

ARCHITECTURAL PHOTOGRAPHY

BY

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CHAPTER 1

"The Key factor of all photography is light"
Norman McGrath

INTRODUCTION

Since the start of photography in 1838 it was a means of expression and communication and it played a role throughout the development of photography. Photography is both art and science, and these two are linked throughout the development

Architectural photography is one of the oldest forms of photography. Photographers were documenting buildings since the beginning of photography. Throughout the years most changes has took place in the style and technique of architectural photographers.

Architectural photography can be divided into two main categories, interiors and exteriors. The author will provide a in-depth look at these categories.

CHAPTER 2

HISTORY

"Photography with its ability to produce pictures with wholly accurate proportions and precise representation of details was ideally suited to the rendering of architecture" (Robinson, C. 1988. Page 2)

Architectural photography started as soon as Daguerre and Henry Fox Talbot introduced their photographic processes. Unlike most other subjects, buildings were static and "sat" patiently for the photographers, with their long exposures due to the slow the emulsions. (Ibid)

The first phase of photography took off from 1839 and for the next ten years it emphasized technical and artistic experimentation. Most of the first architectural photographers were often trained in draftsmanship and they shared a common approach with the draftsmen. But the photographers were also ahead of the draftsmen. They were searching for the "truth". They could outdo the graphic artist with the accuracy of proportions and precise details. (Ibid)

Around 1850 a shift took place in the outlook of the photographers.

These years saw the appearance of a group of men trained as painters or illustrators. Hippolyte Brayard, Gustave le Gray, Henri le Secq, Charles Negre and Roger Fenton were among these remarkable men. Together they expanded the

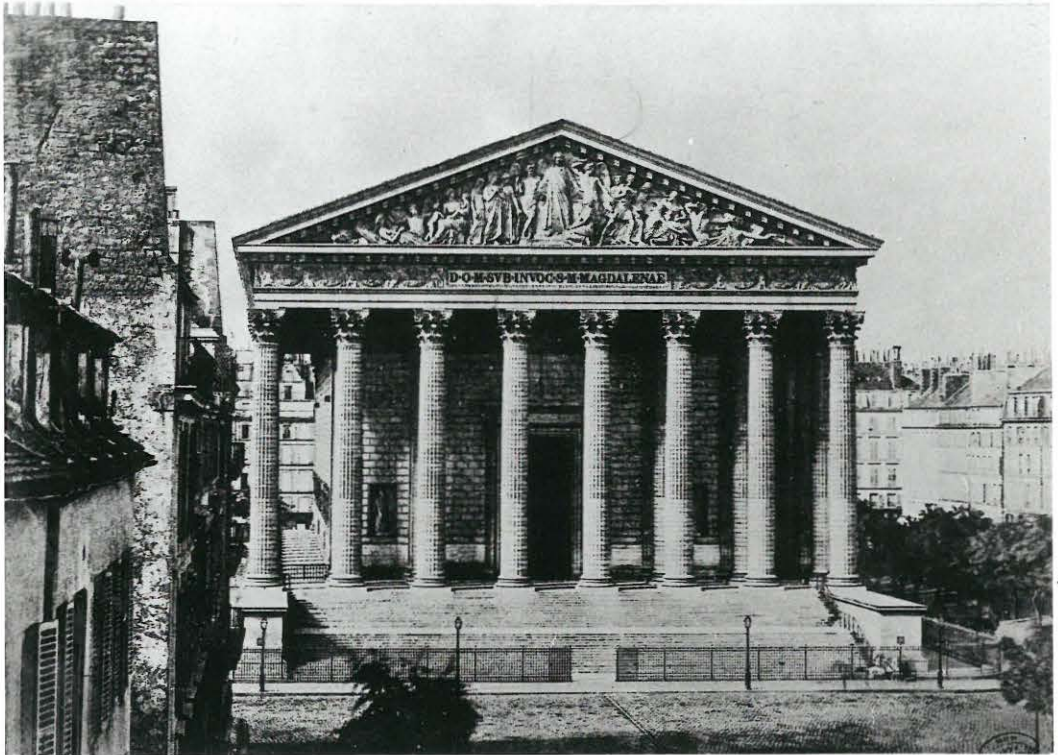


FIGURE 1

early limits of photography and developed a new kind of photographic vision. This changed their own photography as well as the generations to come. (Ibid)

In the same year Gustave le Grays' waxed paper version of the calotype negative appeared in France. This did away with the soft sketchlike quality of the early calotype, a result of the paperfibres of the negative. The new wax-paper had a crisp resolution of detail. (Robinson, C. 1988. Page 3)

If one can refer to a year in history that changed architectural photography it could be 1851. Not only technical changes but also in style. It also saw the last radical changes in style. (Robinson, C. 1988. Page 58) The late 1800's showed a turn away from factual style. The photographers were turning to fragmentary and experiential views of their subjects. (Ibid)

Another turning point in history was the invention of the "dry plate" process. Richard Maddox described in the "British Journal Photography" how gelatine could be a dry substitute for the wet collodion process. (Langford, M. 1980. Page 48) Other experimenters took up Maddox's idea and soon films and plates could be bought in shops. (Ibid).

