

## Early 20th Century Pastels: An Anoxic Case?

### ABSTRACT

The preservation and display of early 20th century pastel drawings on colored paper can present a challenge for institutions. The materials used in the preparation of early 20th century pastel drawings are often not stable. The paper is typically acidic and can contain appreciable quantities of groundwood pulp, making it susceptible to both hydrolysis and photo-initiated yellowing. Additionally, the dyes used to color the paper present complex chemistries and can promote oxidative degradation pathways through the generation of reactive oxygen species, possibly resulting in both photo-tendering of the paper support and catalytic fading of dyes in admixture. Furthermore, these objects in museum collections often exhibit signs of advanced degradation (i.e., brittle and discolored paper) as well as fading of colorants. At first glance, anoxic display seems to be a logical solution to enhance both the preservation of and access to these objects.

This case study of several pastel drawings by the Polish artist Witkacy also provides a summary of the research findings from the Anoxic Project conducted by the National Museum in Kraków and the Jagiellonian University. This project produced three micro-fadeometer designs, technical art history studies of several pastel drawings by Witkacy, digital reconstructions of severely faded drawings, the beginning of a mass spectral library of paper dyes, a library of micro-fadeometry library results of both historic and contemporary dyed papers under anoxic and ambient atmospheres, and a frame design that can be used to construct either anoxic or sealed micro-climate cassettes.

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