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A Timeline for Optical Brighteners in Photographic Paper

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A reference collection of mostly 20th century photographic paper was surveyed for the presence of optical brightening agents. Only fiber-based, gelatin silver paper was assessed. In all 1,659 samples were examined, dating from 1896 to 2004 and representing 40 different manufacturers. No optical brightening agents were found in samples dating from 1896 to 1954. The first occurrence of optical brightening agent was found in samples dating from 1955. Starting from this point, the frequency of occurrence for optical brightening agents increased rapidly between the years 1955 and 1970. Toward the latter part of this date range the occurrence of optical brighteners rose with approximately 55% of all samples showing brighteners. Between 1970 and 1980, occurrence of optical brightening agents declined to approximately to 25% of all samples. A marked increase in occurrence was observed after 1980 when approximately 60% of samples exhibited optical brightening agents. These results indicate that a significant proportion, and for some time periods a significant majority, of black and white, paper-based photographs made after the mid 1950's contain optical brightening agents. This finding has implications for the treatment and display of photographs as the presence of optical brightening agents is not routinely documented and the effects of storage environment, display and treatment are poorly understood.

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