Number 9

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The International Magazine of Photographic Information 1988

VisionAge

Superb Performance Based on Great Human Engineering

Introduction of works which completely use the new functions of the Olympus OM-101 Power Focus.

Photographing Butterflies

The unique photographing techniques of Kazuo Unno revealed for the first time. It is the beautiful "World of Butterflies" available by making the utmost use of the Macro Lens and Flash.

Tracing the Footsteps of Legends

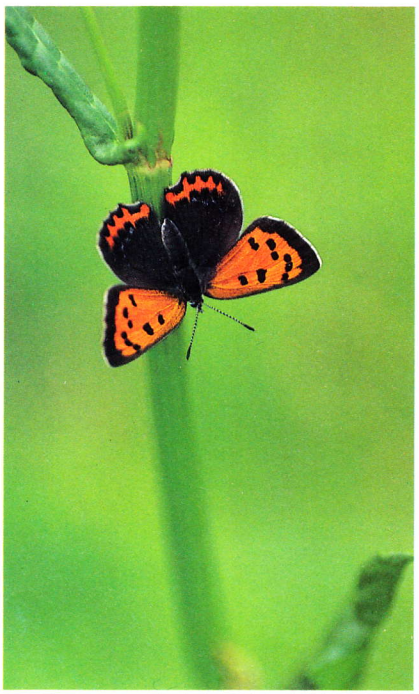
Nature, animals and mankind of the Arctic portrayed by Mike Beedell. This is a story of adventure that challenges the limits of photography.

An Active Character on Life's Stage

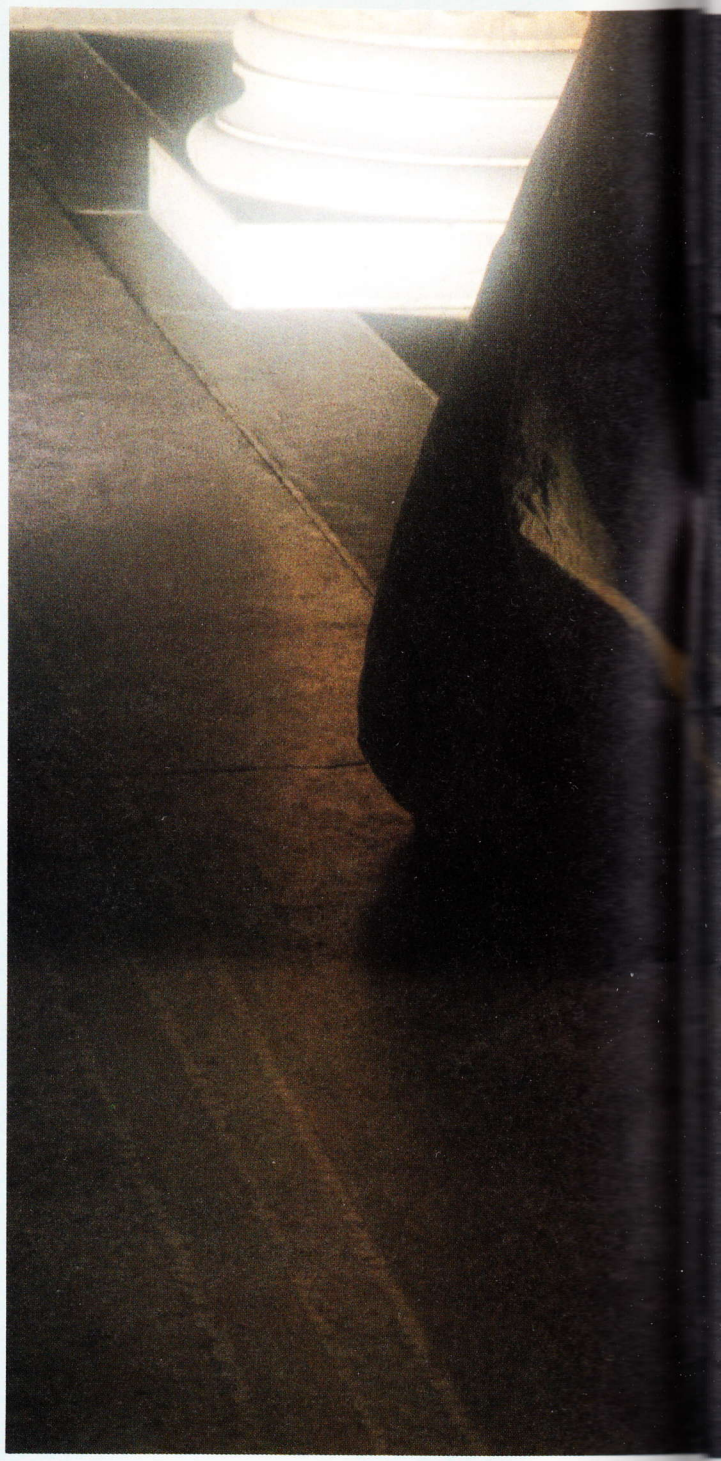
The exciting visual record of a well-known Australian photographer.

Olympus XA Story (2)

Based on the huge success of the "PEN Series" which pioneered the new age of compact cameras, in this part, under the tightest security, the challenge of the XA begins.



VisionAge



Foreword from the Editors

We are proud to bring you the ninth issue of Olympus VisionAge. Heading this edition is special coverage of the new SLR (Olympus OM-101 Power Focus), which goes on sale simultaneously around the world in February. This new camera has been awaited for its exceptional cost performance and for features such as Programmed Exposure, Automatic Film Advance and Rewind, Power Focus and TTL "OTF" Auto Flash. Our article gives you a close view of its comprehensive functions.

