This is what we wanted to tell you and may you, my lord, have a long life.

Written thus on the 11th Shawwal of the year 1304 [July 5, 1885].

Your affectionate friend, al-Sayyid Abd al-Chaffar, the doctor.

After the photographs of Mohammed Sadiq Bey, those taken by al-Sayyid Abd al-Chaffar can be numbered among the earliest photographs to come out of the Arabian region. If one applies the criterion of nationality very strictly, al-Chaffar can actually be regarded as the first known Arabian photographer who took the first pictures of Mecca and of the great pilgrimage. After all, Mohammed Sadiq Bey was an Egyptian, while Snouck Hurgronje was, of course, Dutch. All three of them were important photographic pioneers in the lands of the hadj, the so-called Hijjas.

Among al-Chaffar’s photographic oeuvre, those images showing ceremonies during the pilgrimage in August 1887 or 1888 are particularly impressive, as are those of the pitched camp of pilgrims under the blazing desert sun by Mount Arafat. Unlike Mohammed Sadiq Bey, the photographer has placed himself and his camera right in the middle of events, putting himself into direct contact with the crowds of pilgrims. Moreover, in such sweltering heat, it must have been an enormous physical strain to have to transport a heavy plate camera and ‘darkroom’ tent with supplies of glass plates and chemicals on pack animals, and then to prepare the glass negatives with a light-sensitive coating before use.

As al-Sayyid Abd al-Chaffar did not have a panorama camera at his disposal, he had no option but to take several pictures from different vantage points to obtain the material for a ‘wide-angle’ view. Only when the different photographic perspectives were combined was he able to achieve a two- or three-part panoramic image of impressive breadth depicting the pilgrims and their tents.

While Sadiq Bey’s images favored more sweeping and carefully composed views taken from a distance and were characterized by technical perfection, some of the pictures taken by al-Chaffar (even) a close proximity to the depicted scenes, an approach which seems to have brought certain technical flaws in its wake. Owing to the glaring light, some of his photographs seem overexposed, with the consequence that certain ‘burst out’ features of faces and figures had to be retouched onto the glass negative or even drawn in later. A striking feature of these images, some of which have the hurriness of snapshots—yet whose value and interest are in no way diminished by their technical shortcomings—is their curiously ambivalent style that hovers between documentary reporting and graphic art, between authenticity and estrangement.

In summary, our current state of knowledge permits the following comparison between Sadiq Bey, Snouck Hurgronje and al-Chaffar to be made: Sadiq Bey was keenly aware of his role as a pioneer as well as of the professional quality of his photographic endeavors. He submitted his work for exhibitions and received prizes for his pictures. Snouck Hurgronje placed his photography in the service of his research concerning the city of Mecca and its society, and thereby created a socio-rhetorical mirror image of his time. Al-Chaffar saw himself more as an experimenter than as a photographic expert, and he attempted to carry on Snouck Hurgronje’s photographic mission when the Dutchman was no longer in a position to pursue it further himself. As a demonstration of loyalty to Snouck Hurgronje and because he was commissioned by him, Al-Chaffar photographed what was happening in the pilgrims’ camp. The results were not without imperfections and shortcomings, as is evident when we look at them today. Although he could never have imagined it, he is now numbered to the trio of pioneers of photography in Arabia.
Al-Sayyid Abu al-Ghaffar and His Position in Arabian Photography

Al-Sayyid Abu al-Ghaffar, doctor from Mecca, photograph by Snouck Hurgronje.

While Sadiq's images favored more sweeping and carefully composed views taken from a distance and were characterized by technical perfection, some of the pictures taken by al-Ghaffar reveal a closer proximity to the depicted scenes, an approach which seems to have brought certain technical flaws in its wake.

Owing to the glaring light, some of his photographs seem oversaturated, with the consequence that certain ‘burn out’ features of faces and figures had to be retouched onto the glass negative or even drawn in later. A striking feature of these images, some of which have the sharpness of snapshots — yet whose value and interest are in no way diminished by their technical shortcomings — is their curiously ambivalent style that hovers between documentary reporting and graphic art, between authenticity and estrangement.

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2 Snouck Hurgronje, Bemerkungen Mekka, einen, Zürich 1902, p. 42.
3 Muhammad Abdullah, Belen en Mekka, anarchie en regen van de emi-

