

NATURE

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by

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INTRODUCTION

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1. PHOTOGRAPHY OF NATURAL THINGS

As a nature photographer, you will recognise the overall pattern of nature - a steady, gradual development. To grow as a nature photographer, you must be open and receptive to nature - in your home, the city, or the wilderness. You will recognise both nature's underlying order, or simplicity, and its dynamic growth and change, and will also see that it maintains a balance between these two forces. Balance is nature's fundamental law, although sometimes it's not readily observable.

Photographing natural things is a way of being in touch with them and with yourself. The photography of natural things includes all forms of plants and animals and the air, water and soil. The possibilities for making nature pictures, are almost endless, natural things can be photographed almost anywhere - even in the cracks of a city sidewalk. Aims, attitudes, attributes and approaches are as varied as the subject matter and how the pictures are used. The picture can be a close-up; abstract; a landscape; a still life; a study.

In photographing nature, much is out of the photographers control, because photographers cannot force the sun to shine, the rain to fall, or a plant to bloom. They cannot direct their animal subjects, at least not very effectively, even in the most controlled of circumstances. Whether photographing the striking patterns of light and shade in the drifting snow, capturing in landscape photography, the soft movement of grasses tossing in the breeze or documenting the nesting habits of a bird - the photographer has to catch the fortunate combination of eg. earth, sky and cloud and the camera must convey in the small space of the print, the very presence of the scene.

The photograph must have the unparalleled ability to force the eye to look at everything that is within the frame, right down to the last blade of grass in the bottom right corner and the photographer must remember that not only does the camera freeze the world, preserving what is caught at one time for someone else in another time to see, but it also takes what it sees out of context.

The most irrelevant objects in the real scene can become most relevant in the print. So, to take a successful photograph, the photographer need to concentrate on learning to see as the camera sees.

Eye to Camera

Begin with the way the photographer's eyes look at a scene. Upon finding an interesting scene, their eyes dart about, investigating textures, squinting at a highlight here, penetrating a shadow there. Imagine three accomplished nature photographers in the same place, at the same time, with the same assignment. Here is a possible scenario of what they would do ..

The first photographer examines the scene, then walks around seemingly at random for a few minutes. Next, he begins intently taking pictures. The second photographer also looks around, then hikes away, pausing to scan the horizon or examine some small object nearby. After an hour, he finds a worthwhile subject half a mile from where he started. The third photographer looks around briefly and departs. He doesn't like the light and will return at another time of day.

What happened was that they analysed the elements that constitute all photographic subjects. Each photographer developed their own distinctive way of really looking at things. By concentrating on the important parts of a scene (with or without their conscious aid). Their eyes and brain eliminate the distractions and clutter to paint a mental picture to match their mood or their expectations.

Not only do a photographer's eyes tend to select what is important to them, they also tend to seek and see things beyond the camera's view; things that may mislead photographers about the scene in the viewfinder. As the photographer builds the picture, he must resist the influences outside the borders of the viewfinder.

A camera sees only what you point it at. It cannot be impressed by what is beyond it. Nothing distracts it including physical and emotional concerns. So be sure as a photographer you are seeing what there is in the viewfinder. For a photographer to see so clearly, the best shortcut in photographic terms is to use a viewing frame. It should be small enough to carry with the photographer easily.

Film too has its bases and limitations and that also plays a big part in what the camera sees. Black-and-white film sees only in shades of grey and is in many respects colour blind - unable to completely distinguish between red and greens for example. Colour films may emphasise colour at the expense of other elements of the scene and no film can match your eye in its ability to distinguish a wide tonal range although technology today gives a very good range of the colour spectrum.

With so much technological and psychological distance between the photographers original excitement at finding a subject and at the final photographic image, it is easy to see how the photographers vision might get lost. There are many formats of cameras for the photographer to use which is discussed in cameras and lenses.

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2. PHOTOGRAPHING NATURAL ELEMENTS

Every living thing depends on air, water, and soil to provide its habitat and sustain its needs. These three mediums support life because of an essential ingredient energy. The sun is far beyond the earth's atmosphere, we see it through the atmosphere and associate it with air more than with water or soil - the sun appears to be part of the sky. So when a photographer adverse atmospheric conditions, they often have to consider the location of the sun in the sky and the visual affects of sunlight on clouds, mist and rain.

A change in the weather affects the quality and quantity of natural lighting, and for many photographers the unpredictable nature of weather is often considered to be an major drawback when working outside. By using a little imagination, and taking time to solve practical difficulties, even the worse conditions can usually be put to good use.

Wet weather is probably the most discouraging because of the low light levels and the risk of moisture damaging equipment, however most exposure problems can be solved by using slow shutter speeds, wide lens apertures, and fast film speeds. Many cameras are fairly watertight and can withstand brief periods of exposure to light rain or drizzle. For prolonged sessions it is advisable to carry several polythene bags. Both for kneeling on when working close to the ground, and for laying over equipment. In really heavy rain, the most satisfactory solution is to place the camera inside a large clear bag and then secure the open end around the lens hood using an elastic band.

Falling rain can be difficult to capture on film. If you open a window and point your lens at a downpour, you'll probably record only greyish blur, no matter what shutter speed you choose. However, special opportunities may arise that make it possible to get very good pictures of rain falling, eg. while it's still raining, the sun may break through clouds, back-lighting the rain. The most effective use of rainy weather is in close range photography, where water droplets can be shown clinging to the subject matters. For delicate subjects, such as wildflowers or spider's webs, the best times to work will be on windless days after a shower, or in a fine drizzle, because the calm conditions will leave more raindrops suspended and allow longer shutter speeds to be used.

(A hand sprayer from a garden centre can provide a convincing supply of artificial "raindrops" and also has the advantage of being usable in sunny weather, when it can be employed to produce an attractive sparkling effect).