Included are photos taken by Akio Kojima with the OM-101 — an excellent indicator of its capabilities. The Lens Corner series, which has gained popularity as a practical guide to the use of lenses, in this issue focuses on the best ways to choose from the variety of lenses available. In the How to Take the Best Picture series, the subject this time is butterflies. Ways to photograph this unique subject with a macro lens are discussed, along with beautiful example photos. David Higgs, a renowned mountaineering photographer, has contributed a number of photos in The Way of the Professional. These shots are a challenge to the limits of photography, and the article is a moving account of mountaineering as a real sport. Nature Photo shows another challenge to limits. Michio Hoshino, a photographer who resides semipermanently in Alaska and continues his pursuit of the animals and natural beauty of the polar region, has recently come home to Japan and has contributed his newest photos. Pro's Corner features Sorrel Wilby, a photographer traveling around the world who has journeyed through Tibet recently. Photo Topics features the photos of Mike Beedell, who continues to take the world of northern limits. His photos are a valuable account of the lives of people in the harsh polar regions, illuminated by his understanding of their lives. The Olympus XA Story, in its second installment, moves on to the strife encountered in the camera's development. This issue also fea-

tures two new items. One is the introduction of the innovative AZ-300 Super Zoom along with the AZ-1 and OM-101, all of which will be out this spring. Second is the announcement of the winners in the '87 Olympus VisionAge International Color Slide Contest, along with the publication of some of the winning entries.

We hope we have succeeded in presenting you with a rich variety of photographic information. If you have any opinions that you would like us to know, we would appreciate your telling us.

— Olympus VisionAge Editors

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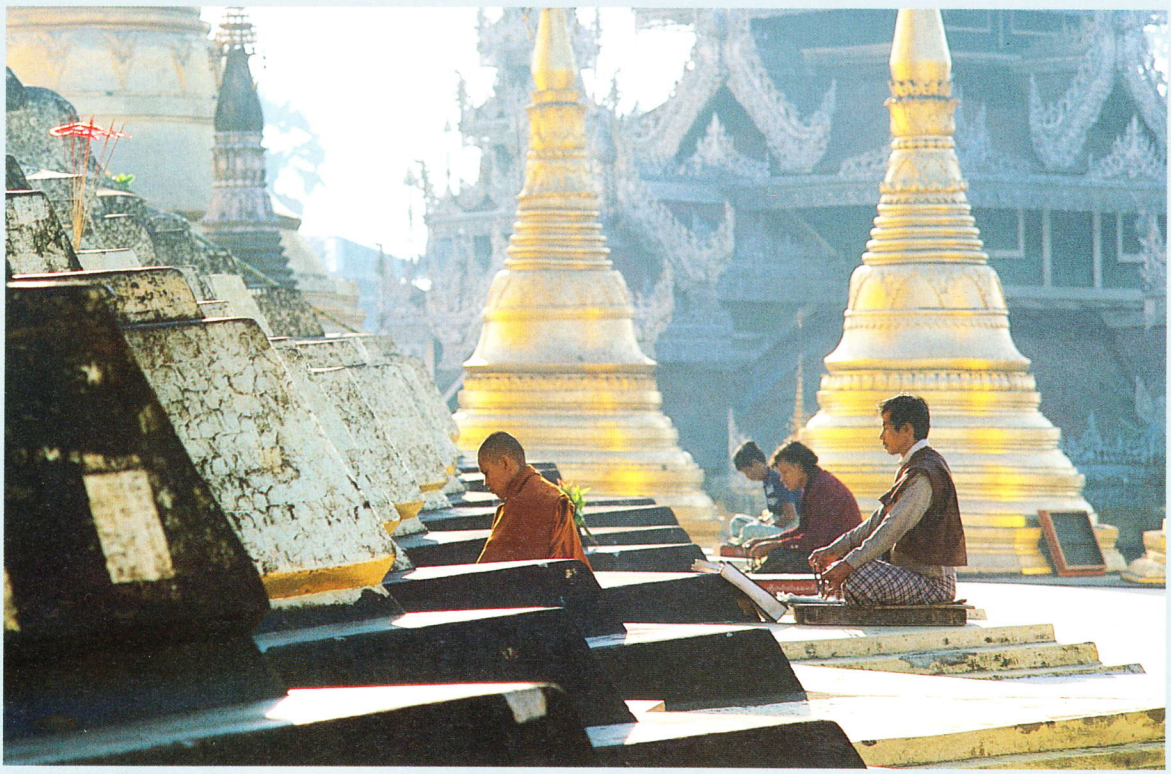
Jacques Schumacher/West Germany

Jacques Schumacher studied art at the University of Bielefeld, West Germany, then spent several years as a graphic designer in Paris before establishing his own studio in Hamburg in 1963. A native of the Netherlands, Schumacher was born in 1933.

THE VISION AGE GALLERY

This time we have chosen to concentrate on the work of professional photographers who are working in Europe. We invite you to peer into the world of five outstanding photographers who are seeking to pioneer new directions within the European artistic environment.