These inventions made the architectural photographers life a lot easier. No more carrying around a darkroom and working



FIGURE 2

with wet plates. Exposed negatives could be taken home and developed there. (Langford, M. 1980, Page 50)

Around the 1900's some masters of photography also did some architectural photography. Edward Steichen and Alfred Stieglitz did a more documentary type of architecture photography. More of the surroundings of a building would be included like people, roads, trees and even other buildings. Stieglitz's group the "Photo Secession" adopted their style to separate them from the traditional approach (Robinson, C. 1988 Page 88)

From the 1920's the architectural photographers redirected their attention to specific subjects while maintaining the self-conscious artistry learned in the pre-war years (Robinson, C. 1988. Page 58)

Since the 1940's up to recent years the approach had changed somewhat. Before a building had been photographed the way the "man in the street" sees it. Almost straight forward, the only art was the technical aspects of the camera and film. In modern times with the modern buildings, a much more abstract approach is followed. Comparing early architectural photographs with more recent ones, will show that it is much more "arty" than eighty years ago.

Taking the main changes in style and technical aspects into consideration, the overall approach to architectural

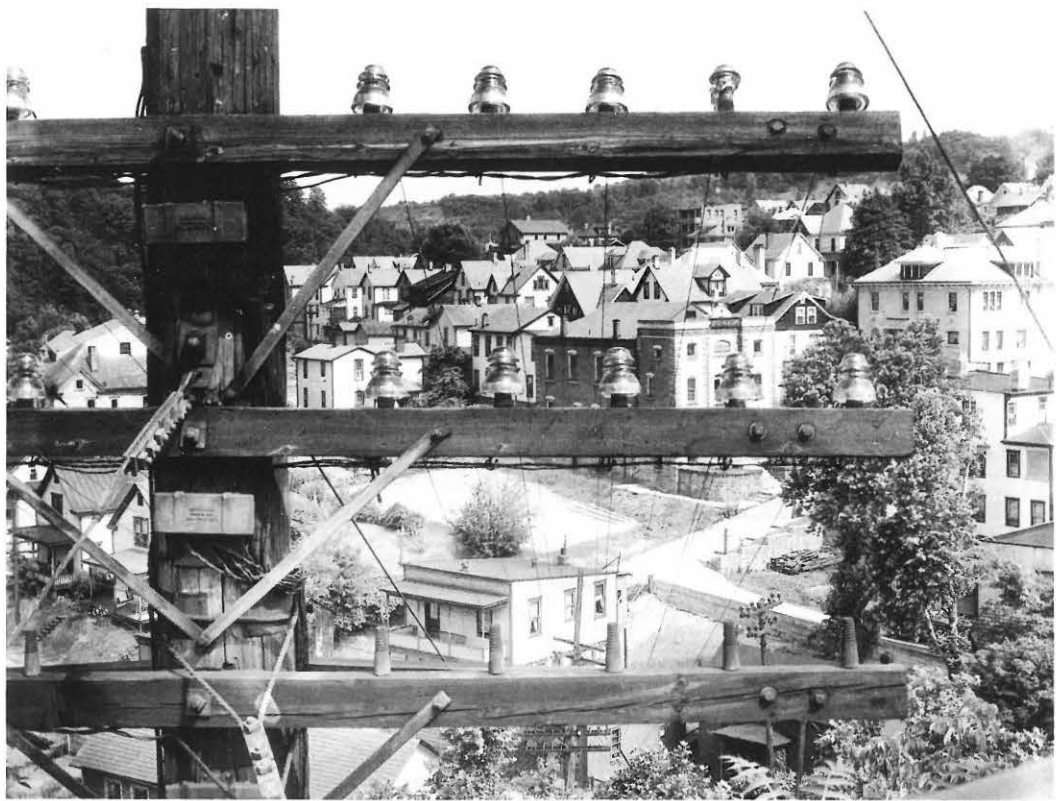


FIGURE 3

photography has not changed dramatically. As the buildings changed, the style changed slightly to adopt.

CHAPTER 3

FIGURE 4

CHAPTER 3

EQUIPMENT AND FILM

Without the correct photographic equipment the photographer would not be able to do architectural photography.

The author will discuss the equipment and film that he used, how, and to what extent he used it.