When telephoto lenses are used over longer ranges in misty or rainy weather the particles of water in the atmosphere between the camera and the subject will reduce the clarity of the image, depending on distance. Colours are rendered as delicate pastel shades and the overall effect can be very pleasing when photographing eg. a distant hedgerow tree. Rainbows and rain work together. When sunlight passes through raindrops, the drops bend the light waves much as prisms do.

When it's raining in part of the sky, but the sun is shining from the opposite direction, the same thing happens - a whole shower of raindrops bends the light rays, and a rainbow occurs. In order to saturate the hues of a rainbow in your photographs, expose as you would for a sunset. If you obey the meter, the colour saturation will be diminished and you'll be disappointed. A polarising filter may improve the colour rendition.

Very hot, dry weather will produce heat haze which again, over long distances, can impair image quality, and because of the distortion produced by shimmering effect, the results are usually less attractive than those given by mist or rain.

Unless you have the special equipment that can actually photograph heat itself, you can only portray heat through its visible effects, such as dried mud, scorched plants. Sunsets are often more spectacular in hot weather due to the increased amount of dust particles in the air - on many occasions the sun may appear as an orange ball when near to the horizon and, in fact, may be safely viewed and photographed with the naked eye.

Working in cold weather creates very different sorts of problems, the most serious of these is the fall-off in the electrical power given by the tiny batteries inside cameras. Since most cameras are dependent on these batteries for power, light meters and electronic shutters, it is sensible to insulate camera bodies which are not in use beneath a jacket, and to carry spare batteries in a warm place such as a strap pocket. (when very cold).

Condensation is yet another problem associated with low temperatures, as moisture forms on the surface of films and equipment once they are brought into a warm environment. The most practical solution is to seal equipment into a polythene bag which has most of the air expelled so that condensation will form only on the outside of the bag.

The colour of snow is the colour of the light source. Whether we perceive that or not, the film usually will. The colour of shadows is the opposite to the colour of the light source. That's why, late on a sunny winter afternoon, when the snow appears very warm (gold or pink) the shadows, shine a strong blue-green light on a snowy object some nights. Only when the sun is high in the sky is snow truly white and shadows reversed in grey or black. Regardless of the intensity of the light source, we normally perceive snow to be lighter in tone than "middle grey", which is what all reflect - light exposure meters are designed to indicate - so, in order to get white snow in a photograph, you must regard your meter only as a guide, and over-expose approximately one full f/stop with colour film - approximately because conditions vary.

Differences in temperature help set up differences in air pressure, which in turn make air move producing everything from zephyrs to cyclones.

Since wind, like heat, is impossible to photograph directly, a photographer must show it indirectly or by implication, through its patterns and effects. A time exposure of clouds after sunset on a blustery evening will capture the wind's force and direction, and so will the blurred motion of plants or branches tossing in the wind. Even in a high wind, you will need a fairly slow shutter speed (1/60's or slower) to convey the impression of movement. Also photographing snow blowing into drifts or sand dunes after the wind has abated, you can record very clear stories of air movement.

When you want to photograph a still photograph windy weather is one of the most difficult of all conditions to cope with due to the increased risk of subject and camera movement.

Close-ups of plants, in particular, become almost impossible unless they are photographed by flash, or are enclosed in some form of translucent tent. Even when attached to a tripod, long lenses may still require fast shutter speeds because of the wind. In extreme conditions it is usually necessary to work to low ground and in the lee of a solid obstacle as a wall.

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3. CAMERAS AND LENSES / FILM AND FILTERS

A feeling of “fitness” with a particular camera system must be experienced to be comprehended, and it is far more important than any practical recommendation for using one kind of camera or another. When a photographer finds the format he prefers, he will know it.

Brand names, specific features and prices aside, cameras differ in two basic ways :

1. Format : Dimensions of the image area on film; and
2. Viewing System : How the camera lets you look at a scene.

Format affects both image quality and convenience of use. Viewing systems mainly affect the convenience of the user. Each has its own advantages.

35 mm SLR Cameras

The smallest, most popular and suitable cameras for shooting a wide variety of nature pictures are definitely 35 mm SLR cameras (image size is 24 x 36 mm). The camera is fast, convenient, lightweight, and mercifully compact and also versatile.

Lenses from macro to wide - angle to super - telephoto, can be interchanged. Motor drives, remote releases, underwater housings, and a profusion of other add-ons make it adaptable to almost any shooting situation or environment.

The photographer might also find the viewing mechanism better because he can look directly at what he is photographing, rather than down into a ground glass. Photographs can be fairly fast and spontaneously.

Choosing a 35 mm system

A good photographer can consistently make very good pictures with any of the 35 mm SLR cameras. There are a number of excellent camera systems on the market today. The photographer can choose a system by reading the technical articles in the photographic magazines that performs very thorough equipment tests. The photographer can also go to a camera store and look over the equipment before purchasing a system. Then he can find out for himself which camera feel most comfortable, and have their controls placed so that you can identify them by touch without looking at them.

Medium-Format Cameras

Medium format cameras actually comprise a group of several different image sizes including 6 x 7 cm; 6 x 4,5 cm; and 6 x 6 cm. All achievable on 120 film, depending on camera configuration. The advantage of the camera is its larger negative size, which give better quality results than 35 mm negatives for the same size print.

The main disadvantages of medium format cameras are higher cost for comparable equipment and greater weight, and important consideration for natural form (e.g. landscape) photographers lugging gear up a trail. Medium formats also come in several viewing styles, the predominate one being a SLR design. The TLR (Twin-lens-reflex); it uses two identical lenses, one that provides an image for viewing and focusing and one that projects the scene onto film. The rangefinder design is another viewing system.

In addition to offering more image area, the medium-format SLR cameras also offer much of the same flexibility as 35 mm's including lens interchangeability. Many also have interchangeability camera backs, which allows you to change film types in midroll - so you can photograph the same subject in both black-and-white and colour simply by switching backs.

