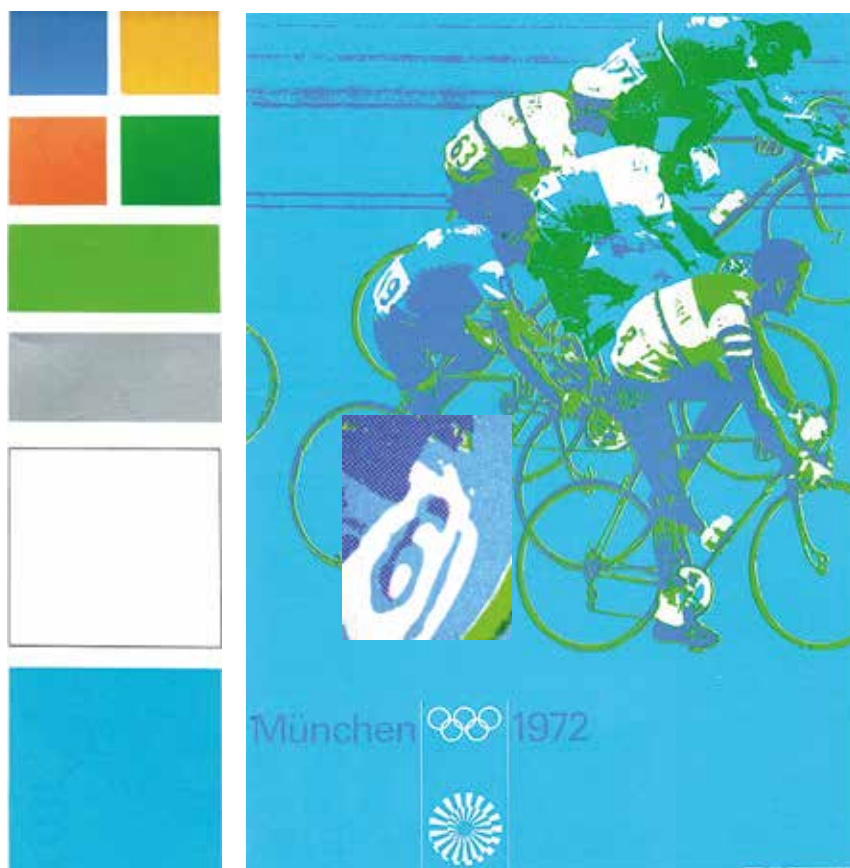


Fig. 2 Colour code and poster reproduction dedicated to the cycling competitions published on pages 102 and 104 of the Official Issue 1972 for the Olympic City of Munich

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¹ (Kuh 1972).

² The Raman measurements were performed using a Horiba Scientific Raman Microscope XPLora equipped with three diode lasers (532 nm/25 mW; 638 nm/24 mW; 785/90 mW). The analysis was carried out with the 100× (Raman) microscope objective, a holographic grating with 1200 lines/mm, laser power filters between 0.1 and 10%, and an acquisition time of 10 to 60 s at 1 to 5 accumulations.

³ The X-ray Fluorescence measurements were performed using a Bruker M6 Jet-stream spectrometer equipped with Rh-target microfocus-X-ray tube. Acquisition time of 100 s, a 40 kV voltage, and a 200 μA current in a He atmosphere, without using filters.