LESSON 7: AVAILABLE-LIGHT PHOTOGRAPHY

Available-light Photography

Whenever the exposure meter of your camera reports very low readings, you can expect shots full of emotional appeal - provided, of course, that you turn off the flash and use an extremely light-sensitive film. Everything else of significance shall be revealed in our following lesson of practical photography.

The magic of twilight, or the extraordinary related to night photography, can tempt every photographer into imitation. Contrary to more or less poorly exposed flash photographs, available-light photographs accurately reproduce the atmosphere of the experienced scenery. They are simply different to snapshots in blinding sunlight.

The aim of the so-called available-light photography is to capture a motif under the given lighting conditions, using only the `light available`! The use of high-speed films is therefore imperative. Also, it is advisable to use lenses with a wide initial aperture: The bright viewfinder image (high light intensity) improves detail rendering considerably even under poor lighting conditions.

Totally different is the situation for fans of night photography. Here a good tripod generally proves more useful than high-speed films. Most structural motifs require extremely long exposure times: It is not unusual that the shutter has to remain open for seconds - or even minutes - so that both medium- and low-speed films can reproduce extremely fine nuances. ["Schwarzschild effect" also known as reciprocity failure]

Fast lenses are not really in demand here, since low apertures (great range of sharpness of the image) are preferable anyway.
Available-light Photos

Indoor exposures, and photos in artificial light or at dusk. The most sought-after motifs are scenes, persons or serial picture stories. Take the photograph freehand; supporting the camera, if necessary. High-speed films and fast lenses provide for relatively blur-free shots.

Night Photographs

Twilight exposures and photos at nightfall. The most sought-after motifs are architecture, skylines or landscapes. Photograph using a tripod. Medium-speed films provide for technically perfect reproductions.

For both exposure methods it is fundamental to turn off the automatic flash. In case of programmed flashes it is equally important to deactivate the synchro-sunlight function as well as the long-time exposure flash! Long exposure times and hardly any depth of focus (in the case of freehand photography) do not automatically lead to poor results.

Less intense illumination and considerable light contrasts are a great challenge for camera, lens, film and photographer alike. Nevertheless, masterly twilight and night photography shows familiar surroundings in an entirely new light and invite to take a second and closer look.

Gather experience

At dusk or night, if you want to be successful as a photographer, you have to be master of your camera. When photographing freehand, for example, you should understand which lenses allow for good results even with longer exposure times like 1/60 s.

Also, it can be very useful to examine just how your exposure system operates under such conditions. If the exposure meter indicates towards `underexposure`, you should know the individual correction factors: Is a correction by + 1 EV sufficient, or do you have to expose more generously?

Choose the right film
Remaining daylight or artificial light
Push development and light metering
Tips for firework photographs

In the next lesson: Sports Photography
LESSON 7: AVAILABLE-LIGHT PHOTOGRAPHY | Choose the right film

Choose the right film

There is a close connection to the film material used. Although negative films possess more exposure tolerances, exposures at dusk or night require the same precision as slide materials. Only a correctly exposed film can master the enormous exposure contrasts. Modern color negative films are one step ahead here.

Since it is hardly ever possible to precisely predict the available light, quick and spontaneous reactions are called for on location. A second camera body loaded with a film of different sensitivity can be of great assistance here, or simply sufficient film material of different ISO ratings so that the right film can be chosen immediately before shooting. Speed-correcting film development offers a certain safety ‘buffer’.

*Push development means that the entire film is exposed at a different ISO setting!*

The less light available, the closer the photographer should stand to the respective motif and the shorter the focal lengths (in the case of longer exposure times) - which is particularly important when photographing freehand. Available-light photographers frequently prefer 35mm and 28mm lenses, being ideally suited for exposure times of 1/30 s and longer. Due to their size and poor lens speed, zoom lenses are generally less suitable. Anyhow, fixed focal lengths of high quality give good results with already open aperture or when stopping down by 1 EV, whereas zoom lenses often require two stops or more.

The right film
For Long Exposures you should rely on ISO 100 reversal films like the **RSX 100** or the new **CTprecisa 100**. Their neutral rendition is absolutely stable over an extremely wide exposure latitude and already proverbial. Corrections regarding the Schwarzschild effect are minimal. Black-and-white photographers are in a position to influence the development of the negative so as to bring out any contrasts perfectly. The Agfapan film **APX 100** (negative) and the b/w reversal film **Agfa Scala 200x** have been especially designed for this. Maximum resolution provides the APX 25, however requiring adjustment regarding contrast. Concerning color negative films the choice also falls onto the ISO 100 film category.

Available-light Photographers very much depend on high light sensitivity of films. Films like the **Agfacolor Optima 400** facilitate the job due to their great exposure latitude. B/w films like the **APX 400** can be pushed to ISO 800. Even the b/w reversal film **Scala 200x** delivers excellent snapshots up to ISO 1600 under poor lighting conditions. The Agfachrome **RSX 200**, due to its `softer` emulsion, still provides good results when pushed up to ISO 400 (+ 1 EV).