Large Format Cameras

Large format cameras are often called view cameras, because the photographer views the image projected by the lens directly onto a piece of ground glass. Disadvantages of view cameras are that they are heavy, ungainly, expensive and time consuming.

View cameras are made in several formats, the two most common being 4 x 5 inch and 8 x 10 inch. They give excellent quality results. When the photographer uses a view camera he will be carrying more than the camera and the lens into the field. In addition to film holders, the photographer will need a handheld light meter and a sturdy tripod to support the camera. Although setting up and using a view camera becomes second nature in time, it takes a devoted and well-conditioned photographer to haul up a snowy slope in the winter or across a hot beach in the summer.

Yet, a growing number of serious photographers - some rebelling from automation, other seeking a higher level of craftsmanship - are returning to this classic tool of the serious photographer.

Lenses

Every focal length represents a different way of seeing and showing what the photographer see in photographs. How far you are from the subject affects the answer just as much as the focal length of the lens. Generally, wide-angle lenses include more of a scene and telephoto lenses exclude much of a scene.

There are good reasons for using lenses of different focal lengths other than the obvious differences in the image size they produce. Changing near and distant objects in a picture is one of the best and most frequent reasons for switching lenses. Wide-angle lenses stretch, or extend, space. Telephoto lenses can be used to compress and space.

Different Types of lenses

Extreme wide angle	:	15 - 21 mm
Wide angle	:	28 - 35 mm
Standard	:	45 - 58 mm
Short telephoto	:	90 - 105 mm
Medium Telephoto	:	135 - 250 mm
Long Telephoto	:	300 - 400 mm
Super Long Telephoto	:	500 mm and longer Macro lenses
Zoom lenses		
True Macro lenses		

A range of focal lengths from 24 - 300 mm is usually desirable for most nature photographers. However, rather than buying several fixed-focal-length lenses, a photographer should consider a couple of zoom lenses, such as a 28 - 85 mm and 80 - 200 mm or 80 - 300 mm zoom. Then, with the addition of a macro lens, eg. a 50 mm or 100 mm macro lens for close-ups, the photographer is well-equipped. A photographer should add lenses slowly and thoughtfully, according to his interests and what he can carry comfortably.

CLOSE UP ACCESSORIES

The effects of most close-up accessories are described in terms of reproduction ratios, or magnification ratio's. Both terms refer to the relationship between the size of the subject being photographed, and the size it appears on film.

To get an idea of what this means, consider the problem of trying to photograph a 36 mm long caterpillar with a standard 50 mm lens. Most 50 mm lenses only focus down to about 46 cm, and at this range their angle of view dictates that the area they will record on film will be about 23 cm across. Because this is six times greater than the length of the caterpillar, it will only occupy one-sixth the width of the 24 x 36 mm film format, therefore the reproduction ratio will be one-sixth life size (1 : 6). If the reproduction ratio were raised to 1 : 1 (life size on film), the caterpillar would then fill the entire width of the film format because both would be of equal size.

Choosing equipment for close-ups is therefore all about choosing reproduction ratios to suit the subjects the photographer plan to photograph.

Extension tubes

Extension tubes are simply fixed-length metal tubes which fit between the camera body and the lens, to permit the lens to focus closer.

Extension Bellows

Extension bellows perform exactly the same function as extension tubes, except that they have greater physical lengths which are constantly variable, they can therefore be used to obtain precise reproduction ratios over a great range.

Reversing Rings

Because most lenses are optically designed to give their best results at long distances, adding extension to make them focus closer can often lead to a reduction in image quality, particularly at ratios beyond 1 : 1. Reversing rings are inexpensive adapters which may be used with wide-angle and standard 50 mm lenses to restore image quality by allowing photographs to be taken with the lens mounted back to front. They also provide a means of obtaining high reproduction ratios without the need to use large amounts of extension.

Supplementary Lenses

Supplementary or close-up lenses provide the simplest and cheapest method of making lenses focus closer. They consist of single element lenses which screw into the filter mount on the front of normal lenses.

The power of supplementary lenses is measured in diopters and most manufactures produce several different strengths, beginning with a +1 diopter. When a +1 diopter lens is attached to any lens focused on infinity, it shifts the focusing range so that the lens is then focused at one meter, a +2 diopter lens to half a meter, and so on.

Still greater magnification can be obtained by adding supplementary together, though it is best to mount the strongest (highest diopter number) first. Never use more than two at a time.

Unlike extension tubes and bellows, supplementary lenses have the advantage of not reducing the amount of light reaching the film.

Whatever your equipment choice; you can easily produce stunning close-ups in the environment around you. Once you've got your choice of close-up equipment, it is just a matter of learning to "see" close-ups in a photographic way.

FILM AND FILTERS

Statistics of film sales show that more photographers prefer colour prints to colour slides or transparencies, and that not many favour black and white or monochrome prints. Certainly so far as nature photography is concerned, the dimension of colour is often essential for communicating the sheer beauty of the subject, and to allow us to differentiate between various species.

The popularity of colour negative film is easy to understand - prints are more convenient to view, and in many cases may be ready within hours of the film being handed in to a local laboratory for processing, but to obtain consistently good results from colour negative films they must be hand printed by a professional laboratory.

Colour transparency films differ in that they have a single stage process which forms the final image directly on the film. This characteristic gives transparency film the distinct advantage of being able to record images which are sharper, and have richer colours, than those obtainable from negative films. Transparency film is more economical to use since there are no prints to be made.

The advantages of using transparency film are widely recognised by most serious amateurs and professionals with the result that the majority of nature photographs we see published are taken on this type of film. One major drawback to using transparency film : it requires careful exposure - over-exposure results in weak “washed out” colours appearing dark and “muddy”. Negative films fare better in this respect because they have more latitude for error.

