

1 Fundamentals

Digital photography is enjoying unexpected heights as more people make use of this modern tool and explore its challenges and possibilities. This new technology has also given a boost to the popularity of architectural photography in particular. The vast variety and fascinating properties of architecture provide inspiration to photographers of all levels. Architectural photographers have endless options for creative interaction with their subjects, which can be captured in an infinite number of ways.

A picture says more than a thousand words. This statement is especially applicable to architectural photography. No other medium can demonstrate the visual appeal and effect of a building better than a masterful architectural photograph. Therefore, the many pictures in this book will familiarize the reader with the topics and explanations not only in words, but also through beautiful examples. The reader will discover answers to many questions arising from theory and practical application, such as: What equipment do I need for architectural photography? What do I need to consider? How can a building look so different in reality as compared to the picture? What techniques can I use to enhance my pictures? What are the options with digital image processing and what can I do with them?

The reader will soon realize that architectural photography has unique characteristics that are quite different from other forms of photographic imaging.

1.1 Architectural Photography: What is it?

Clearly, the term “architectural photography” is a combination of the words “architecture” (the subject) and “photography” (the tool).

The word “architecture” by itself consists of two Greek words: “arché” and “techné”. Their meanings translate to “beginning” or “origin” and “art” or “trade”; thus we end up with something akin to “first art”. Architecture is all around us. In its most basic function, it defines our living spaces and is utilized for protection. It is practically the humans’ second skin. The famous architect Le Corbusier once said, “Architecture is one of the most urgent needs of man, for the house has always been the first tool he has forged for himself”. The term “architecture” encompasses a wide field, beginning with the first shelters of prehistoric man, progressing to ornate temples of the antiquity and functional manufacturing facilities of the industrial revolution, all the way to the glass hallmarks of modern cities. All this is architecture. A world without architecture is unimaginable. Without places to live, sleep, eat, work, do trade, make products, retreat, relax, govern, and learn, mankind would have remained in the Stone Age. Without architecture, the climate in many of the Earth’s regions would be uninhabitable to human life.

The term “photography” consists of the Old Greek words “phos” and “graphein”, which refers to “painting with light”. It describes the technical process, by which objects can be optically stored and shown in places they would normally not be visible. Thus, architectural photography carries a building’s image into the world—a world full of photography—in newspapers, on billboards, on the Internet, or even as works of art that hang on a wall.



Figure 1: Pompeian tapestry, 1st century AD

1.2 The History of Architectural Photography

1.2.1 Early History

The history of architectural photography dates back to the 19th century experiments that captured transitory images in photographic permanence. Of course, much older methods have been used to record architecture. The universal importance of architecture for mankind is the reason why paintings of edifices date back to the antiquity (figure 1). Like photography, paintings of buildings strive to compress a three-dimensional object onto a two-dimensional surface. It is notable that paintings do not necessarily rely on actual buildings, as does photography. During the Renaissance, artists such as Michelangelo and Raphael often painted architectural “visions” rather than depictions of reality (figure 2). During the Baroque period, painting even became a tool and technique of architecture. Wall and ceiling frescos not only depicted



Figure 2: Raffael, "The School of Athens", Stanza della Segnatura, Vatican, 16th century fresco



Figure 3: Cosmas Damian Asam, ceiling fresco at Ettlingen, Germany, late baroque



Figure 4: Jan van der Heyden, "The Church of Veere", 17th century, oil on canvas



Figure 5: Matthäus Merian, "Lübeck", 17th century, copper engraving

architecture, but also enhanced and completed it. Thus, the painted surface became part of the architecture itself (figure 3). At about the same time, architectural painting emancipated itself as its own genre, beginning with Dutch baroque art. Town squares and buildings were shown in detail and set in the appropriate environment (figure 4). In addition, other artistic techniques such as the copperplate engravings explored architecture. Especially worth mentioning are the outstanding copperplate engravings by Matthäus Merian (figure 5) with their detailed vistas of European towns. In the 18th century, Italian veduta represented realistic vistas of landscapes and cities in minute detail.



