

SILVER salt PRINT - Thoughts on print

Nowadays, printing a negative in a darkroom is becoming a 'museum' process, meaning that if it has to be preserved, it is for maintaining the skill to identify a silver print (or gelatin-silver-bromide, as it is also called with emphasis), from an 'ink-jet' one, obtained by scanning albeit a physical negative in high quality, or from a file shot directly with a digital device. The reference is of course to black&white prints.

Don't think that the two techniques are indistinguishable or - worse - that an ink-jet copy, with the innumerable choice of inks, papers and surfaces, is - no doubt - better, denser and brighter, richer in 'nuances', sharper in detail and more extensive in contrasts, ... etc. These are all valuable 'technical' characteristics, but they do not concern ocular vision, with its skills, faults and limitations.

Not to trivialise the problem, but if the eye's plain vision does not penetrate the deep shadows (or high lights) beyond certain tone ratios, to reconstruct those extreme nuances in the paper unlimitedly (let's say as an example HDR), will not provide greater comprehension or closeness to the image as a whole; if a solid physical distance blurs sharpness in the real world, demanding to stress a detail perception on paper, will not supply more information, depth, quality, value to the print, and so on.

Painting - in particular and with great awareness Impressionism - learnt this as soon as photography began to reveal the potential (and limitation) of catching a detail in a way previously unknown. The Impressionists painted eye faults, vision in motion, flattened contrasts to pierce the shadows, night flares, weather-related colour change.

It may sound picky, but it is photography that emphasized the differences between what we can capture on paper and what seizes and moves the eye (= brain) in its 'environmental' and bi-ocular vision.

Nowadays we are getting used to 'ink-jet eyesight' that led us to think, through the perfect geometry of the pixel, ... that it is time to go back to the ophthalmologist and change the glasses. But this is not the case.

To communicate, it is important to respect 'visual syntax', beyond which, the message is blurred.

The b/w silver salts photographic printing process, retains of course all the limitations connected with the stiffness of the darkroom, which are far greater than tracking a pair of scissors in gloomy red light. But today still, despite the shortage of stuff to choose from, prints retain a harmony, smoothness, ... and detail identity that implements what traditional film in its evolution has pioneered, captured and incorporated into its 'software' through an immense deal of improvements over 150 years (1). The result was to bring the look of the print closer to our visual experience of the real world, through a delicate rendering of the subtle colours shifts and weather changes lights, conveyed within the greyscale of the print. It is worth going over what is mental as well as theoretical and rational in the photography of E. Weston and A. Adams (2).

Gelatin, replacing albumin in the early 1900s, gave enormous spatiality to the scene, while silver salt with its infinite sizes and shapes of the crystals drowned in it, provided pliable edges between lights and shadows; sharp details, but not clean.

In addition, it is worth mentioning an often overlooked condition that occurs in image rising: when a focused beam of light strikes the film or printing paper, it is partly absorbed, i.e. it activates the halide crystal that has been hit, towards the following blackening - once in contact with the developer - and partly reflected depending on the angle of incidence (3).

This secondary ray (part of the energy of the initial ray) can slam into a near crystal and have sufficient 'strength' to activate that one too, or only a few molecules of the entire crystal (to put it clumsily: on the image it will provide a grey tone).

The scattering of some of the light energy in the vicinity of the point of incidence does not allow for sharp contours like a pen stroke and this exactly depicts the 'awareness' of the eye observing the real world.

This is the limit or beauty through which to appreciate or denigrate a silver-salt print.

Of course, this refers to the highest quality print, performed on the so-called 'baryta' (not polythene) paper, i.e. covered with a layer of 'baryte' (barium sulphate) which gives to the absorption of the silver salt a uniformity and depth of its own (4). This is true for both black and white and for colour, even though it is perhaps half a century since baryte colour papers disappeared, replaced by polythene, cibachrome, etc., i.e. adapted to machine processing; before the ink-jet phenomenon.

a.m.

(1) *'Software' here means all the information embedded in the silver grain so that it delivers the desired results through appropriate processing. The most obvious improvements from the last decades of the 19th century onwards, related to film and photographic printing paper - to name but a few - were (apart from the introduction of gelatin), panchromatic yield, grain size reduction and increased sensitivity of the flexible film.*

(2) *Edward Weston used to say: «When I do expose a film, I take a glance at the exposure-meter, and then I do what I want.»*

(3) *The 'grain' (or 'bead') - as it is called - is a small crystal composed of many silver halide molecules arranged in a lattice. If the amount of energy yielded by the photons of light to the grain is sufficient, all or some of the 'sites' in the lattice undergo an electronic transformation that remains 'latent', but which the grain will remember as soon as it is immersed in the developer Better not to go any further about that ...*

(4) *In ink-jet printing, the so-called 'baryta' paper is compulsorily covered - as final treatment - with a veil of resin so as not to allow the ink to disperse into the depths of the layer, unlike conventional silver baryta photographic paper in which the effective salt is absorbed into the baryta-gelatin layer (gelatin gives shine but is 'permeable' to developer), so that the formation of the image takes place from the surface to the depths of the layer as the blackening goes on.*