In order to get the most out of black-and-white films it is helpful to have knowledge of the stages involved in their processing. The simplicity of the process encourages many users to do their own developing and printing, and in many ways this is to be recommended, as a great deal of control may be exercised over the contrast and exposure of the final image in the darkroom. The success of any black-and-white photograph relies heavily on the photographer being able to judge just how the subject will record as a series of greys at the time of actually taking the photograph. Strong lighting also plays an important role by creating contrast, and so defining shapes and textures more easily.

Film Speed

Because the small size of the 35 mm format requires a high degree of enlargement to produce even moderated-sized prints, film speed (and therefore grain size) becomes an important factor to consider when choosing any film.

Low-speed films require longer shutter speeds (or larger apertures) to provide enough light to expose the film than do higher-speed films. As a result of that, low-speed films generally give sharper, less grainy photo's than do higher speed films.

Filters

Filters are fine-tuned adjusters of photographs, and like the fine-tune controls on a television, the photographer can use them to perfect the colour balance of a scene, correct contrast or brightness, or just have fun by changing colour or tones.

In nature photography, the use of filters is generally restricted to types which will emphasise certain aspects of the subject, yet still show it accurately.

The types that most photographers encounter first is UV and SKYLIGHT filters which may be used with both black-and-white and colour films to reduce the effects of haze by absorbing ultra violet light. These filters should be left permanently attached to protect the front of the lens. They are useful when working in adverse conditions - such as a marine environment where salt spray is a constant problem - but otherwise, they are just another layer of glass which may degrade image contrast by increasing the likelihood of flare, particularly when photographing into light. In fact, lens hoods are much better investments for this purpose because they minimise flare and provide ample protection against rain and stray fingers.

POLARISING FILTERS reduce haze, and also perform two other important functions - they deepen blue skies, and enhance other colours by reducing reflections from shiny surfaces. This is equally useful when attempting to photograph aquatic subjects below the surface of clear, shallow water. In all instances the effect is greatest when photographing at right angles to the sun and, to some extent, may be varied by rotating the filter in its mount.

When working in overcast lighting or in shade, certain colour films often give images with a cool, or bluish cast. In these circumstances, an AMBER COLOURED WARMING FILTER may be used to restore proper colour balance. Warming filters vary in strength and may also be used with poorly corrected lenses which consistently give bluish images, regardless of lighting or film characteristics.

COLOUR CONTRAST FILTERS are specifically designed for use with black-and-white films. This filters are used to alter the brightness and contrasts of tone in the final print.

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4. COMPOSITION

The biggest challenge that nature photographers confront is composition. The composition the photographer choose will make or break the photo.

There are always many elements to consider when composing a picture, although every rule of composition can be broken with effective results. Before the photographer shoots the picture, the photographer must take a few minutes to decide what impact he want the image to have on the viewer, then the photographer find the composition that best achieves his desired result.

The rule of thirds

Line, shape, texture, pattern and colour are the building blocks of photographic design. The way the photographer organise these elements determines how he compose a picture, and this process is probably the most important aspect of the photographers personal style.

The most helpful compositional guideline is the rule of thirds, which states that the picture should be divided into thirds vertically and horizontally along the edges of your viewfinder. Then position the dominant element(s) - a tree, mountain range, animal or flowers, for instance - along the horizontal or vertical thirds of the frame.

The photographer should place the picture's centre of interest - at one of the four points at which the lines intersect such as the sun or a bird in flight. Balancing the strong elements in the picture is a further consideration. Empty space can balance the weight of a solid form, a vivid colour can offset a dull, mono-chromatic colour scheme, and a deeply textures surface can lend contrast to a smooth glossy one.

The rule of thirds helps the photographer get consistently well-composed images, but sometimes breaking a rule can lead the photographer to a breakthrough in his photographic vision. There are times when the best place for the horizon is smack in the middle of the photograph, and that's what a powerfully composed picture is all about.

So, the rule of thirds can help the photographer and be a strong guideline, but this rule, like any other idea about design, is only effective as long as it doesn't hinder your creative process or keep you from recording an object on film.

Camera Angles

Photographer Fred Picker Writes :

“Precise camera positioning is vital to the design of any photograph. Once the camera is in position, anyone can make the picture. Knowing this, I am constantly amazed that so few photographers give camera positioning anything more than the most casual attention.

Many routinely set-up on a nice convenient flat spot without regard to anything except their own convenience!” (Landscape Photography. A Kodak Guide, McCraw - Hill Company, 1987, page 32).

Often photographers rely on their first impression of a scene when choosing a viewpoint, without any effort to look for better or more insightful approaches. First impressions often result from common and predictable points. We look up at trees, down at rivers, and across fields. We must not be so predictable exploring the subject - ignore the familiar and look for the viewpoint that brings the subject to life. The only correct view of a subject is the one that works move around the subject, come closer, bring the camera to the subject’s own height, eg. at ground level. Watch as the visual tension between lines and shapes intensifies and then slackens ... see how objects swell with volume and then flatten to a two dimensional shape.

A photographer must practice experimenting with viewpoint until he becomes a part of his photographic consciousness ...

Depth of Field

The photographer’s decision about depth of field ...

How much of the picture will be in sharp focus? One the photographer have selected his lens and working distance, the aperture controls his depth of field. To achieve maximum depth of field the photographer must use a small aperture. This will bring distant as well as nearby objects into sharp focus.

For a more selective range of focus, the photographer must open the lens up, which means use a wide aperture. Sharp detail will only appear around the photographer's point of focus within the range specified by the photographers choice of aperture.

The closer the subject is to the lens, the shallower the depth of field becomes in close-up photography the depth of field may be only a few millimetres. There are only two ways to obtain greater depth of field. One method is to settle for a smaller film image, either by using less powerful close-up equipment or by moving the camera farther away from the object and refocussing the lens. The other way is to stop the aperture down as far as possible, as described at the beginning of depth of field.

