

Mechanisms of image deterioration in early photographs

*The sensitivity to light of W H F Talbot's
halide-fixed images 1834–1844*

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National Museum of Photography, Film & Television

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Preface

This study arose out of a proposal to put on public display some of the finest examples of early photographs in our national heritage. These pictures, made by William Henry Fox Talbot during the first decade of photography, had never been exhibited before, so an essential early stage of the planning required the determination of an exhibition environment that would completely safeguard these unique objects. As the following pages will show, it transpired that no such environment could be defined. Even the most stringent conditions of gallery illumination are likely to cause perceptible changes in many of these images within a relatively short time. Planning for the proposed exhibition was therefore, with great reluctance, discontinued.

This unwelcome conclusion was originally embodied in a research report that I compiled in 1992 for the curators of the precious material; but it seemed appropriate to open it to a wider readership. The evidence for the vulnerability of early photographs has therefore become the subject matter of this small book. I have broadened the original remit so that it may satisfy three intentions: first, to provide a *caveat* for curators elsewhere who hold examples of such early photographic material; second, to give an account of the science underpinning the study and to expose it to professional criticism and debate by photographic conservation scientists; and third, by introducing quantitative concepts of 'damage', to help inform the difficult ethical decision-making that curators of such photographs must go through when confronted by the conflicting obligations of their profession.

From the curatorial point of view, this study of Talbot's early material may seem to arrive at a dishearteningly negative conclusion, but I have enjoyed a very positive

compensation in pursuing it: namely, that a modern physicochemical re-evaluation of these earliest photographic processes on paper can make a useful contribution to our appreciation of the history and aesthetics of the medium.

Roger Taylor of the National Museum of Photography, Film & Television is responsible for setting my feet on this fascinating path, and I could not have travelled any significant distance along it without his unstinting help and encouragement. Larry Schaaf has been a source of much wisdom and scholarship, and his perceptive criticisms of my draft report helped to sharpen my arguments; he also greatly eased my task by generously making available his transcripts of Talbot's Notebooks P and Q before publication. At Kodak UK Ltd, Hilary Graves, Chris Graebe, Trevor Tucker, Arthur Saunders, Chris Roberts and their colleagues have been most generous in providing expertise in photometry and time on their instrumentation. I am also indebted to Boris Pretzel of the Victoria and Albert Museum and David Saunders of the National Gallery, London, for their expert knowledge of the physics of museum illumination.

Although this study of early photographs is rooted in chemical science, I hope that it will not be found inaccessible by readers with backgrounds in the humanities—whence the custodians and scholars of such material are rightly drawn. In the interests of not alienating the humanistic reader, I have tried to banish most of the more recondite chemical jargon to appendices, wherein the scientifically inclined may find the quantitative arguments and background references to the literature. The chemical interpretations put forward in these appendices can make no claims to infallibility or completeness; but I hope that, by

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re-awakening this long-dormant aspect of photoscience, I may stimulate others to carry it further, correcting as they do so my misconceptions which I fear may still lurk unrecognised.

The greatest reward for me in pursuing this investigation has been the discovery that scientist and humanist can still communicate with one another today through a mutual interest and delight in the work of a man who

was a supreme exponent of both disciplines. To epitomise photography as a meeting ground for science and art, I can do no better than quote the words of Henry Talbot himself: ' . . . I feel confident that such an alliance of science and art will prove conducive to the improvement of both.'

*Mike Ware
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