Figure 6: Bernardo Belotto, "A View of Dresden", mid 18th century, oil/tempera on canvas



Figure 8: Joseph Nicéphore Niépce, "View from the Window of Study", Chalon-sur-Saône, 1827



Figure 9: Louis Jacques Mandé Daguerre, "Boulevard du Temple", Paris, 1838

Bernardo Bellotto utilized a technological aid in his famous city pictures of Venice and Dresden (figure 6) which dates back to the Renaissance and was also utilized in Dutch baroque painting. It can be viewed as the predecessor of today's modern photographic camera—the camera obscura. During Bernardo Bellotto's time the camera obscura consisted of a movable box with an optical system that allowed images to be projected onto a screen, where they could then be traced with accurate perspective and proportions (figure 7), thus ensuring precision in painting and graphical art. Over the course of time, this device was being continually refined.

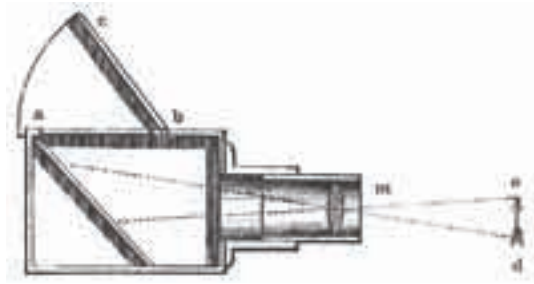


Figure 7: Camera Obscura

1.2.2 The Invention

With the invention of the camera obscura and the discovery of light-sensitive materials in the 18th century, the fundamental necessities for photography had been created. And yet, it wasn't until 1827 that Nicéphore Niépce first captured the faint image of a camera obscura onto a light-sensitive sheet of asphalt; a process that took several hours. The process became known as heliography and the resulting pictures were called heliotypes or niepctypes (figure 8). The first of the preserved images shows a basic element of architectural photography: a rendering of perspective. We might consider it to be the first architectural photograph, even though the view from the window of a study can hardly claim to be artistic, but is more practical in nature. The necessity of extremely

long exposure times made it impossible to depict anything but stationary objects, therefore in addition to still lifes, the depiction of buildings was ideal for photographers at the time.

At about the same time, Louis Jacques Mandé Daguerre and William Henry Fox Talbot were experimenting with other processes that shortened the required exposure times to several minutes. Daguerre's street scenes became famous (figure 9), and thus the term "daguerreotype" was coined. Each daguerreotype was unique and could not be reproduced. Talbot's calotypes, on the other hand, could be duplicated because the process was based on a transfer from a negative to a positive; the downside was the lack of detail in comparison to the daguerreotype (figure 10).

In successive years, photographic technologies saw explosive growth (figure 11), and in 1841 the first photographic exhibit of the world's most famous buildings was introduced in Paris. In the second half of the 19th century, architectural photographs gained in importance and were prominently featured in books and magazines about architecture. For example, photographs were used to document the disassembly, transport, and re-erection of Joseph Paxton's glass palace, as well as the construction of the Eiffel Tower (figure 12). Architectural photography also portrayed monumental buildings and estates around the world, as it documented and presented the structures and grandeur of foreign countries. Because of photography's primary use for documentation, architecture was usually depicted in a conservative, heavy, and static style.

1.2.3 The 20th and 21st Centuries

With the architectural changes after World War I also came changes in the way buildings were photographed. Beginning in 1919, the Bauhaus movement founded by Walter Gropius began to view photography as an applied art: "the ideal combination of craftsmanship, technical progress, and artistic expression". German photographers such as Albert Renger-Patzsch, August Sander, and Karl Blossfeldt founded a style they called "new objectivity". In the U.S., artists such as Walker Evans found subjects in the form of buildings reduced to their



Figure 10: William Henry Fox Talbot, "Boulevard des Capucines", Paris, 1843



Figure 11: Cameras, mid 19th century



Figure 12: Pierre Petit, Construction of Eiffel Tower, Paris 1888

functionality, such as grain silos and factories. Carefully chosen picture composition along with unusual views created a dynamic quality, and textures drew attention.

In subsequent years, technical progress greatly improved the photographic quality of architectural photographs. Exceptional photographers such as Andreas Feininger experimented with cameras they built themselves. Feininger even invented new techniques and constructed the largest telephoto lens available at the time. In the years before World War II, small and mobile cameras became widely available, which increased the tendency toward subjectivity (figure 13). Photography as a tool became available to a wider sector of society while at the same time becoming more versatile in its application. This gave rise to photojournalism and photo essays, where the camera turned into a visual notebook for photographers.