Horizontal versus vertical format

Some scenes lend themselves to horizontal compositions, while others demand a vertical treatment. Sometimes both work well and the photographer will have to choose the one that he wants to convey. If not sure, the photographer can try several shots with both vertical and horizontal format to improve his chances of getting the best version.

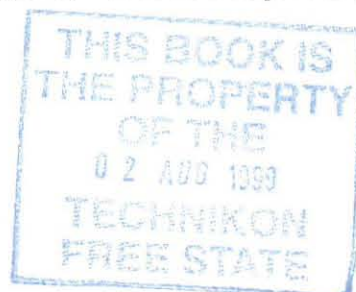
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5. LIGHTING AND EXPOSURE

Lighting is a crucial factor in every type of photography, and is especially true of nature photography where the photographer nearly always has to make the most of whatever lighting conditions are available. An appreciation of the different effects of lighting is essential because it allows the photographer to anticipate when conditions will be suitable to photograph a subject. Even throughout the course of a single day, natural light is continually changing, not just in intensity and direction, but also in colour. Different kinds of lighting require different exposure techniques. Exposure is the term used to define the amount of light which is allowed into the surface of the films. To achieve consistent results from a film of given sensitivity or “speed”, the photographer must ensure that it receives only a strictly measured amount of light. To regulate exposure two basic controls are used : Lens apertures and shutter speeds.

Shutter Speeds

Shutter speeds dictate a certain effect on both camera, and subject movement - the faster shutter speed, the greater the ability to arrest subject movement and the effect of shutter speed on camera movement should never be underestimated as it is probably the foremost cause of blurred picture.



The ability to hold a camera steady varies not only from person to person, but also according to the focal length of the lens in use. The longer, higher magnification lenses require faster shutter speeds because they are always more difficult to hold still - the other factor to consider when selecting a shutter speed is subject movement. With plant life for example, it is generally only necessary to arrest movement on windy days and even then, by using a tripod it is often possible to work with speeds as low as 1/15 sec. or more by waiting for a lull in the wind. There are also instances when faster shutter speeds must be used in order of freeze movements. (eg. in the case of flying birds).

Lens Apertures

Lens aperture controls depth of field, and depth of field is the section of any scene, from the nearest to furthest, which appears to be in sharp focus. To increase depth of field it is necessary to “stop down” to a smaller aperture, while to decrease depth of field, the lens must be “opened up” to a larger aperture. The number of speed and aperture need to be tailored to suit the subject. Overall, it very much depends on how the photographer wishes to see the finished photograph.

Measuring the light

35 mm SLR cameras come complete with built-in, through-the-lens (TTL) light meters. This exposure meters don't always provide the correct or best exposure, because these are normally designed to give best results from average lighting conditions.

It is important to be aware to two different aspects of light. The light falling on the subject is called incident light and the light reflected from the subject is called reflected light.

With TTL meters two main points must be considered. The first is that their readings are based upon the amount of light reflected by the subject - in practice this means that the tone of the subject influences the exposure value calculated by the meter. For most average subjects of natural tone this system works well, since the meter is calibrated to give exposure values which will record average tones. However when confronted with a predominantly dark or light subject it will still try to record the “average” tone, thus resulting in a false exposure reading.

The most practical and widely adopted system is the centre-weighted one, in which the meter is progressively more sensitive to the brightness of the subject in the centre of the viewfinder. Difficulties can therefore occur when attempting to take a reading from a small subject against a background of a contrasting tone - the meter will be influenced more by the tone of the background it finds in the centre than of the off-centre subject.

The best way to overcome these two problems, is to familiarise yourself with the meter’s response to awkward lighting situations.

The colour of light / lighting

When the sun is low to the horizon at dawn or dusk, it’s rays are weaker because they must travel through an extra layer of the earth’s atmosphere; in turn this has the effect of absorbing most of the ultra-violet and blue radiation, so making the light appear more red.
(Also dust)

Daylight colour films are balanced for the bluer midday sun, which explains why photographs taken then often display strong yellow or reddish colour casts. On many occasions, this warming effect can be quite pleasing. However, where precise colour rendering is required, this effect is false, and may be removed by using a pale blue colour correction filter.

In sunny weather, the lighting is at its best in the hours just after dawn and before sunset. At these times of day, colour casts becomes less noticeable, yet because the sun is still shining at a fairly low angle to the ground, long shadows are cast which accentuate shape and form.

In late autumn, winter and early spring the sun never rises very high in the sky, so the photographer have the benefit of this low-angled lighting for the best part of the day. The main advantage of working with low-angled lighting is that it's effort on the subject may be varied simply by changing the position of the camera in relation to the sun.

Frontal lighting where the sun is directly behind the camera, is traditional though to be the best form of lighting to work with, because it gives the most even illumination. However because shadow falls directly behind the subject, the picture appears to be two dimensional, as depth and texture are lost. Consequently side lighting would restore form and enhance texture by casting long shadows to one side, with harsh sidelighting, textures becoming pronounced. Contrasts could also often reach an unmanageable level. Under the conditions, a reflector is useful to bounce light back into the shadow when photographing small inanimate subjects.

Backlighting is equally rewarding, but more difficult to use, because of the increased risk of stray, non-image-forming light, striking the surface of the lens and causing flare. The most effective way of avoiding this problem is to choose a viewpoint where the shadow from a large object such as a tree will be cast over the camera.

By midday in the summer months, shadows become shorter as the sun reaches it's highest point in the sky. At these times, natural lighting becomes very intense with the result exposure measurement becomes more difficult due to the increased levels of contrast.

On overcast day will always produce a more soft and even lighting, regardless of season or time of day. Shadows become indistinct or non-existent, with the result that fine details, which would otherwise be hidden in shade, are revealed. Soft lighting also reduces contrast and so makes very dark, or light subjects easier to photograph. In fact, for subjects of contrasting tone such as black-and-white or light coloured flowers against dark background, using overcast lighting may be the only way of recording detail evenly. Surprisingly enough, dull conditions actually make the colours of many subjects appear richer and more saturated due to the reduction of surface glare.