Jaroslav Poncar/*West Germany*

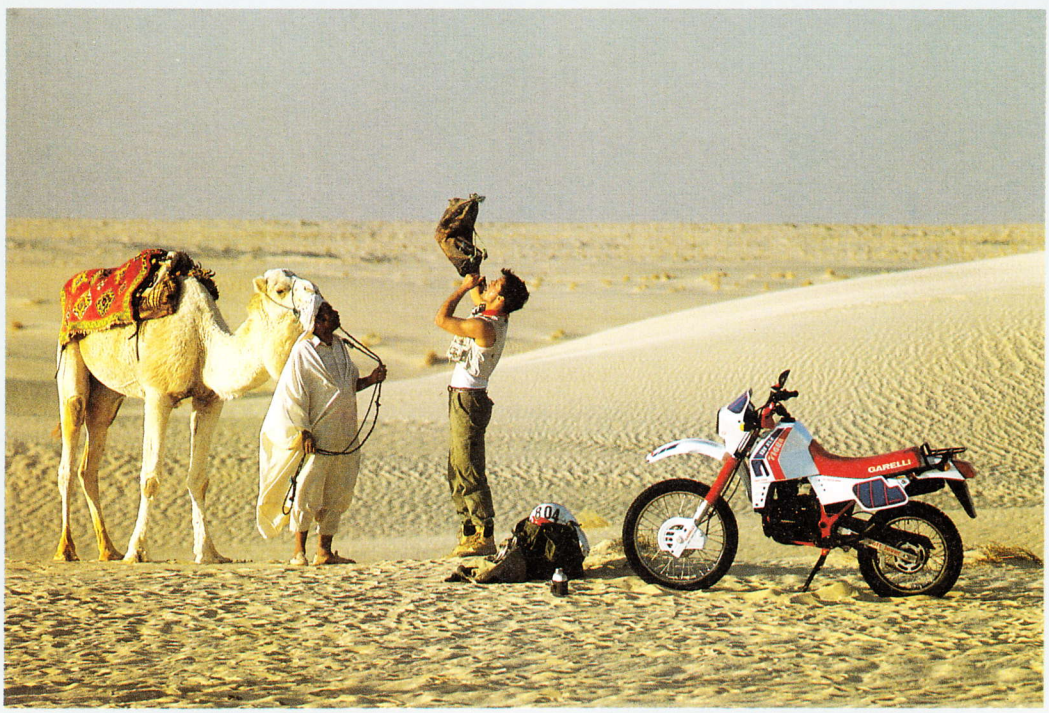
Born in Prague in 1945, Jaroslav Poncar earned a doctorate in physics and lectures in the photography department of Cologne's Fachhochschule. He has traveled widely in Africa, Arabia and Central America, but finds his greatest interest in the western Himalayas — especially Ladakh, where he has made 13 visits. In 1985 he became the first European to cross Tibet from east to west. Since 1981 he has been involved in a project, partly sponsored by Olympus, to document ancient Buddhist wall paintings in western Himalayan monasteries.

Armand Vespeeten/Belgium

Born in Ghent in 1933, Armand Vespeeten has taught photography at the Royal Academy for Fine Arts since 1970. His own formal studies were in trade and administration, but fascination with the visual impact of ballet led him into photography and a career that includes numerous group and individual exhibitions, several books and two laureate awards.

Michel Szulc Krzyzanowski/Holland

Michel Szulc Krzyzanowski, born in the Netherlands in 1949, is represented in leading collections in Europe and the United States, including the Stedelijk Museum (Amsterdam); Biblioteque Nationale (Paris); Victoria and Albert Museum (London); Museum of Modern Art (New York); Art Institute (Chicago); and Chase Manhattan Bank (New York). Since 1971 his work has appeared regularly in Focus and Foto, Avenue, Zoom, Creative Camera, European Photography *and other magazines.*



Giancarlo Baghetti/Italy

Giancarlo Baghetti became one of Italy's top glamour photographers following an equally glamourous 10-year racing career as a Formula 1 driver for Ferrari, Lotus, BRM and Brabham. His first big assignment after moving into photography in 1970 was a three-year reportage for OGGI *on his "World Tour by Car." His work is featured regularly in Italian* Bazaar, Vogue, Glamour, Playboy, Gente Viaggi *and* Europeo.

The Olympus OM-101 Power Focus

A basic SLR with the most comprehensive functions in its class

Camera Development Division

Nowadays, more and more, we can clearly make out two quite distinct reasons people have for taking photographs. The first is simply to be able to take and record a slice of the photographer's own life and the people and events in it. An obvious example is that of the mother eagerly taking pictures of her little one's first fumbling steps. For this kind of picture the most suitable camera is a compact type that does everything for you except actually pressing the button. The other motivation for taking pictures is very different: it is that of the photo hobbyist, who takes pictures as a means of self expression. For this latter kind of photographer getting their own creative input into the picture is of prime importance, and the highly versatile SLR type camera seems the perfect choice.

In the past few years the trend to automation and simplification has strongly influenced SLR cameras too, and such features as program exposures and Segmented Pattern Measurement have become common. The latest development, autofocus SLRs, has proved explosively popular and has already come to dominate the Japanese market. For the world as a whole, however, the demand for manually focused cameras remains very strong. This is both because many photographers prefer the creative freedom that comes with setting the controls by themselves, and also because autofocus models are still priced beyond the pockets of many who are quite willing to succumb to the seductions of automation.

A good few years ago Olympus introduced the OM-10 as its basic SLR camera model. This hugely popular camera has at last been supplanted by the OM-101, a new basic camera that carries on the OM-10 philosophy while adding enough advanced automation to allow the photographer to concentrate fully on the picture, and relax enough to properly savor the joys of creative photography.

The OM-101 was created with three vital considerations in mind: 1. Simplifying operation through advanced automation; 2. Making creative picture taking a real pleasure; and 3. Keeping the price extremely competitive for one and all.

Film loading, winding and rewinding were all automated. The camera offers a choice of Aperture Preferred Auto and Manual exposures, but only for those who purchase the optional (and detachable) Manual Adapter 2. This was to assure the camera would be as user friendly as possible for those who prefer to keep things simple, and enjoy full auto program exposures without either aperture or shutter speed controls to worry about. The flash is directly controlled by the camera, with the superb OTF Auto Flash system pioneered by Olympus in the OM-2. In Program Mode, the only requirement for perfect flash shots is to fit the flash unit in the camera hot shoe. In Aperture Preferred Auto Mode, on the other hand, the photographer can aim for precise creative effects by freely selecting the most desirable aperture. Focusing is manual, but with an important difference. The OM-101 adopts an entirely new Power Focus system. The striking external design picks up on the latest worldwide infatuation with curves, while at the same time affording the photographer a reassuringly solid grip. The camera body shares the same mechanical design as the OM-707, and the unit design follows suit to assure outstanding reliability right from the start. These were the considerations that led to the OM-101 fulfilling the three basic design goals outlined above.