CAMERAS

The use of a 35 millimetre system is limited. When photographing a building, the photographer who is at ground level, must tilt his camera upwards. Due to this the buildings tend to lean backwards and vertical lines converge to a point at the top. This can be corrected by holding the filmplane parallel to the building. This is not always possible. Turning the camera downwards will result that the top part of the building is out of the frame. To solve this, a higher viewpoint can be found, but this is not always possible.

The author uses the 35 millimetre system mainly for abstract and detail work where the correction of verticals is not necessary. The authors' 35 millimetre equipment consists of two Nikon bodies; 28 millimetre, F.2.8; 50 millimetre F.1.8; 105 millimetre F.2.5 and 200 millimetre F.4 lenses, all Nikkors, for his architectural work. The 28 and 105 millimetre lenses are used the most.

Medium format poses the same problem as 35 millimetre and therefore is not used extensively. Although the bigger negative gives better quality than 35 millimetre, the problem with uncorrected verticals is still there. Whenever the author uses a medium format for detail work, he uses a Mamiya RB 67, with mostly the 127 millimetre and 180 millimetre lens.

There is no point in attempting professional architectural photography without a large format camera like a Sinar 4" x 5". The 4" x 5" forms part of every architectural photographers' equipment. The multitude of movements that the camera has got, makes it ideal for architectural photography. Almost any viewpoint can be used and with the correct tilt, swing and shift movements the building can be photographed fully corrected. The author uses a Sinar 4" x 5" monorail camera. His favourite lens is the 65 millimetre due to its wide angle of view.

FLASHES

Portable and lightweight are very important characteristics for flash-units. Flashes must be carried for long distances and the lighter and more compact they are the better it is for the photographer.

Power output is also important. Sometimes large interiors must to be documented and if the flash has not got a high

power output the camera lens can not be stopped down to a aperture that gives maximum depth of field.

The author uses a compact Broncolor light system. The system consists of three light heads, reflectors, umbrellas, stands, chords and a infra-red remote synchronized unit.

TRIPOD

The tripod is a very important piece of equipment. A steady, well structured tripod is necessary especially when using the large format camera. It must have forward and backward tilts as well as sideways. A build-in spirit level is important to level the tripod before the camera is mounted.

FILM

With the wide selection of different brandnames and qualities of film that is on the market the photographer can not simply choose one to use without testing it at first.

After using a few different brandnames the author decided on using Fuji for daylight balance film. The medium speed film of Fuji has got excellent grain and the colours are reproduced true to life.

For night photography where buildings are lit by tungsten light the author uses Kodak Vericolour Tungsten film. Made for long exposures, this film is ideal for night photography and interiors.

Although the author works on negative film as much as positive film, he prefers to use negative film. Negative film can be over- and underexposed with much more success than slide film. At the printing stage the author can manipulate the final print by holding back light or burning in. When printed the negative can be cropped easily. Due to the high cost of Cibachrone paper the author uses negative film most of the time.

When shooting on black and white film, the author used Ilford XP1, and lately the new XP2. This highspeed film has got finer grain quality than slow speed films. The great exposure latitude makes it possible for the photographer to expose from 50 ASA to 800 ASA without altering developing times. When printed, this film gives "biting" sharp results.

CHAPTER 4

PROBLEMS OF ARCHITECTURAL PHOTOGRAPHY

The author has found some problems that were encountered when doing architectural photography

A problem that is encountered quite often is the reciprocity failure of the film. Night, day/night and interiors done with available light results in long exposures. The film emulsion loses sensitivity when exposures of longer than one second are made. To compensate for this the photographer must either give longer exposure time or open the aperture, sacrificing depth of field.

For exposures from one second to ten seconds one F.stop must be opened from ten seconds to thousand seconds two stops and longer than thousand seconds three stops. (Langford, M. 1989, Page 74)

From personal experience the author has learned that this is not enough. The author always doubles his time for exposures up to ten seconds and after this he triples the time. The author has found that overexposure hardly ever occurs with night photography.

When documenting interiors the decorating is not always done in a way that suits the photographer. It might not be what he is looking for in the photograph. In some cases a chair or table for example, may obscure the view of the rest of the interior

An interior may even be decorated with not enough furniture or ornaments. The photographer has got the "right" to add, take away or change objects of an interior to suit his photograph. The author has found that adding something like a bowl with flowers, a few books or even ornaments can add to the "feel" of a particular photograph.

Another problem the architectural photographer will encounter, is the fact that he must get permission to photograph certain buildings. Buildings belonging to the government, companies and private owners cannot just be photographed without permission.