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MY OWN WORK

I enjoy the photography of nature. In my photographs I would like the viewer to see what I saw at that moment. That is why it is crucial to develop an objective consciousness about how the camera will see a particular photographic subject. I want to give the viewer a new way of looking and experiencing colour, texture, forms, patterns and moods in my photographs. I want the viewer to experience nature closer to his or her vision so that in nature the viewer can isolate a sunset or a flower away from their surroundings and noises.

The broad guidelines to help develop such an awareness, concern four areas : Framing, Composing, Understanding the relationship between foreground and the background and analysing light.

In my work I see every photograph of nature as a type of landscape - like a little bird or spider must experience the photograph. That is way I have photographs in which the subject is extremely magnified and then there are photographs that show more surroundings of the subject until in the end it is a normal landscape of nature.

Putting the background to work

In photograph number one, the Lily (page 41) and photograph number two, Coloured leaves (page 42), I used the background to get a more dramatic effect. In photograph one the green out-of-focus leaves let the eye concentrate on the focuspoint, the sharp colour Lily and it gives the flower a three dimensional feel, almost as if you can touch it. The flower looks as if it is far from the background. I used a Fuji 100 ASA film and a 200 mm Canon lens and exposed the film for 60 seconds at F 11.

In photograph number two - Coloured leaves - the different out-of-focus coloured leaves in the background, give an interesting but colourful three dimensional feel. I focused on the delicate detail of the subject and it makes the subject look even more interesting and new. The diagonal lines from left bottom to right bottom lead the eye through the picture. I used Fuji 100 ASA, Exposure 60 seconds. F. 11.

A different Camera angle

The creative viewpoint - to learn to look more carefully in every available direction.

In photograph number three, Green bananas, (page 43) and photograph number four, Autumn tree, (page 44), I used a different camera angle in each photograph. In most of my photographs, I tried breaking the habit of looking at my subject (nature) from the accustomed upright, eye level viewpoint. It makes me find unusual angles and interesting perspectives.

In framing my photographs

I try to be conscious of the relationship between the subject and the setting - including within the frame only what is necessary and excluding what is extraneous. Like in photograph five, The Orchids, (page 45) and photograph six, A natural bunch, (page 46). In both photographs there are more information about the surroundings of the subjects. I could have chosen a closer or wider frame for the photographs, but I decided what arrangement reflect my view the best.

Lines and shapes

Reduce visual shapes to their simplest forms. When I was shooting photograph seven, Macro leaf scars on stalk, (page 47) and photograph eight, Leaves, (page 48), I was looking at nature not thinking of trees and flowers, but in terms of rectangles, circles, triangles and so on. Different kinds of lines effect a viewer differently. In photograph eight, there are a lot of different lines leading the eye. In photograph seven, the repetition of similar shapes in a pleasing pattern is called rhythm, I used lines and shapes in nature because it is another side of nature people don't really see (it is beyond what meets the eye) and it gives energy to a picture and it formed and structured compositions.

Shooting into the sun

Photograph number nine, Sunset Chobe, (page 49). One of the most spectacular ways of using light in nature is in a landscape showing it's source - the sun itself. In photograph nine, I deliberately exposed for the sunset, under exposed the foreground to get the dramatic silhouette against the overwhelming bright background. There was a small fire and the smoke moved in before the sun, and the whole sky was filled with colour. The sun shined through the dark trees in the front and leaves, tree limbs and fine bush could be seen - given enough detail for the photograph. I had a polarising filter to reduce the flare. I enjoyed the photograph because it is very colourful and moody.

Photograph number ten, Snow, (page 50). The snow-covered landscape and dark clouds in the late afternoon also gives a feeling of mood to the photograph. The road in the front getting smaller and closer together to the horizon, give depth of field to the picture. I used a large F-stop and slow shutter speed (1/15 second) and a 28 mm Minolta lens.

Flash

Photograph eleven, Untitled, (page 51). In this photograph the sun was already beyond the mountains and only a colourful sky remained in the background. I exposed for the coloured sky and used a flash to light the bush in the front of the paragraph. I was kneeling on the ground to get the angle. I used Fuji 100 ASA film, exposed for 60 seconds, flash - fill in, F 3.5. I enjoy the contrast of the bush, dark mountain and cloudy sky.

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PROFESSIONAL PHOTOGRAPHERS

To learn about nature photography any information is useful, and there is no better way than practising and reading about other photographers and the way they approach their subject.

The photographs and photographers I found that inspired me in my work, I will discuss later. The photographer that I will discuss is Allen Rokach. I will also briefly discuss photographs taken by Freeman Patterson, John Deeks, David Muench, Jean Paul Ferrero and Dead Brown.

Allen Rokach

He is a photographer at the New York Botanical Garden and has been for more than 12 years. His insights help me and other photographers to look at flowers and nature in a new way by heightening our visual perception. His unique approach enables photographers to discover beauty that we may have not otherwise noticed. With Anne Millman, a photographer and science writer, Rokach has produced a richly informative text based - Focus on Flowers; discovering and photographing beauty in gardens and wild places. (Abbeville Press - Publishers, 1990)

Through Allen Rokach's many assignments, he has demonstrated a dimension of photography beyond its ability to capture a moment in time. On many occasions his photographs of the New York Botanical gardens have enabled those who work with these gardens every day, to discover a new perspective or pocket of beauty.

As he often stated, the camera forces one to look more closely and carefully at all that surrounds us. Through his photographs, other photographers, the general public and myself have discovered how to derive greater pleasure from gardens and nature. In Allen Rokach's vision, the camera becomes an instrument for increasing one's appreciation of beauty, learning how to find it in unexpected places, and knowing how to intensify its impact on viewers. The reader will find examples of all these elements in the following examples of his work and how it has influenced my own.