Figure 13: Leica II, 1932

In the early 1950s, more artistic architectural photography began to re-emerge. For instance, German artists like Hilla and Bernd Becher began to systematically show generic photographs of industrial society. Even decaying industrial edifices were archived and arranged in sequences. These burgeoning sequences and collections quickly gained worldwide appreciation. At that point, there was no longer a distinction between so-called “good” and “bad” architecture, and even deviations from the accepted ideals of “beauty” and “modernity” became the target of photographic lenses. Around the 1970s, a great impetus came from the steady rise of photographic galleries and the massive production of artistic photo books. Whether old or new, within collections or by themselves, familiar or strange, there seemed to be no limit to the range of photographic subjects.

The photographic boom continued toward the end of the 20th century. International exhibitions traveled around the world, and photographs demanded high prices in auctions. Advances in computer technology began to add new possibilities for post-production, such as the perspective control. At the same time, the traditional uses of architectural photography—documentation of edifices for architects, trade publications, the media, and so on—remained important, but were influenced by “creative” photography. As a result, architectural photography walked the line between artistic and utilitarian applications.

The rise of digital photography at the turn of the century has not changed architectural photography in and of itself, but rather constitutes an innovation in its methods and possibilities. Today’s digital technology has overtaken analog 35mm format photography in terms of sales; and even in medium format photography, digital camera backs dominate the market. However, in large format photography, analog film still remains a few steps ahead of digital technology despite its high costs.

1.3 The Authenticity of an Architectural Photograph

Just as there are different approaches to architecture, ranging from the purely functional to applied art, there is a wide range of approaches to architectural photography. These extend from neutral, documentary depictions to abstract and artistic visual works.

The straight documentary path is a narrow one. It must objectively and matter-of-factly convey the general impression of an on-site observer, and it must render an authentic representation of a building's architectural features (figure 14). This necessitates a focus on conveying information; otherwise, the building itself would lose importance in favor of the photograph representing it.

Of course, this gives rise to the question of whether it is even possible to produce a completely authentic architectural photograph. It is clear that even when a photograph is solely built on realism, there are always elements of abstraction and subjectivity. Such unavoidable factors include the lack of



Figure 14: Documentary architectural photograph

three-dimensionality in a photograph as well as the impression of sizes not being true to scale, depending on the actual distance of the objects. It is therefore practically impossible to depict a building with absolute authenticity. Another factor is that subjective, on-site impressions can only be transmitted with certain distortions: in other words, there is usually a big difference between standing in front of a building and looking at a picture of it. The renowned architect Meinhard von Gerkan expresses this well in an essay published in 2000 in which he states, “The architectural photograph is especially suspect of being an optical lie, because of the inherent potential of photography to be objective, which lends to the assumption that optical lenses are technical apparatuses incapable of being compromised. We know that this is deceptive and untrue”.

So, at what point does architectural photography become an art form on its own, and what is the distinction between artistic and documentary architectural photography? It stands to reason that there is no sharp demarcation; rather, the two areas flow into each other. As soon as the photographer shifts the focus away from documentary purposes, one can already see the beginnings of artistically creative photography. Even the selection of subjects may not be limited to a central staging of the building. In such pictures, a building may be the main subject, but the picture may convey little of the building’s actual function. In that case, the reliance on architecture becomes less pronounced, and the need for objective depiction is diminished. Following this train of thought, architectural photography can even represent a building in such a way that the resulting picture becomes its own expression, separate and different from the building on which it is based. At this point, the measure of the artistic quality of the picture is no longer the building it depicts, but rather its artistic message. Photographically creative techniques such as the omission or highlighting of features, simplifications, alterations, or optical effects can alter the image to the point where architecture is reduced to the photographer’s “toy”. In these cases, we certainly see the hallmarks of art (figure 15).

1.4 Manifestations of Architectural Photography

We all encounter architectural photography in many parts of our daily lives. Following are some examples of the most common photographic categories.

Documentary-style architectural photography: Many such pictures are found in photo books, trade magazines, brochures, and in the documentation of construction sites. In most cases, these pictures exist as part of a series and are complemented and accompanied by explanations, drawings, or blueprints. All of them describe the building and are dedicated to the purpose of giving an accurate account of the building’s specific properties.