To obtain permission from a house owner is relatively easy. Most people do not mind that their houses are photographed as long as they get a photograph. With government buildings and big companies it is more difficult. Due to security reasons, government buildings cannot be photographed. An attempt to get permission will fail ninety-nine percent of the time.

With big companies the people are more willing to help. Although it may take hours or even days to get to talk to the right person, it is worth all the trouble. To be stopped by security personnel halfway through a shoot can be a problem and quite embarrassing.

The problems facing the architectural photographer can be overcome with patience, organization and planning.

CHAPTER 5

INTERIORS

The word interior describes a wide range of subjects. The inside of houses are the most common form of interiors that are seen in magazines and other publications. Industrial interiors, shopping malls, theatres and interior/exterior also classify as interiors. All of these will be discussed in this chapter.

"The most single important factor to be considered when documenting interiors is lighting" (Mc Grath, N. 1987. Page 37).

The two main light sources, natural and manufactured light, are the photographers' "tools" to create the desired effect, whatever he wishes in an interior. (Ibid)

Four different lighting methods can be used by the photographer when doing interiors.

1. Using daylight on its own.
2. Using flash.
3. Using a combination of daylight and flash.
4. Using available tungsten and fluorescent lights.

When using daylight for interiors, the photographer can achieve dramatic and contrasty effects.

Making changes with daylight is impossible, thus the photographer should control it by selecting the time of day to shoot. (Mc Grath, N. 1987. Page 34) Different angles of

the sun or clouds to diffuse the light could make a great difference to an image.

A problem that can arise is that direct sunlight produces too much contrast and then makes exposure difficult.

The author encountered this when he was photographing a lounge. (Figure 9. Page 47). Due to the large windows and glass sliding doors that face north, the sun was shining directly into the lounge for most part of the day.

Using the vertical binds to his advantage, parallel lines of direct sunlight were created on the floor. Careful exposure resulted that the lines of sunlight were not totally burned out. The photograph was taken with a Sinar 4" x 5" and a 65 millimetre lens set at F.32.

Using the direct sunlines, the author created a totally different feel to the image.

In the case of interiors with small or no windows allowing a little or no sunlight through, the photographer will rely solely on flashlights. Large powerfull studio flashes are essential when using a large format camera. The light output will determine the lens aperture. The stronger the flashoutput, the smaller the aparture. This gives the photographer a great depth of field (McGrath, N. 1987. Page 44)

The size of the interior is also important. The bigger the interior, the further the flashlights must travel. (Ibid).

Care must be taken when doing interiors with objects in it that can cast shadows. Bouncing the flashlights from the roof is a trusted method and works well. Even lighting will fill the room with no harsh shadows. Care must be taken that wherever the flashes are bounced off must be white, otherwise the photograph will have a colour cast.

In certain cases the photographer can use a combination of daylight and flash. This will give a perfect balance of colour and brightness (Kodak 1985. Page 92). The "aim" of fill-in flash is to enhance, not compete with the main lightsource (Kodak. 1985. Page 88). To get the correct balance between daylight and the flash is very important. In the next photograph the author achieved this (Figure 10. Page 48).

When the light reading was taken, the author discovered that there was a three stop difference between the lighting of the roof at the top and the flowers at the bottom. Due to the big stop difference, an exposure between the two readings would not have worked. The author decided to use fill-in flash. The reading from the top was four seconds at F.32. Six flashes were used, three directed one third up and three towards the bottom. The reading from the flashes were F.22. During the six seconds of exposure (accounting for reciprocity) the flashes were fired three times. Using

the 75 millimetre lens on the Sinar 4" x 5", it gave enough depth-of-field at F.32 to have everything in focus.

Using available tungsten and fluorescent lighting is of good use in large indoor public places like theatres and shopping malls. These places are usually too large for flashlights to be set up. With a time exposure the available light is enough.

Using daylight balanced film with tungsten and fluorescent light will result in colourcasts. In an area like a shopping mall there are a multitude of colours, the result is that a colourcast can not be detected.

Shooting an interior with only the available domestic tungsten lights will result in a strong yellow colourcast. In certain cases this adds to the mood of the whole picture.

When the author did the shoot of the Wheel shoppingmall in Durban, he used daylight balanced film (Figure 11. Page 49). An exposure of six minutes was made at F.45 with a 75 millimetre lens. A big problem was the people moving around. Due to the long exposure they did not record. People who were sitting at one place during the whole exposure, came out as a blur. This was not distracting at all, it rather enhanced the image.

INTERIOR/EXTERIORS

The aim of an interior/exterior photograph is to get a perfect balance between the interior lighting and the outside light seen through windows or glass doors. There are different ways to achieve this. The author prefers to use only one method because it is the most practical.

