

English Summary

The end of analogue photography sealed the fate of the photographic negative as a material repository of images; the evaluation of computer-generated data has replaced the chemical processing of photographs. The ease with which images can be captured, stored, and disseminated today has resulted in knowledge of the elementary process of photography and all the complex stages of exposure and development being all but forgotten. The moment would seem to have arrived, therefore, to examine critically the phenomenon of the negative and its part in photography, its significance, and its achievements.

The contributions in this volume cover a broad spectrum, from the invention of negatives through their materiality and their deliberate manipulation to aspects of negative imagery. They are based on talks given at the conference »Unikat, Index, Quelle: Erkundungen zum Negativ in Fotografie und Film« (Unique Copy, Index, Source: Explorations of the Negative in Photography and Film) in spring 2013. This event was the offshoot of a three-year research project involving the Deutsches Museum's extensive holding of glass negatives from the German-American photographer Frank Eugene.

In the public mind, the negative, the primary source of the photographic image, has long led a strange double life. Although they are described in detail in handbooks and are carefully stored by photographers and archivists, the theory of photography has long been mainly concerned with the technical side of photography. In recent media discussions, the term »index« introduced by Charles Sanders Peirce has been of particular importance, as it describes the impression of the light on the photographic surface and thus focuses on the immediate connection between the object and the sign. These approaches, which emphasize the impression of light as an epistemological characteristic of photography, are also useful in that they illuminate the singularity of every individual photograph. While the discussions of index do not differentiate between negative and positive, the negative takes on a particular significance in this context; the negative is the actual photograph and retains its unique status as an artefact regardless of the number of copies that are made. Photographers have always been aware of the importance of the negative as a unique artefact – negatives are their reservoir, the enduring testimony of their work, and simultaneously a source from which they can continue to draw inspiration. A negative has also been something that could be interpreted creatively, with many different possible outcomes in the darkroom. And since negatives are often stored by photographers without ever being developed, they are often an unknown and unsuspected record.

The invention of photography is closely entwined with the negative, since all attempts to capture images on light-sensitive material, from those by Johann Heinrich Schulze through to Nicéphore Niépce, resulted in reproductions with reversed light and shadow effects. When it finally became possible to fix imag-

es permanently in 1839 the difficult birthing of photography was completed. Talbot's »Photogenic Drawings« on carneous silver paper were, like daguerrotypes, unique objects. As Larry Schaaf shows in his essay, Talbot was initially not at all dissatisfied with the reverse of light and dark in his pictures, but in 1835 he had already considered using his »photogenic or sciagraphic process« for the manufacture of copies. When the daguerreotype arrived on the scene in 1839 and became a topic of discussion, Talbot saw the possibility of re-transferring his images as extremely significant. As for the question of naming the new processes, there was no shortage of suggestions and curious neologisms. The term »photography« was first used in correspondence with Talbot, and then subsequently introduced by John Herschel in his first public demonstration of the new technique at the Royal Society in London on 14 March 1839. It was also Herschel in 1840 who introduced the terms »positive« and »negative« for Talbot's »re-transfer process«.

The idea of a realistic, true-to-life image has been a much-vaunted topos since the very beginning of photography. The technology of the camera and the self-operating image production process were the technical features that seemed to offer an objective portrayal of reality. But this focus on the »mechanical objectivity« of the camera leaves out the chemical process, with all its demands and limitations, and thus ignores a whole set of factors that greatly influenced the photographic image in its early years. Mark Osterman, who as a photographic process historian is very familiar with the historic practices of image-making, looks in his contribution at the many facts of »photographic truth,« which, in light of the many different manipulations that make up the technical process of photography, turns out inevitably to be a chimera. With the transfer of three-dimensional space onto a two-dimensional plane, the reverse image and reverse light effects, and its lack of color, the negative is shown to be an artefact that captures the light exuded from the image; its reproduction is critically dependent on the chemical treatment and further processing of the light-sensitive material.

The contribution by Dorothea Peters is concerned with the search for the correct color values in photographic reproduction and thus with a central problem of photography in the second half of the nineteenth century. The color-blindness of photographic material, which became unpleasantly evident within parts of the long-wave spectrum, in particular red, proved to be a further »source of untruth« and a critical handicap, leading both in portrait photography and in the reproductions of paintings to falsifications. One solution to this problem was the application of pigments to the photographic emulsion to serve as optical sensitizers. The discovery and application of these additives was a well-kept secret in many photographic studios and simultaneously motivated competitors to discover how these processes worked and claim the invention as their own.