The newly incorporated Power Focus system was developed with the photographer's intentions. It is operated with the right thumb. It affords the merits that the feel and operation of focusing controls remains identical regardless of what lens is attached, and that the left hand, no longer required for focusing, can concentrate on holding the camera firm. In addition the system permits easy interfacing with future technical developments as well as perfect matching with autofocus systems. It marks an important advance on conventional manual focus concepts.

External Design and Handling

Although in terms of price the OM-101 belongs in the basic camera category, the design provides an advanced, sophisticated image sure to achieve a high level of user satisfaction. One key was defining the camera lines with strong, expressive curves.

The Grip Section features a bold curve that is specially easy to grasp, for unusually secure holding. Design of the curves away from the pentaprism section to both sides is aimed at giving the camera a solid, low slung appearance, while the strong curve forward from the pentaprism gives a sense of continuity from the camera to the lens. The overall effect is one of power and solidity.

To avoid disharmony with the carefully sculptured lines, control switches are generally rounded and the mode dial is adopted for clear, foolproof operation. The Power Focus Dial, the most important control of all for this camera, is located for effortless operation with the right hand, and provided with a dial form protruding slightly from the camera back to maximize holding and handling characteristics.

The basic exterior color is black, with a different tone adopted for the Grip Section to provide a smart contrast. Another bold design point is made by the oversize camera logo on the front of the Grip Section.

Naturally design of the Manual Adapter 2 attachment also takes fully into account the

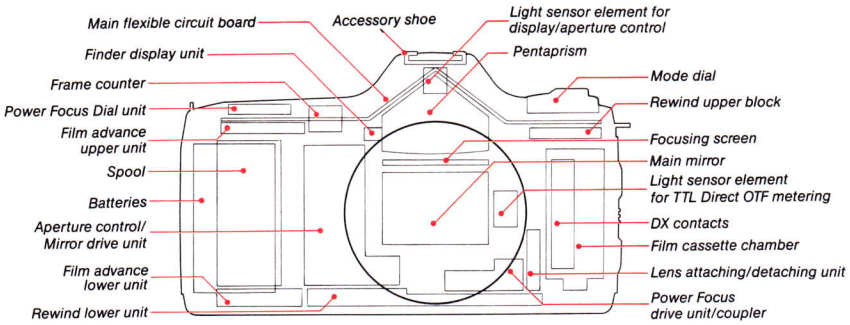


Fig. 1. Location of Main Unit Blocks

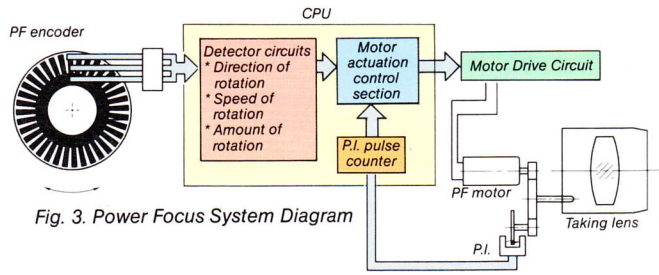


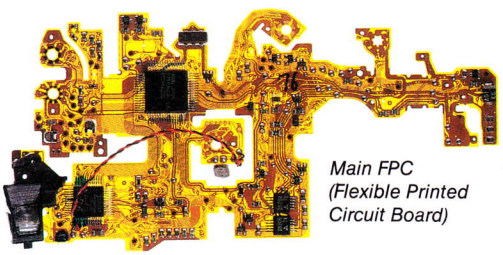
Fig. 3. Power Focus System Diagram

need for visual identity, as well as smooth operation and handling, with the camera body.

Internal Construction

The basic construction of the OM-101 takes the OM-707 as a base and improves on that where desirable. Three drive motors are used. The first motor is located inside the spool, and is responsible for film advance, rewinding, and charging the shutter. The second motor is on the side of the Mirror Box, and takes care of operating the lens diaphragm and mirror. The third motor is to the lower left of the Mirror Box, and serves to drive the Power Focus mechanism. For low cost and easy availability the camera uses four "AAA" alkaline-manganese batteries inserted from the base of the right hand Grip Section. For extra security the battery cover is a large sized hinge type. To permit power focusing without removing the index finger from the shutter button, the Power Focus Dial is located at the rear end of the camera's right shoulder. The Mode Dial is located on the camera's left shoulder. Adoption of a dial type control assures the photographer can select any desired mode with one simple turning action.

Advanced CAD/CAM design technology was adopted to assure the continuity of the OM-101's impressive curves. CAD (Computer Aided Design) made sure the interior layout was efficient despite the complexity of the curved spaces, and also contributed to speeding up the design process.



Main FPC (Flexible Printed Circuit Board)

Sequence Control

The electrical circuitry is made up of four ICs: the CPU, the light meter IC, and two motor driver ICs. The newly developed light meter IC has the capability for TTL Direct (off-the-film) metering and adopts a new circuit system to assure improved exposure accuracy with high ISO film.

A variety of actuators, display elements, etc. are linked in the CPU. Adoption of pulse drive, etc. to control the motors allows for a reduction in the number of mechanical parts, with a corresponding improvement in system reliability. The CPU also processes 1. mechanical sequences, 2. exposure calculations for display purposes, 3. power focus control, etc.

Further, the energy saving design provides that even when the Mode Dial is not switched to the OFF position, after a specified period of time has elapsed the CPU automatically cuts the power supply to the various ICs, then itself switches to a non-functioning mode, thereby reducing power consumption to virtually nothing. A safety circuit incorporated in the light meter IC prevents the CPU from going haywire even in such an event as a sudden violent drop in voltage during operation.