The photographer must measure the light through the window and then set the flashlights at a power level that matches the aperture setting of the outside exposure. If the outside exposure measures 1/30th of a second at F.32 then lights must be set at F.32.

When choosing a setting for interior/exterior photographs the photographer must not only make sure the interior is attractive, but also the outside part that will be seen through the window. A boring and uninteresting exterior can ruin a photograph.

Depth of field is of utmost importance. The photographer must make sure that the depth of field will be enough to carry from right in front of the camera to the furthest point of the exterior. The flashes should be strong enough to have an output that will match the small aperture of the lens.

In figure 12 on page 50 the author chose a setting with large glass sliding doors. Sunlight that were coming into the room "assisted" the author with the interior lighting.

Broncolour flashes were set at full power and bounced off the roof. The photograph was taken with a Sinar 4" x 5" and a 65 millimetre lens set at F.32. The flashes were set to match the aperture setting.

Although interior/exterior photography may appear easy, there are problems that must be watched out for. Care must be taken with exposure and depth of field measuring. If not, the image can easily be ruined.

INDUSTRIAL INTERIORS

Although industrial interiors can not be classified as a "pure" architectural interior, the author has included it in his portfolio. In most cases no supplementary light sources are necessary when documenting industrial interiors. The interior lighting in a factory is of such that the workers are able to see to do their job. These lights are adequate to shoot by.

Due to all the machinery there are quite a lot of dark shadows where almost no light is falling. Care must be taken with the exposure so that the darker areas do not go black and the highlights are not burned out.

From personal experience the author has found that an exposure more towards the shadow area resulted that both highlights and shadow areas kept detail. At the printing stage the printing can easily be manipulated by burning in or holding back the light.

Due to long exposures there are in most cases blurred movement from machines and workers. This can add to the mood of the photograph.

When shooting at the Coca-Cola bottling plant the author selected a high viewpoint (Figure 13. Page 51). The only light sources were the tungsten lights and the daylight coming through the window in the roof. The exposure was made at 30 seconds with a 90 millimetre lens set at F.45.

The blurred cooldrink cases on the rails can clearly be seen. The author feels that the blurred movement added to the image. Should those cooldrink cases had been static, the mood would have been lost.

Using a daylight balanced film for this interior resulted in a warm yellow feel. This was not distracting at all.

In some situations the author prefers to use black and white film for industrial shoots. The great exposure latitude of black and white film, especially that of XP2, is ideal for this type of photography. (Figure 14. Page 52). When shooting at Unipe in Bloemfontein the author exposed for the darker areas, light readings were taken from under pipes and shadow areas behind machines. The film could handle the three stop difference with ease. At the printing stage the author burned in areas that were overexposed. The shot were done with the Sinar 4" x 5" and 75 millimeter lens set at F.45. The film used were XP2 rated at 400 ASA.

CHAPTER 6

EXTERIORS

Exteriors can be divided into different categories. Urban buildings, houses, abstract and detail, day/night and night architectural photography all classifies as exteriors. All of these will be handled with in this chapter.

The photographers major concern when documenting buildings from the outside is light. The sun cannot be controlled, so the photographer is at the mercy of "Mother Nature". (McGrath, N. 1987. Page 122). Either the photographer has to wait for unfavourable conditions to past or he has to deal with prewailing conditions (Ibid)

"The changing qualities of daylight can radically alter the appearance and mood of buildings" (Kodak, 1985. Page 20). If the photographer should decide to shoot exteriors in direct sunlight the time of day should be chosen very carefully. Direct sunlight produces strong contrasts and the harsher the sun, the stronger the contrast. By shooting in bright sunlight will emphasize patterns and details (Ibid)

When the overall shape of a building is important, an overcast day is the ideal time to shoot. It produces a suitable variation of texture and colour (Ibid). The choice of different lighting conditions will determine the sucess of a particular shoot.

Equally important to light conditions is the choice of viewpoint. Depending on the type of photograph that is

needed, the correct viewpoint must be chosen with care and patience. The photographer must walk around the building and scan the surroundings to find the best possible viewpoint. (Kodak, 1985. Page 18)

If fully corrected photographs of an exterior is needed, a viewpoint some distance away from the building would be the best. The large format camera can be fully corrected to suit the needs of the particular shoot. When photographing the Sertec building in Randburg the author had a viewpoint some distance away from the building. (Figure 15. Page 53). He had to wait for the right time of day before the shoot took place. The building faced northwest and got direct sunlight only after three in the afternoon. The author took the photograph at half past three in the afternoon. The sun was already not as harsh as it would have been two hours earlier. The shot was overexposed by one third of a stop for more saturation. The author used the Sinar 4" x 5" and a 150 millimetre lens set at F.32.