30 In his preface, Burchard pointed out the difficulty of a precise geographic

31 In this, Burchard noted that the Akkadian emperor, whose grinding

32 Snouck Hurgronje, Bemerkungen Mekka, pp. 235 and 236.
33 Ibid., p. 236.
34 Ibid., p. 238.
35 Snouck Hurgronje, Bemerkungen Mekka, pp. 235 and 236.
36 Ibid., pp. 236 and 237.
37 Ibid., pp. 234 and 235.
38 Snouck Hurgronje, Bemerkungen Mekka, pp. 234 and 235.
39 Ibid., p. 238.
40 Ibid., p. 239.
42 Snouck Hurgronje, Bemerkungen Mekka, pp. 234 and 235.
43 Ibid., p. 239.
44 Ibid., p. 238.
45 Ibid., p. 239.
47 Snouck Hurgronje, Bemerkungen Mekka, pp. 234 and 235.
48 Ibid., p. 238.
49 Ibid., p. 239.
51 Snouck Hurgronje, Bemerkungen Mekka, pp. 234 and 235.
52 Ibid., p. 239.
53 Ibid., p. 238.
54 Ibid., p. 239.
55 Ibid., p. 238.
Travel to the Holy Land and Photography in the Nineteenth Century

disproportionate the nature of the recognitions, as it does not belong to the actual pilgrimage ceremony. Hon. Image (see Figure). 20


The figuration in 19th century art...
Silver Salts and Cyanide
A Few Elementary Observations Concerning the Chemical Basis of the Photographic Process
FRANZ WALLER

“What sort of material it may be that is endowed with this astonishing sensitivity to light, this is still utterly unknown…”

These words are to be found at the beginning of the first report to appear in the “Monteilner Journal” about the recently discovered “art of drawing with light” (“Lichtzeichenkunst”) in January 1839, seven months before the first photographic process, the ‘daguerreotype’, was officially made public. Silver salts account for “this astonishing sensitivity to light”; by salts, a chemist means compounds made up of a metal and a non-metal. The best-known salt of this type is the salt used in cooking, which is a compound of sodium—a metal whose softness means that it is of negligible value for practical applications—and the non-metal, chlorine, an aggressive gas used, for example, to keep swimming-pool water clean and clear. The chemical name of the resulting compound is sodium chloride, a substance that exhibits those completely different properties which we associate with table salt. This, however, is just one among innumerable other salts. The metal, silver, also forms a compound with chlorine, as well as with other non-metals such as vapors of bromine and iodine. The resulting silver salts are silver chloride, silver bromide and silver iodide, respectively. There is no need here to explain precisely how such compounds arise; sufficient to say that it is the force of electrical attraction that holds them together. For our purposes, the most important point is that the salts, silver chloride, silver bromide and silver iodide, are light-sensitive. The fact that these substances react to rays of sunlight (not heat) was first discovered as early as 1792 by Johann Heinrich Schulze, a professor at the University of Altdorf (which no longer exists) near Nuremberg.

What effects do exposure to light produce? Anyone whose skin has been exposed to strong sunshine has experienced first-hand the fact that light beams are a form of energy. And this energy inherent in light is capable of separating the compound, silver bromide—or indeed the two other silver salts mentioned above—into its constituent elements. Thus, we are left again with the metal, silver, and vapors of bromine. Whereas the minute amounts of bromine released can be neither seen nor smelled, the very thinly distributed particles of metallic silver turn black. In fact, only when densely compacted and polished does silver have that sparkling metallic color normally associated with it. Thus, when a silver salt is thinly spread over a background surface, all of the parts upon which light has fallen gradually turn black in color to a degree depending on the duration of exposure and on the intensity of the light. This is the underlying principle of photography, a term made up of a combination of the Greek words, photos, photos (“light”) and graphen (“to write”). Taken literally, photography thus means “writing with light” or “light painting.”

As a matter of fact, Professor Schulze was greatly surprised by his discovery. He had actually set out to produce phosphorus (“light-beares”), a substance that glows in the dark; instead, he stumbled on something quite opposite, a substance that goes dark when exposed to light. Be that as it may, the basic principle underlying the photographic process was now known. Why, nevertheless, after a century was to elapse before the emergence of a practicable process allowing an image to be captured permanently is attributable to two factors. First, any of the silver bromide that has not been exposed to light must be removed before the result can be viewed by daylight, otherwise all of it will turn completely black. However, bearing in mind that silver salts are effectively insoluble, a solvent had to be found to wash them away. Furthermore, it was unclear onto which material an ultra-thin film of silver bromide (or chloride) might best be spread before placing it inside a camera and exposing it to light.

Louis Jacques Mandé Daguerre (187–183) solved these problems by using highly polished silver plates, or copper plates coated with a thin layer of pure silver, and then sensitizing these in a vessel containing vapors of bromine. In this way, light-sensitive silver bromide was formed directly by silver and bromine reacting on the upper layer of silver. Daguerre also discovered that, at a temperature of 70°C (188°F), highly toxic mercury vapor greatly strengthened the resulting silver image and made it much more clearly visible—developed it, one might say. Moreover, it transpired that a solution of equally toxic potassium cyanide was ideally suited for dissolving and washing away the silver bromide that had not been exposed to light, with the result that the image was sufficiently ‘fixed’ to allow it to be viewed by daylight. Thus, the very nature of these procedures makes it obvious why the future of the ‘daguerreotype’ procedure was bound to be of limited duration. A further drawback was that this process only produced single ‘one-off’ images from which it was impossible to make copies or prints.