Viewfinder

For extra easy composition the OM-101 uses a bright Super Lumi Micron Matte focusing screen with a micro/split image prism in the center (Fig. 2). Finder indications are provided by LEDs to show 1. Mode setting, 2. Camera shake warning and Flash firing indicator, 3. Full flash charge, 4. Confirmation of correct TTL Auto Flash exposure, and

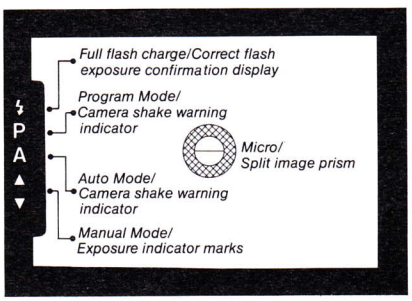


Fig. 2. Viewfinder Display

5. Manual mode exposure indications. The chip type LEDs mounted on a board are of the directly visible type to make them as bright and easy to see as possible.

Power Focus

This is operated by turning the dial on the rear of the camera's right shoulder. The dial can be rotated freely without any limits. Inside it is a rotary encoder. Turning the dial gives rise to pulses which are used to determine the direction and speed of rotation, etc. The signals are fed to the CPU, which calculates in which direction and how far the photographer wishes to move the lens. It then determines the direction of rotation of the power focus motor, and the width and interval of the drive pulses, and activates the motor to extend (or retract) the lens (Fig. 3). Depending on the speed of rotation of the power focus dial, the lens movement is converted to a 2-dimensional curve, to permit movement corresponding to the sensitivity of the human operator (Fig. 4). Turning the dial slowly results in slow lens movement, perfect for fine focusing. Spinning the dial fast, on the other hand, ensures fast lens movement to help you capture fleeting subjects. The system was designed as far as possible to faithfully reflect the photographer's intentions, even to the extent of varying the drive speed according to how much the dial was rotated. The motor drives the lens coupler through a set of gears, and this movement is monitored by a photo-interruptor and the results fed back to the drive motor. This makes it possible to compensate for changes in the battery voltage, changes in the drive torque for different lenses, etc.

Speed of Power Focus Dial rotation

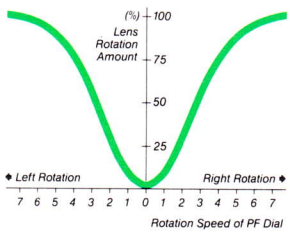
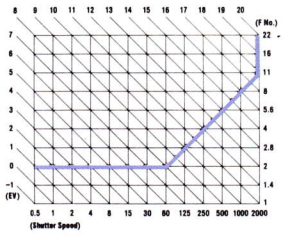


Fig. 4. Power Focus Drive System

Exposure Control

When an AF/PF lens is attached to the OM-101 body on its own, only program exposure settings are available. But attaching the Manual Adapter 2 increases the options to include aperture preferred auto exposures or full manual exposure setting. The program graph rises at an angle of 45° from 1/60 sec.

at wide open aperture, regardless of the lens being used (Fig. 5). When a T Series flash or the F280 flash is attached and switched ON, it will fire automatically at any shutter speed value of 1/60 sec. or slower on the program graph. In this case the lens aperture is closed down automatically and the synchronized shutter speed is selected, then the flash emission is controlled by the TTL OTF Auto Flash system. In Manual mode the correct exposure can be set by following the viewfinder indications.



(at ISO 100 with 50mm F2 PF)

Fig. 5. Standard Program Graph

1. Auto Film Speed Setting

The OM-101 features automatic DX film speed setting. The camera's DX section is an integral unit comprising the six electrical contacts for reading the DX code.

2. Light Meter System

The light sensor element for the viewfinder display and control of the lens aperture is located in the rear of the pentaprism section (Fig. 6), while the sensor for TTL OTF metering is located to the side of the mirror box (Fig. 7). A large diameter Fresnel condenser lens, which takes up only a very small amount of space, is utilized to guarantee maximum metering capability in low light.

Light taken in by the sensor is converted to electric current, then undergoes AD transformation and integration by the light meter IC. Light metering range is EV1-20 (ISO 100, with a 50mm F1.8 lens), and the center-weighted average type metering method is adopted.

3. Exposure Compensation

On the camera body by itself is a Backlight Control Button which provides a +1.5 stop exposure compensation. With manual exposure settings any desired exposure compensation can be set freely. So auto fans can expect fine results with automatic simplicity by using the Backlight Control, and perfectionists can get precisely the setting they want in Manual Mode with the Manual Adapter 2.

4. Aperture Control and Mirror Action

Both aperture settings and mirror sequence controls are all-electric. Pressing the shutter release causes the drive motor to rotate, turning the auto diaphragm control ring and stopping down the lens aperture. Simultaneously the encoder monitors the degree of lens stop-down, and at the instant the selected aperture value is reached the aperture control magnet is activated and the stopping down action is

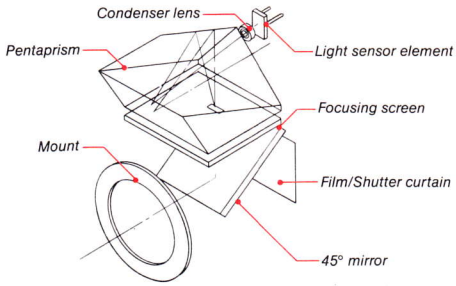


Fig. 6. Light Sensor Element for Display/Aperture Control

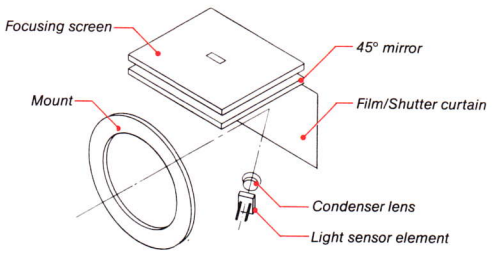


Fig. 7. Light Sensor Element for TTL Direct OTF Metering

terminated. The motor, however, continues to rotate as before, thereby raising the mirror. On receiving a signal indicating the mirror is fully raised, the motor stops, and switches to shutter control function. After completion of the exposure the motor goes into reverse, lowering the mirror and opening up the lens diaphragm to wide open aperture. With use of previous OM System lenses it is possible to shoot in Aperture Preferred Auto Mode, setting the apertures manually on the lens ring.