In photograph thirteen (page 53) - A startling image can be made by taking an uncommon perspective, such as this view from the rear of these tiny Anemones in an Arizona garden. The soft pink petals are effectively set off by the greens of the stem and sepals. I used such an approach in camera angle in photographs number three and four and in photograph number one (The Lily).

Photograph fourteen (page 53). A macro lens was selected to isolate this marine meadow lupine from the foreground grasses and the other grasses in the background a interesting and colourful feel. I used this approach in photograph two, Coloured leaves.

Photograph fifteen, (page 54). Intense sunset light bathes this entire scene with warm golden tones the complement ten autumn foliage. The camera angle is also very interesting and the blue sky let the foliage stand out. I also have a photograph four, Autumn tree, in which I almost used the same approach.

Photograph sixteen, (page 54). An extreme close-up. The surface textures of a Japanese Chrysanthemum is depicted in this close-up. The petals form a pattern. I have a photograph number seven, Macro Leaf scars, with the same approach.

Photograph seventeen, (page 55). The gentle, muted earth tones of willow, trees, oaks are held a relief against a dusting of snow. The photograph is full of mood - it tells you what Allen Rokach saw and felt. In photograph ten, Snow, I used the same approach.

Photograph eighteen, (page 55). Freeman Patterson approached the mushroom purely documentary in their natural habitat. He only wanted all their detail to stand out clearly and he used a close-up approach. The photograph is full of rich colour. In photograph five, I used the same approach.

Photograph nineteen, (page 56). The natural composition of the dead leaves has provided important information about a plant's habitat or growing habits. Different shapes and lines are found in this natural composition. In photograph eight, I also experimented with lines of leaves.

Photograph twenty, (page 56). A sunset shot from a southern California mountain top, provides a panorama of sky patterns in this picture made with a SLR 35 mm lens - the clouds form the top layer of the picture, while the setting sun is seen in the clear sky below them - what looks like the horizon beneath the sun is actually a thick layer of pollution.

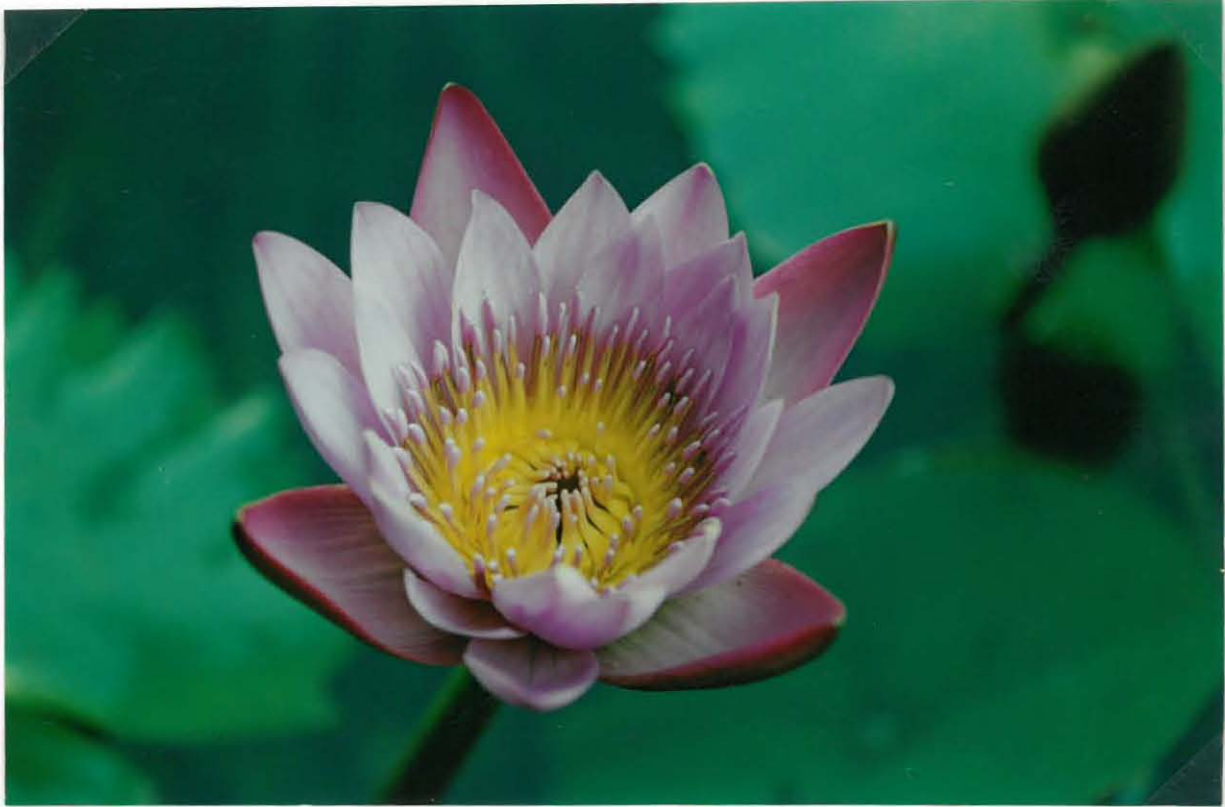
John Deeks took the picture. He became entranced by the sky while he was a forest ranger stationed at a fire tower on a Californian mountain.

The activity of the clouds, the off effects of the sun's rays - even the layers of pollution - all contributed to this celestial spectacle of the earth's canopy at sunset. In my photograph nine, the smoke gave the same effect than the pollution sky.

Photograph twenty one and twenty two, (page 57). Clouds sometimes pick up reflected colours from the land. In photograph twenty one, the last afternoon light casts such a rich, warm glow over the landscape that even the cacti are intend a vibrant gold. Photograph ten of my own work also have clouds in the picture that give, like photograph twenty one and twenty two, the same feeling.