The future of photography, however, lay in the hands of another substance that was to play a crucial role in its development: silver nitrate. It was William Henry Fox Talbot (1800–87) who, in about 1840, first dipped a sheet of paper into this compound, which is unique among the silver salts in that it is soluble in water. Incidentally, it can be applied to treat and remove warts, too! Talbot then used two sheets of blotting-paper to remove excess amounts of the solution before finally washing the paper in a solution of table salt, i.e., sodium chloride. Owing to the inherent chemical properties of the component elements involved in the resulting reaction, the silver attached itself to the chlorine, and the sodium joined with the salt of nitric acid (nitrate). The latter compound remained dissolved in the solution, while the insoluble, light-sensitive silver chloride was trapped in the paper fibers. Of course, all of this had to take place in complete darkness, otherwise the silver salts would have disintegrated before their exposure within the camera.

Talbot took a paper that had been prepared in this way and placed it in his wooden camera, whose lens projected an image onto the film’ which then ‘photographed’ it. The strongest light came from the bright sky, and this part of the light-sensitive paper turned completely black; much less light came from the dark trees, and the paper remained almost white in these areas. Thus, the impression made by light on the paper was reversed, and the result was a ‘negative.’ In complete darkness, Talbot now
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result was a "negative." In complete darkness, Talbot now
removed this negative and used a glass plate to print it at
onto another sheet of light-sensitive paper prepared
as described above. This "sandwich" was then placed in
the sunlight. Almost no light was able to penetrate the dark
areas of the negative, so that the paper underneath
remained white. In contrast, light passing through the
less dark sections of the negative turned the paper under-
neath black or gray. Talbot now had his "positive." The
impression made by the light was now correct and natu-
ral, and the resulting "cplate" (meaning "beautiful
image") yielded a successful reproduction.
Both images—negative and positive—were usually fur-
ermore intensify ("developed") and, of course, print
excess silver chloride ("fixed"), before being thoroughly
wash and dried. A great number of such "salt prints" have
survived, and they are easily distinguishable owing to
their matt, velvety surface and rather granular structure
resulting from the coated glass (films) that had been
exposed to light. This disadvantage was largely overcome
by dipping the negative in beeswax.
The ideal material for coating with light-sensitive
eumulsion and for producing a negative is, in fact, not
paper but a sheet of glass. The problem is, however, that
a thin layer of pure silver bromide will not adhere to
the smooth surface of glass. It was only after Christian
Friedrich Schönbein (1792–1888), a professor of chemistry
in Basle, discovered colloidin in 1846 that this problem
was effectively solved. In their darkrooms, photographers
now had to stir the finely distributed particles of silver
bromide into the colloid solution—made by dissolving
nitrated cotton (or cellulose nitrate) in alcohol and
ether—and then pour the mixture over a sheet of glass.
Owing to its greater sensitivity to light in this
condition, this coating was exposed in the camera while
still moist. Glass sheets prepared in this way produced
exceptionally sharp and fine-grained negatives, from
which it was possible to make as many positive "contact
prints" as one liked. Even into the first years of the twen-
tieth century, this "wet collodion on glass" process
remained the preferred method of every photographic
studio. All of the photographs reproduced in the present
catalogue were made using this procedure. It was Jacob
August Lorentz who, while in Jerusalem, tried experi-
menting with a dry collodion process involving the use of
tartar. Later, gelatine was found to be another suitable
adhesive medium for light-sensitive silver salts. This sub-
stance had the further advantage that it worked perfectly
well when dry, which means that film material could be
commercially prepared weeks before use in a camera.
The "dry glass plate" had been invented.
It wasn't long before an adhesive substance was found
that was suitable for fixing light-sensitive silver salts
on the positive paper onto which the negative had to
be copied and printed. This was egg white or albumen.
In places where photographic paper was produced on an
industrial scale, thousands of chicken eggs had to be
cracked daily, and the yolks separated from the whites.
The former ended up in confectioneries or tanneries,
while the glary whites were used to a fine emulsion
with the silver salts. This light-sensitive emulsion was
then used to coat the sheets of paper. All of the pho-
tographs in this catalogue were originally prints made
on albumen paper: they have a lucid, hitting sharpness and
a lovely sepia-colored tone that evokes a nostalgic response in the
viewer.
Today, we are on the threshold of a new era of photog-
raphy. The rise of the digital camera, which works with
out silver salts, would appear to be unstoppable. Many
large plants that once produced vast quantities of pho-
tographic supplies have now closed down; soon, films
and photographic paper will become rarities. Regardless of
such developments, the reader now knows, at least
approximately, how to prepare photographic plates and
to coat albumen paper. After all, silver salts and cyanide
will always be there should we ever need them.