5. Shutter Control

The OM-101 has an electronically controlled type vertical focal plane shutter, with thin plates of metal and plastic on the shutter blades. To accommodate the TTL OTF metering system the front surface of the leading shutter blade is coated with material of the same reflectivity as the film surface itself. Both leading and trailing shutter blades are of the electromagnetic release type. The top shutter speed is 1/2,000 sec.

Film Winding and Rewinding

The film advance motor is located coaxially with the spool of the lower film advance unit, and functions as the power source for the three functions of film winding, rewinding and charging the shutter (Fig. 8). After the motor output is reduced by a two-stage planetary reduction gear mechanism, it is transferred to a planetary clutch mechanism that switches between forward rotation for film advance and reverse rotation for rewinding. Film advance is by a sprocket drive system in which the power is transmitted via the upper film advance unit to give rotation to the spool. A rotating cam is used to charge the shutter. Rotation is imparted to the frame counter from the sprocket axis via a planetary clutch. To rewind, pushing down the Rewind Button both cuts the power transmission to the sprocket and the spool, and at the same time actuates the switch to start rewinding. As a result, the motor reverses, and the planetary clutch automatically switches and engages the rewind fork. To prevent damage to the shutter curtain, the film is rewound completely into the cassette. The camera features an auto loading system in which loading the film is simply a matter of inserting the cassette, setting the film leader, and closing the camera back. The film is then advanced automatically to the first frame.

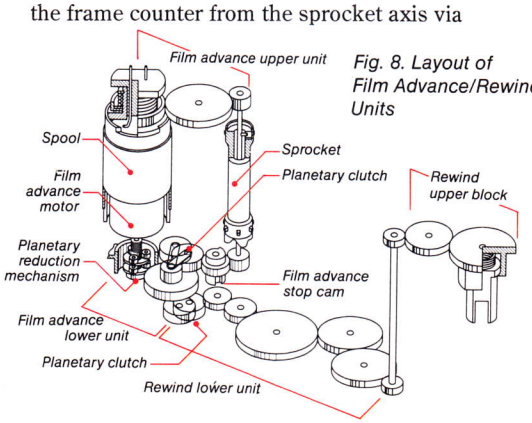


Fig. 8. Layout of Film Advance/Rewind Units

Manual Adapter 2

Attaching the Manual Adapter 2 transforms the OM-101 into a multi-mode camera. This unit is attached at the left side of the camera, in the position naturally assumed by the left hand when both hands are used to hold it. It features two dials, for aperture and shutter speed settings, located for easy operation by the left thumb. Both dials are provided with click stops for easy operation even while looking through the viewfinder. The aperture setting is made by aligning the desired aperture against the wide open aperture value mark for the taking lens. Apertures can be set in 1/2 steps from f2 to f22. Available shutter speeds are X, B, and 2 sec. — 1/2,000 sec. in full step increments. In aperture preferred auto mode the Olympus TTL OTF Auto Flash can be used with any desired lens aperture, allowing the photographer to fully exploit the creative advantages of TTL Direct (OTF) metering. In Manual Mode, selecting the X synchro shutter speed setting permits the use of any regular commercially available flash unit.

For maximum security the Manual Adapter 2 utilizes a screw attachment. Near to it are located the electrical contacts, whose four pins connect to the contact board in the camera body. VA

Superb Performance Based on Great Human Engineering

By Akio Kojima

Olympus, the company with a reputation for introducing unique new camera concepts, has once again created and brought onto the market a remarkable new model whose like can be found nowhere else.

While it is true that a power focus mechanism is incorporated in the OM-707, the OM-101's predecessor and close relative, in fact the OM-101's Power Focus has been radically redesigned and represents a huge leap forward in handling compared to anything that has appeared previously.

The way it works is that the photographer rotates the dial on the back of the camera with his right thumb — which can be done while holding the camera ready for shooting. Data on the direction, degree and speed of rotation of the dial is detected electronically and input to the CPU (Central Processing Unit), which activates the motor to focus the lens accordingly.

In the old days there were some rangefinder cameras that were focused by rotating a dial on the back of the camera that was linked by gears to the focusing ring of the lens. However, this mechanical focusing method was never able to surmount the problems of heavy handling and slow focusing speed, and was invariably given a cool reception by photographers.

I myself have had considerable experience with these kinds of cameras, and recall only too well how a few hours of concentrated picture taking can leave you with scraped skin and sore thumbs. Not only that, but when you needed to focus really fast the dial simply couldn't keep up with the action, and you were a lot better off focusing directly on the lens ring.

At first glance the OM-101's Power Focus might seem to resemble this old mechanical focusing system. But you have only to give it a try to see that it is totally different, and infinitely superior in performance.

The dial is extremely light and responsive, and it takes only a mere touch of the thumb

Photo 1:
Power Focus allows super fast focusing for targets coming up on the camera. With the Olympus AF 70-210mm Zoom set at the 70mm focal length, Program Mode made sure of instant response to the picture opportunity.

Photo 2:
This is the same subject shot again an instant later, after swiftly zooming up to the 210mm focal length setting. This picture speaks volumes for the merits of simultaneously operating zoom controls with the left hand and Power Focus with the right, plus of course the advantage of automatic film advance.