For a more abstract towering approach the photographer could stand right by the building. Limited access is a problem, especially in urban surroundings. In some cases a view directly up towards the top of the building may result in a good photograph.

When documenting the Iustitia building the author stood on the pavement next to the building (Figure 16 Page 54). The Sinar 4" x 5" was tilted right up. The 65 millimetre lens

was used and the camera was not corrected at all. This can be seen by the line distortion that took place.

Architecture photography does not only mean one isolated building. Surrounding buildings, gardens, trees and landscapes can be included to give the photograph a different perspective.

To make a image more interesting the building can be framed by trees, through windows of nearby buildings and by the use of statues. A very important factor when using a frame for the photograph, is depth of field. To ensure that both subjects are in focus, a small aperture must be chosen. Focusing is critical. The rule of focusing one third behind the closest subject is a good measure. If a small enough aperture is chosen, the depth of field will carry one third back to the camera and two thirds away from the camera from the focusing point.

The author used the statue of C.R. de Wet on his horse to frame the building (Figure 17. Page 54). Without the statue the building could have been a potentially boring shot. The statue gave a new dimension to the image. An aperture of F.45 had to be used to ensure both subjects were in focus. The photograph was taken with a Sinar 4" x 5" using a 150 millimetre lens. The exposure was 1/30th of a second at F.45.

ABSTRACT AND DETAIL

There is a very fine line between abstract and detail architectural photography. A photograph can be both abstract and detail at the same time. The viewer must decide for himself if a photograph is abstract or detail, or maybe both. If one viewer feels that a particular photograph is abstract, it does not necessarily mean it will be abstract for the next person. The author feels that it is much of a personal matter for each one to decide for himself.

When doing detail shots it can reveal much of the structure and style of the building (Kodak. 1985. Page 28). When coming in closer with the camera to record details, the texture of the building is revealed, whether it is coarse or smooth. There is a strong relationship between sense and touch. Having a photograph with texture the viewer's brain is stimulated and a sensory touch response is experienced. The viewer almost feels that he can touch the texture although it is only a photograph. (Dean, J. 1981. Page 88) Texture plays an important role in detail photography.

Although abstract and detail runs close to each other, abstract is much "narrower" than a detail photograph. The photographer selects a part of the building and his aim is to portray it in a manner that the "man in the street" would not have noticed before. The photographer must dramatize the

image. Wide angle lense is usefull when doing abstract work.

Using a 35 millimetre camera and just tilting the camera upwards will exaggerate perspective and produce a dramatic abstract picture. (Kodak. 1985. Page 42).

Although both of the authors' photographs can be either abstract or detail, the author feels that figure 18 on page 56 can be classified as abstract. Using a 35 millimetre Nikon and a 28 millimetre lens, the author tilted the camera upwards and composed the photograph. By doing this a new dimension has been given to the building. Graphic detail and lines gave the photograph a dramatized abstract feel.

In the next photograph, by only selecting a small part of the building, the author made this a detail shot. (Figure 19. Page 57). Using a Mamiya 6 x 7 and a 127 millimetre lens, the texture stands out. The viewer can almost "feel" the coarse texture.

In the end it is the viewer that must decide for himself if it is abstract or detail.

NIGHT ARCHITECTURE

Although the fundamentals, like angle of the camera and viewpoint stays the same, the lighting of night architectural photography is totally different. The fact that it is dark causes problems of its own.

Only buildings that are lit up at night can be used for night shots. With most of the buildings that are lit with tungsten, spotlights are used. This sometimes causes problems. The spotlights are highlighting only parts of the building. A F-stop difference of as much as five to six stops may occur.

With the night sky, the darker areas of the building tends to disappear. One solution to this problem is to fill the darker areas with a handheld spotlight working off a car battery. A portable flashgun can also be used. Due to the long exposure at night the photographer can walk around easily and light up darker areas. As long as he keeps moving, he will not be recorded on film.

Reciprocity is a problem encountered when doing night photography. The use of a tungsten balanced film is recommended. This type of film is made for long exposures, thus the reciprocity failure is not as much as it would have been with daylight film.

Another advantage of tungsten film is that no colourcast is detected when shooting with tungsten lights.

Photographing buildings at night must be attempted with a lot of patience and care. The choice of subject matter is of utmost importance. A building that looks attractive by day would not necessarily be like that at night.

The author took a night photograph of the Mediterranean Shipping Company in Durban (Figure 20. Page 58). The tungsten spotlights were directed onto the building itself. The surrounding parts of the building were not so strongly lit. The foreground and some darker parts of the building measured up to five stops less than the main lights on the building. During the twelve minute exposure the author walked around with a portable Metz 60 flashgun. Flashing at the darker areas, he flashed between sixty and eighty times. This resulted that the darker areas did not lose all detail. The photograph was taken with a Sinar 4" x 5" and a 75 millimetre lens set at F.45. The film used was Kodak Vericolour tungsten 100 ASA.