Photograph twenty three, (page 58). Claret-cup cacti thrive on a barren crag above a valley in Big Bend national park, Texas. This photograph has, for me, the same feeling as photograph eleven of my own work. The focuspoint in front divided by the black shadow of the mountain and the light background and sky. Only difference is the subject and time of day.

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Photograph Number One

The Lily

Author

1994



Photograph Number Two

Coloured Leaves

Author

1994



Photograph Number Three

Green Bananas

Author

1994



Photograph Number Four

Autumn Tree

Author

1994



Photograph Number Five

The Orchids

Author

1994



Photograph Number Six

A Natural Bunch

Author

1994



Photograph Number Seven

Macro : Leaf Scars

Author

1994



Photograph Number Eight

Leaves

Author

1994

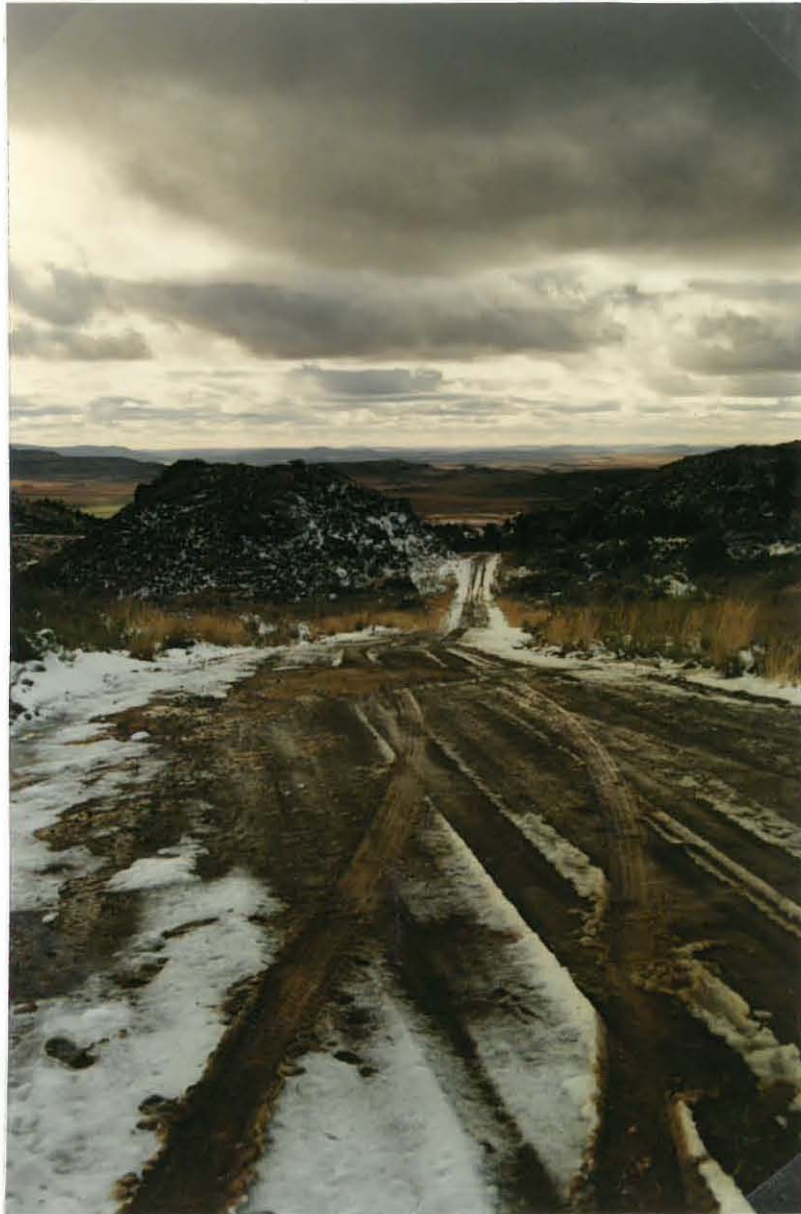


Photograph Number Nine

Sunset Chobe

Author

1994



Photograph Number Ten

Snow

Author

1994



Photograph Number Eleven

Untitled

Author

1994



Photograph Number Twelve

Untitled

Author

1994



Photograph Number Thirteen

Untitled

Allen Rokach

Focus on Flowers, 1990,

page 15



Photograph Number Fourteen

Untitled

Allen Rokach

Focus on Flowers, 1990,

page 20.





Photograph Number Fifteen

Untitled

Allen Rokach

Focus on Flowers, 1990,

page 67



Photograph Number Sixteen

Untitled

Allen Rokach

Focus on Flowers, 1990,

page 148



Photograph Number Seventeen

Untitled

Allen Rokach

Focus on Flowers, 1990,

page 168



Photograph Number Eighteen

Untitled

Freeman Patterson

Photography of Natural Things, 1989,

page 73



Photograph Number Nineteen Untitled Freeman Patterson
Photography of Natural Things, 1989, page 120



Photograph Number Twenty California Sky John Deeks
Photographing Nature, Life Library of Photography, 1970, page 29



Photograph Number Twenty One Sunlit Caci Dean Brown

Photographing Nature, Life Library of Photography, 1970, page 222



Photograph Number Twenty Two A Tropical Beach Jean Paul Ferrero

Kodak Encyclopaedia of Creative Photography, Capture the beauty in nature, 1984



Photograph Number Twenty Three

Claret-Cud Caci

David Muench

Encyclopaedia of Creative Photography, Capture the beauty in nature, 1984

CONCLUSION

Photographing natural things is a way of being in touch with them and with yourself.

Great photographs begin with personal vision. This vision, which develops gradually, will enhance your images with sensitivity and artistry that is solely your own. But expressing that vision requires learning the fundamentals of photography first.

In my approach I try to show the viewer what I see and how I experience the photograph. To grow as a photographer you must practice, practice, practice. I look forward to using my gained knowledge in the future and to let it grow over the years.

Those that do devote their lives to natural photography, do so not for commercial gain, but for the love of nature.

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