Photo 3:
This snapshot was taken in the same area as Photo 1 and Photo 2, but with an Olympus AF 24mm lens to give a totally different, wide angle image with strong perspective effects. Program Mode.

Photo 4: Used with a regular OM System lens, the camera operates in aperture preferred Auto Mode, with focusing done in the conventional way on the lens focus ring. Zuiko 300mm F4.5, f8 at 1/250 sec.

Photo 5: With Power Focus even this kind of fast moving image is easy to follow. A subject this bright lets Program Mode set a shutter speed quite fast enough to eliminate worries of camera shake. 70-210mm Zoom, Program Mode.

to rotate it smoothly. Focusing is also very quick, and you can get all the way from infinity to the minimum focus position at a stroke. When, on the other hand, you want to focus very precisely, the system faithfully reproduces even the finest thumb movement to fine focus the lens exactly according to your intentions.

As a result, even with telephoto lenses whose helicoids have a large angle of rotation, focusing is faster than the conventional method of rotating the lens ring directly. And at the same time there is no feeling of strangeness or awkwardness with close-ups and other shots where focusing must be very accurate.

The OM-101's Power Focus offers one other big merit: by freeing the left hand from involvement in focusing it allows you to grip the lens or camera body that much more firmly, for greater stability during the precious instant when you release the shutter.

Today, the progress in camera automation has brought about a vast reduction in the number of shots spoiled by exposure or focusing errors, leaving camera shake as the most important remaining cause of failures. In this context I think that improving the camera's holding stability is an extremely valuable accomplishment.

Be that as it may, when you use this new Power Focus you will find it much easier to operate than you expected, functioning in perfect harmony with your own sensitivities and focusing exactly the way you want it to. That is why I consider it an outstanding example of human engineering.

At its present stage of development autofocus is still far from perfect. Various factors such as the pattern and contrast of the subject, and the overall brightness of the scene may make it unable to function properly. In view of this there remains a strong demand for smooth handling manual focus systems.

In the circumstances the appearance of the OM-101's excellent new power focus system is something to be heartily welcomed.

Photo 6: This close-up was shot with the Olympus AF Macro 50mm lens. Even with the extremely shallow depths of field available for macro work, Power Focus was precise enough to capture the flower's stamen sharply and clearly. Program Exposure mode.

Photo 7: Taking this kind of snapshot with autofocus would result in the camera focusing on the background between the figures of the children, and leaving the children themselves blurred. And taking the time needed to solve the problem by setting the focus lock would most likely mean losing the picture. In cases like this Power Focus is the ideal choice.

Excellent Cost Performance Too

In addition to the unique, highly sophisticated power focus system described above, the OM-101 features program auto exposures, auto film advance and motorized rewinding, TTL OTF Auto Flash function and, not least, an optional Manual Adapter 2 for a choice of aperture preferred auto or manual exposure settings. Yet despite all these deluxe performance features it costs no more than an average basic SLR model — surely an amazing example of superior cost performance.

This superb new camera can use all the rich selection of AF lenses developed for the OM-707, including a big choice of zooms and the whole range of focal lengths from 24mm super wide angle to 210mm telephoto. On top of that it is able to use virtually all (except special purpose lenses) of the huge OM System lens series in aperture preferred auto mode. This gives it the versatility to master just about every kind of photo situation, making it an ideal choice not only for beginners, but for seasoned photographers too.

Especially bearing in mind the TTL OTF Auto Flash performance and the capability of using the Manual Adapter, it is hardly a mistake to rank this model right up in the professional camera class.

Easy Operation On A Par With Compact Cameras

For all the OM-101's advanced features, operation is decidedly uncomplicated. In fact, with the exception of focusing, the controls are fully automated, resulting in handling no harder than with a regular compact camera. And the focusing itself is exceptionally simple, thanks to the adoption of an extraordinarily bright Super Lumi Micron Matte focusing screen with a bright split-image

Photo 8: White clothing against a white car, and backlit into the bargain. To prevent the subject's face coming out excessively dark in this kind of situation, the OM-101 provides a Backlight Control Button. Pressing the button automatically sets an exposure compensation of +1.5EV.

Photo 9: The winder takes only about 0.5 sec. to advance the film ready for the next shot, giving a wonderful opportunity for interesting follow-up sequences like this one of a woman walking her dog. AF35-70mm Zoom.

Photo 10: An aperture preferred auto shot with the Manual Adapter 2. I stopped the Olympus AF 24mm lens aperture right down to f16, for enough depth of field to get everything sharp from the candy in the foreground to the child behind.

Photo 11: I purposely blurred the narcissus flowers in the background to retain the main emphasis on the moss-coated trunk of the old plum blossom tree. Aperture preferred Auto Mode with the Manual Adapter 2. Zuiko 100mm F2.

prism in the center.

Film loading, which can prove a psychological obstacle to beginning photographers, is made super easy with Auto Loading, and naturally film speeds are set automatically with the DX coding system. Winding on the film is also automatic — and at about 0.5 sec. per frame, unusually fast into the bargain. Rewinding is automated and motor driven.

On its own the camera works exclusively in program exposure mode. Simply by leaving the mode dial set to "P" the camera automatically selects the ideal lens aperture and shutter speed to match the subject brightness. The photographer is free to concentrate on pressing the shutter button at the perfect moment. In dim conditions when the camera program sets shutter speeds of 1/60 sec. or slower, it might be a good idea to use flash. Simply fit the compact, lightweight Electronic Flash T18 into the camera hot shoe, switch ON, and leave the camera program mode selection just as it is. There is absolutely no need to make any other camera or flash settings: thanks to the TTL OTF Direct metering system the camera will guarantee you perfect flash exposures in Program Auto Flash mode.

Assuring all the ease of operation of a compact camera, yet providing a more accurate (finder viewfield 93%) and easier to see viewfinder, plus a plentiful selection of interchangeable lenses is, in my opinion, the special merit of the OM-101.