DAY/NIGHT

The aim of day/night architectural photography is to capture the building at dawn or dusk. This is the ideal time to photograph a building while it is illuminated by daylight, but with all the lights on.

This can be done in two ways. With the one method a double exposure can be made. The camera must be set up during the day, preferably during dusk. The photographer must expose for the building and the surroundings and afterwards leave the camera in its original place, only cocking the shutter. A second exposure on the same film is to be made at night. Exposing only for the light inside the building, the result will be a building photographed during the day with all the lights on.

This method works well for buildings with no exterior spotlights shining on them and only interior lights that can be seen through open doors and windows. The author took the photograph of the Iustitia building using this method. (Figure 16. Page 54).

Buildings with spotlights shining on them can be photographed by an other method. By making only one exposure at dusk, a day/night effect can be created. At dusk there is about fifteen minutes before it is totally dark. During this time exterior lights are on and the sky

is a dark blue, sometimes even purple or orange. This is the correct time to do the exposure.

When shooting the Cityhall of Bloemfontein the author used this method. (Figure 21. Page 59). By using tungsten film, the blue sky turned even more blue. The photograph was taken with a Sinar 4" x 5", a 65 millimetre lens and Kodak tungsten film. The exposure was seven minutes at F.45.

Although the photographer can be very creative with day/night photography, care must be taken that it is not overdone. Sometimes referred to as "happy hour shots" this type of photograph can easily become repetitive.

CHAPTER 7

NORMAN MCGRATH

Norman McGrath is regarded as one of the world's great architectural photographers. For a quarter of a century he has been photographing buildings and published photographs in every major architectural publication in the United States and Europe.

In 1985 The American Institute of Architects conferred on him a coveted Institute Honor in recognition of his achievements in enhancing the environment and the architectural profession.

McGrath has got an excellent portfolio of interior as well as exterior work. His interior work covers a large range such as domestic spaces, chapels, restaurants, hotels and theatres. Looking at his interior work of chapels and restaurants one realizes that he is a master. He has got complete control of the difficult lighting conditions of interiors with tungsten and fluorescent lights. Using colour correction filters as well as tungsten balanced films, he gets the image as true to life as possible.

The angle of view he chooses for each shoot, suits the interior well. Eyelevel angles are used, thus the interior is portrayed the way everybody else is experiencing it.

A characteristic of his exteriors is blue skies with white clouds. Contrast is created between the sky and the

building. The effect could not have been the same with a hazy white sky.

McGrath uses surrounding buildings and landscapes to "frame" certain buildings. "Landscaping can transform a mediocre design into a masterpiece" (McGrath, N. 1987. Page 134) Yet he warns the photographers that a poor surrounding prevent a masterpiece from obtaining recognition. When photographing groupings of buildings. McGrath feels that the relationship between them is paramount. Yet there must be emphasis on the individual design.

The reason why the author has chosen to talk about Norman McGrath is because McGrath's work influenced him so much. The author has got the same "clean", straightforward approach as McGrath.



