THE IMPORTANCE AND USE OF PHOTOGRAPHY IN DOCUMENTING CULTURAL HERITAGE

The immense importance photography will have in documentation was evoked since the very beginning of the development of photographic techniques in the 1850s, when a large number of photographs could be reproduced from a single negative. At the time, specialized photographic studios emerged which focused on documenting cultural heritage and manufacturing postcards — some were private like the studio of Antonio Zuanich, others were bound to institutions like the English Heritage studio. In Croatia in the middle of the 19th century, a period from which a large number of photographs survived, the most famous photographs of the improvement and framing of various cultural and natural monuments (Ivan Standl, Dragutin Linka, Martin Bruce, Ante Mlinar, Miroslav Vlahov) are well known.

However, the first systematic and professional documentation of cultural monuments was organized by Ante Schneider who employed Lajoschet and Dano Grischbach to carry out the shooting. In the year 1900, they documented some of the most significant monuments in the Croatia Littoral, Dalmatia and continental Croatia. Their photographs, inventory and documentation ended in 1940 and by then their corpus included 2000 glass plate recordings of different formats. Their corpus became the basis for all later documentation and recording of cultural heritage.

There are two prominent ways of shooting in practice: in situ — where a cultural object is shot from improved positions (scaffolding, ladders) in existing ambient conditions with the possible addition of small amounts of lighting. Studio shot — where a wider range of artificial lighting is used, in some cases such shooting cannot be improvised within an object.

In both cases the use of tripods is necessary in order to compensate for weaker lighting conditions or to ensure that the camera does not vibrate in case of low ISO values and high resolution. The tripod compensates for poor framing due to the instability of the camera. With Digital shooting, whether in situ or in a studio, RAW format should be employed to make use of all the technical possibilities of the chosen equipment.

Shooting cultural heritage is a type of technical photography which mandates the principles of orthogonal shooting. When shooting object with analog or digital cameras one must pay attention to the correctness of the image, i.e. the ability to provide high-quality images that can be used for restoration, analysis, and visualization. The correct exposure of the image, the right parameters, and the use of appropriate filters and frames are essential. A photo template should be used next to the photographed object (British colour chart and grey scale) to ensure minimal standards, i.e. to include the development and use of newer templates related to digital photography.

Exposure — the Latin "to be exposed" is related to the period in which the photographic material is exposed to light (marked with f/8, f/16, f/22, etc.). The longer the material is exposed, the "lighter" the photograph and vice versa — underexposure produces darker results.

Aperture — relates to the amount of light that passes through the lens. By changing the aperture we also control the sharpness — the optical component of every camera lens. The sharpness depends on the shutter opening: the larger the opening (e.g. f/1.2) the less depth of field of the image and vice versa; the smaller the opening (e.g. f/22) the longer depth of field of the image.

The aperture is another parameter which, in combination with the exposure, is necessary for achieving a technically acceptable result, i.e. to increase the blur value, we must prolong the exposure and vice versa. By closing or opening the shutter we get different peripheral or central sharpness. It is marked by the f-stop.

Sensitivity of the photographic material/digital sensor (ISO ASA/DIN) is an important parameter in photography. A higher sensitivity allows for shorter exposures in low-light conditions but also results in anticorrosions of the shot. It is very important to use a camera stand while shooting with a lower sensitivity sensor which expands exposition in order to have a cleaner image in the end.

White balance is a parameter while shooting which allows for color temperature calibration in order to achieve a more accurate image of the object depending on lighting conditions. At the beginning of shooting, it is important to set accurate color temperature values or make a color calibration on a white surface. Most digital cameras have preset values that can be selected (D65, fluorescent, daylight, etc.).

Lenses are an important optical system of every camera. The focal length is the most important parameter that decides lenses into three groups: wide-angle (<50 mm), telephoto lenses (>50 mm) and normal (50 mm) when taking into consideration the 35 mm format which is standard for semi-professional analog and DLSR cameras.

To get a more accurate image of a certain object, shooting with a focal length of 50 – 80 mm is recommended, if conditions are not ideal. There are many sensor formats in digital photography like full frame (equivalent to 35 mm film) or APS-C (e.g. Nikon DX format), while focal lengths and lens characteristics change according to the chosen format.

While shooting interiors or large objects in smaller spaces, we use wide-angle lenses in order to center the entire object in one frame. The use of wide-angle lenses in technical shots is important to use a rectangular lens that has virtually no image distortion. While documenting certain segments which are sometimes high or far, it is necessary to use a specialist camera and excellent objects.

All photographs taken by Ivan Goldin (categories 1, 2, 3) in 2017, 2018. I would like to thank my mentors Mario Braun for all suggestions and literature to make this paper possible. Background photo: St. Mark’s Church in Zagreb, credit Agnetha Malm.