Selective manipulation of the exposed negative provided a whole new opportunity, since it affected the composition of the light-sensitive substance only indirectly. In her contribution on retouching portraits, Dagmar Keultjes opens

up a wide range of recommended measures, from those designed to equalize the color-blindness of the emulsion to those aiming at a stylized exaggeration of a facial expression, and which therefore require a thorough understanding of mimicry and physiognomy. In the second half of the nineteenth century, the art of corrective retouching flourished and only began to wane with the advent of art photography movement around 1900, and the associated rejection of what were subsequently regarded as tasteless and dull stereotypes from studio photography.

Marjen Schmidt is also concerned with the manipulation of negatives, but in contrast to the »invisible mask« of portrait retouching, her contribution examines the ways in which many technical interventions in the photographic process were meant as recognizable artistic measures. The glass negatives she looks at in her paper are from the German-American art photographer Frank Eugene, whose collections gave impetus to the research project mentioned at the beginning, and are thus the basis for this book. They provide a particularly illustrative example. A representative of the international art photography movement, Eugene was notorious even during his lifetime for his extensive manipulation of negatives. All explorations of this aspect of his work have hitherto been confined to the actual prints of his photographs, which indeed show the effects he was aiming to produce, but do not allow any closer examination of the procedures he undertook, which are described only cursorily by contemporaries.

The fact that photography was not initially capable of reproducing reality in full color was, indeed, regarded as a flaw, but for a long time, in view of the overwhelming new perspectives that its invention had created, this deficit was hardly noticed. Nevertheless, photographers researched possible techniques for color photography intensively during the second half of the nineteenth century. Rolf Sachsse's contribution to this volume explores the close relationship between models of color theory and color photography. Whichever means photographers employed to attempt image production in »natural colors,« the techniques proved to be extremely complex and, from the advent of the multi-layer color film, the possibilities for manipulating the negative were limited to at most the choice of the brand of film and the degree of light sensitivity.

The contribution by the editor of this volume focuses again on the »painter-photographer« Eugene, who stands out among his colleagues not just because of the intensive dialogue between his paintings and his photographic work, but also for his trademark visible manipulation of his negatives. The author shows the unique extent of Eugene's interventions in the negatives, and also how this influenced contemporary discussion of the specific characteristics of photography.

For cameraless photography, as a form of art, created without manual intervention, which has been able to vary the possibilities of abstraction since the 1920s, light-sensitive material is the canvas upon which the reversal of color values is a deliberate feature. In his contribution on photograms, Floris M. Neusüss, who has spent more than 40 years exploring this medium, investigates a long period of time from Talbot's contact copies to the digitally produced

videogram. These processes all produce a negative and thus a unique artefact: its reproduction is neither possible nor intended. Alexander von Humboldt's flattering characterization, based on the indexical principle of photography as »light forced by the art of chemistry to leave an enduring trace in just a few moments,« is relevant in the elementary concept, explored here, of the figuration of pure light.

The contribution by Vera Dünkel and Jochen Hennig, which is concerned with visual representation in science using x-ray and electron microscopic images, highlights the epistemological significance of the negative and thus the links between visualization and understanding. This aspect in the early days of the technology was the basis of many heatedly discussed questions about the modes of negative and positive and the »correct« form of representation. While the x-ray transmits a spatial object onto a two-dimensional space, the electron microscope uses metal vaporization to construct a three-dimensional image, allowing the tiny objects to become visible to the naked eye.

The final contribution by Martin Koerber looks at the eminent importance of the negative as the original medium of the entire cinematographic tradition. From his perspective as an archivist and restorer of film, he shows the labyrinthine and often blocked process of passing down film, being duplicated often numerous times, and characterized by the changing fortune of the film archives and falsifications due to technical reasons. Four selected examples are painstakingly analyzed to illustrate the wealth of information contained in film negatives – which have often been revised and edited multiple times – regarding the codings and notations that indicate the original order of takes, the texting, and the original color quality.

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