FIGURE 5



FIGURE 6



FIGURE 7

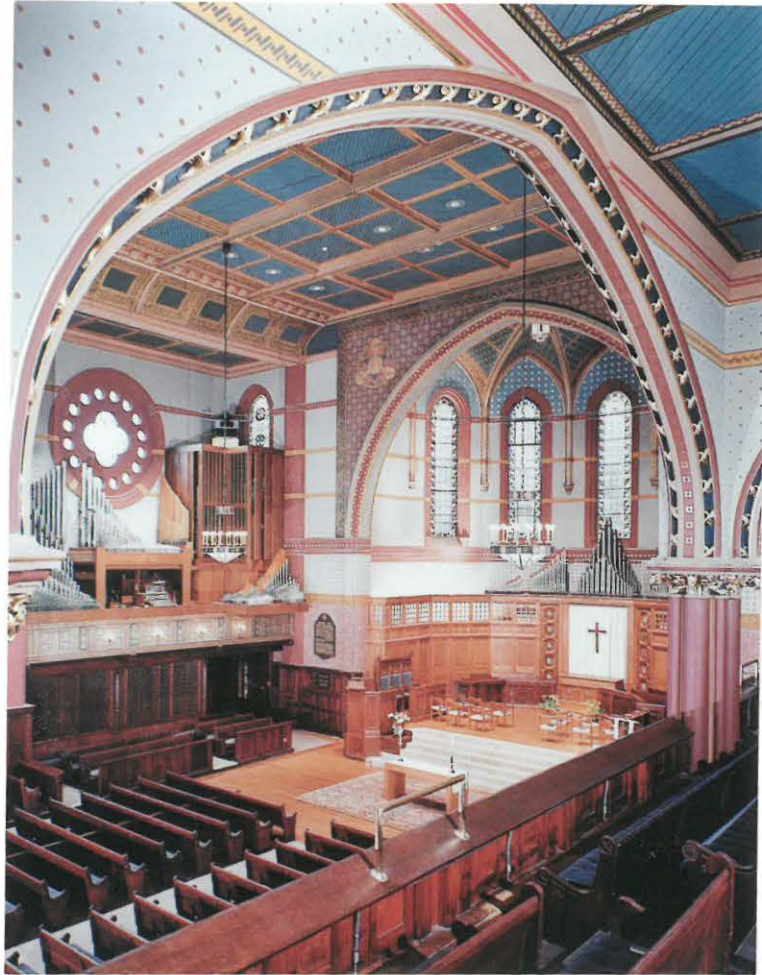


FIGURE 8

CHAPTER 8



FIGURE 9



FIGURE 10



FIGURE 11



FIGURE 12



FIGURE 13

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FIGURE 14



FIGURE 15



FIGURE 16



FIGURE 17



FIGURE 18



FIGURE 19



FIGURE 20



FIGURE 21



FIGURE 22



FIGURE 23



FIGURE 24



FIGURE 25

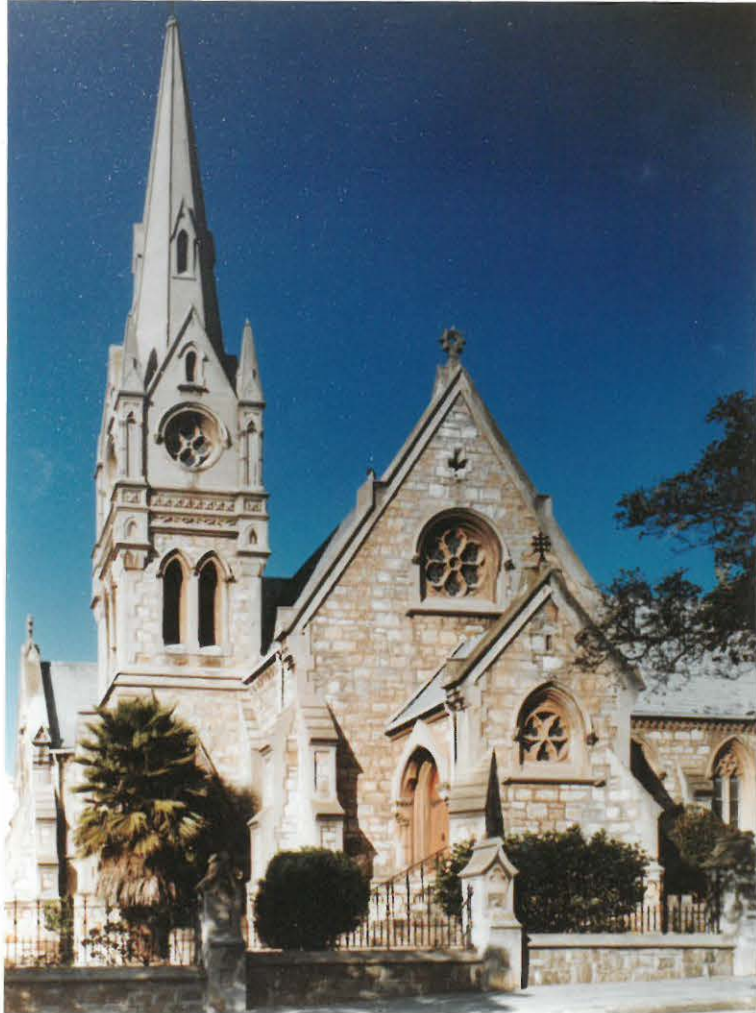


FIGURE 26



FIGURE 27



FIGURE 28

CHAPTER 9

CONCLUSION

The modern architectural photographer is constantly challenged by architecture that are getting bigger and more modern and abstract each day.

Comparing to the past, the modern photographer is challenged in much the same way than his colleagues of decades ago. Modern buildings, latest technology in cameras and film emulsions that Richard Maddox never even dreamed about, is all contributing to the change.

One could ask "Where and when will all of this end?" The answer is that it will not end. Everything will just get bigger, brighter and more modern. It is up to the photographer to change constantly and adopt to all these changes. If he does not, he will be left behind.

As long as mans' desire to design and build structures last, the architectural photographer will have a future. The challenge will always be there. It is up to the photographer to take it.

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