**Pro Tip:** Prints on **Agfacolor Signum** paper (Process AP94/RA 4) display even the most tender nuances in the highlights and shadows - when you cover them up and postexpose the print!
LESSON 7: AVAILABLE-LIGHT PHOTOGRAPHY | Remaining daylight or artificial light

Remaining daylight or artificial light

When dusk is falling and the remaining daylight is on the wane, when artificial light sources illuminate at least a small part of the scenery, then it is night photography time. Night shots positively scintillate through their enormous exposure contrasts. The difference between a brightly lit motif and a background disappearing into the dark is so extreme that the film material can sometimes hardly reproduce highlights and shadows at all. The only solution in such a case are low-contrast emulsions ("soft" gradation). Before exposing those, however, the photographer must not forget to carefully consider **Light Metering**. For exposures of more than 1 s the long-term effect or **Reciprocity Failure** (Schwarzschild effect) has also to be taken into account. Exposure meter readings should be adjusted. Roughly calculated, in the area of 1-10 s, you add a minimum of + ½ to + 2 EV.

Both sturdy tripod as well as remote release control are crucial for the success of exposures at dusk or night. Moreover, the mirror-lock-up lever - if available - can further improve the quality of the image where great focal lengths are called for. A camera spirit level is very helpful for correct adjustment of the camera. A small pocket torch can come in very handy for reading the camera settings. Not to forget the antidiffusing grid against unwanted reflections and lack of contrast.

**Tip:**
Indoors, illuminate a white sheet of paper with the torch. If the paper looks more yellow than the stage lighting, you are working with daylight-like light. Does the tone more or less meet the available light conditions, however, you are confronted with artificial light. In the case of negative films the drifting colors are filtered out accordingly during the print process. As far as slides are concerned, artificial light has to be counteracted with conversion filters.
Push Development

The effective useable film sensitivity can be improved by extending the processing times of the first developer in the laboratory. Professionals call this ‘pushing’, whereby the complete film is exposed at an altered ISO setting. Should you set the camera at ISO 200 or 400 as opposed to ISO 100, the film will be underexposed by 1 to 2 stops. Important: For the laboratory the film should be labeled ‘Push + 1’ or ‘Push + 2’. Films such as the Agfa range have proven themselves through their relatively stable performance. Modern emulsions reduce any negative influences on the films, such as increased contrast and incorrect color rendition, brought about by pushing. Transparency within areas of density only become visually apparent on push development of + 2 stops or more. The result is ‘softer’.

Light Metering

Neither integral nor spot measurements of highlights or shadows can be adopted without correction. The extremes between light and dark trick a meter. Therefore the close or spot measurement at dusk is best taken from an area of neutral brightness such as asphalt. It is advisable for long exposure times to run a series, whereby the exposure values are varied (e.g., + ½, + 1, + 2 EV). At night, however, the exposure meter should nevertheless be directed at the highlights or the chief motif respectively.

Reprocity Failure or ‘Schwarzschild Effect’

Theoretically the product resulting from a combination of time and light volume should always be the same regardless of wide aperture and short exposure or small aperture and long exposure. Practically that only works in the range of 1-1/1000 s. Even exposures of over one second are underexposed. The effective useable film sensitivity declines with longer exposure. This is not linear and certainly not identical with different types of film. The exposure time has to be extended over and above the measured value.

The film manufacturers’ Technical Data Sheets detail the correct requirements. Often enough the rule of thumb is satisfactory: Double the exposure time or open the aperture a stop. This is adequate to balance out the Schwarzschild effect for exposures up to approx. 10 minutes. However, color material is made up of three emulsions layers on top of one another which all react differently to this effect. Consequently, the resulting color imperfections have to be balanced by using an appropriate filter. Color negatives can be corrected in the laboratory, slides need attention during the exposure - unless, of course, the color tinge is to be used under artistic aspects, as is often the case.
Your basic equipment for night photography should consist of the following:

- A camera with options for long exposures (starting from ½ seconds upwards, `B` or `T` exposure)
- An extremely sturdy tripod
- A remote release control
- A manual exposure meter - if available -
- A neutral wedge for exposure meter readings
- A timer for longer exposures (otherwise count '21, 22, 23, ...`

**Tip:** If you want do do a long-time exposure, and have no tripod available, place the camera on a wall or parapet or something similar. Blurs by motion of the camera when releasing are prevented through activating the remote release. It gives you a head start over the actual exposure.

For recording situations it often suffices if the photographer leans against doorposts, on the back of a chair or a table in order to increase the quality of the photograph.
LESSON 7: AVAILABLE-LIGHT PHOTOGRAPHY | Firework photographs

Tips for fine firework photographs

The best time for letting off fireworks is late in the evening or at night - when the dark sky forms the perfect background for the display of fireworks. Each sparkling star or shower of lights provides enough light in itself to correctly expose a medium-speed film (ISO 100) at stops 5, 6 or 8 - provided, of course, you use a sturdy tripod and your camera allows for long-time exposures. The most common setting here is marked ‘B’. The shutter opens upon pressing the camera release button, and does not reshot until you release the button again.

The exposure times in this case are solely dependent on the active fireworks time: The shutter remains open as long as the skies are full of the fireworks display. In order to capture as many fireworks as possible on frame go for maximum exposure times; only medium- to low-speed films are recommendable here since they tolerate overexposure well. So, you could say, you ‘gather’ light figures. A rather old, but nevertheless very successful method is to cover the lens up with the lens cap during longer intervals; thereby achieving that large parts of the fireworks are saved on film without being outshone by the illuminated night skyline. In order to really cover a substantial part of the fireworks, you should use a wide-angle lens (35mm or 28mm) to fit a wide range of the sky into the frame.

Take care that the frame also shows the illuminated skyline and/or another background - so as to clearly define the proportions and, at the same time, design the otherwise pitch black background in a more interesting way.

Tip: The best chances for a perfect photo are given toward the end of the fireworks when the climax is reached and many different fireworks are being let off simultaneously.