Sophisticated Photo Creativity With The Manual Adapter 2

Some people find being limited to Program Mode alone a little too restrictive, and for them the optional Manual Adapter 2 is just what the doctor ordered. Fitting this attachment gives the Olympus AF/PF lenses the extra capability of aperture preferred auto performance, and allows the photographer the freedom to pick different apertures for any desired depth-of-field effect. He, or she, can choose at will to blur out the background with a shallow depth-of-field or, alternatively, to stop down the aperture for pinpoint sharpness right into the background details.

To arrest fast moving subjects, the photographer can select shutter speeds as fast as 1/2,000 sec. Alternatively, a slow shutter speed can be set to intentionally blur the main subject and strengthen the impression of rapid movement, in these cases the secret is to set the Mode Dial to "M" (Manual) and set the desired shutter speed on the Manual Adapter 2 shutter speed dial. Then aligning the lens aperture until both ◈ marks light up in the viewfinder will assure correctly exposed pictures.

Simply by attaching the Manual Adapter 2 the OM-101 miraculously changes from an easy-handling basic SLR to something far more sophisticated and technically advanced.

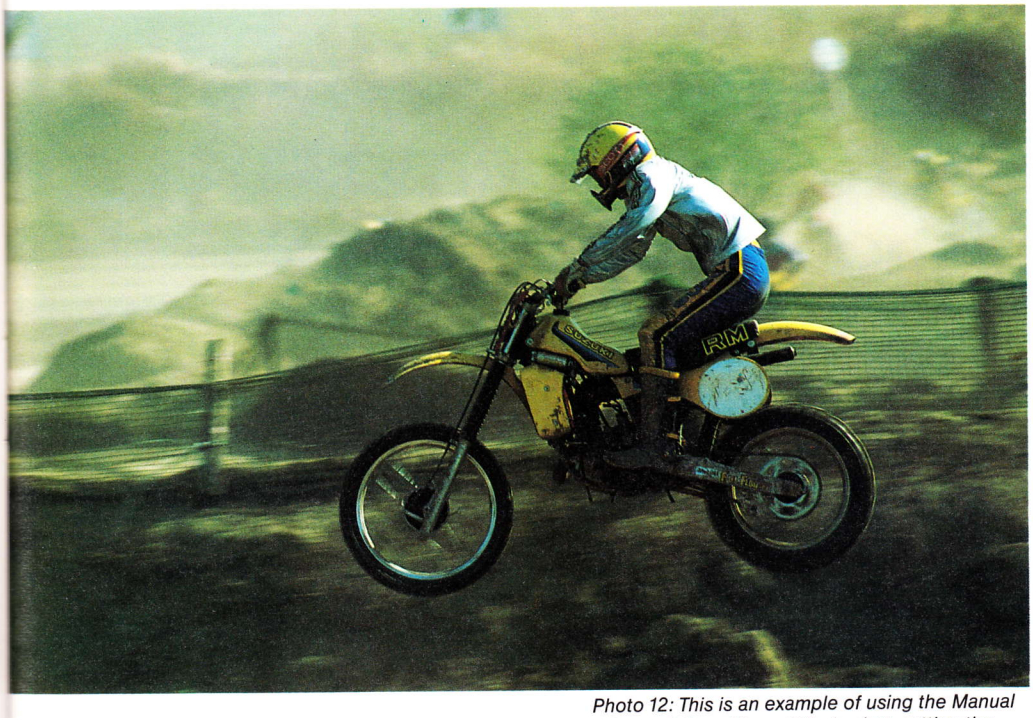


Photo 12: This is an example of using the Manual Adapter 2 for a Manual Mode shot, setting the shutter speed to the maximum 1/2,000 sec. in order to stop the motocross rider dead in the middle of his jump. AF70-210mm Zoom.

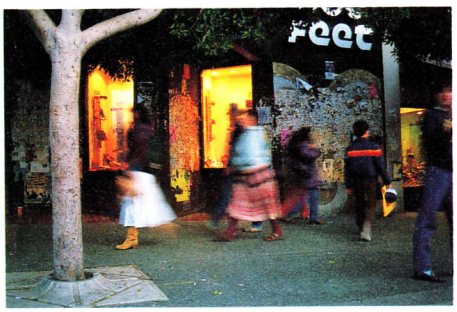


Photo 13: The main theme is the interest of the bills posted on the shop front and the wall. I set a slow shutter speed to soften the image of the passers-by into that feeling of blurred movement so uniquely characteristic of still photos. Zuiko 50mm F1.8.

Photo 14: The beautifully light and compact T18 flash unit offers Program Auto Flash performance that's effortlessly simple for one and all. For this kind of interior shot, bring it along without fail. AF35-70mm Zoom.

Photo 15: I tried a bounce flash shot aiming the T32 flash head upwards to get the reflections off the ceiling and the wall on the left. The result was a soft, three-dimensional lighting effect. The ceiling color created a slightly different color balance than with direct flash lighting. AF35-70mm Zoom.

This is another feature of the OM-101 that merits special attention.

Versatile Flash Photography With TTL OTF Auto Flash

TTL Direct OTF metering is an advanced metering method first pioneered by the Olympus OM System cameras. Adoption of such a sophisticated system in a basic-priced camera such as the OM-101 is especially noteworthy.

Thanks to this feature the OM-101, together with any of the OM System's special T Series flash units, is able to take TTL OTF Program Flash pictures. In this mode, when the subject brightness is dim enough for the program to set a shutter speed of 1/60 sec. or slower, the shutter is automatically locked at a synchro speed of 1/80 sec., the lens set automatically to one stop smaller than the wide open aperture, and the flash automatically fired. The strength (or, to be precise, duration) of the flash emission is controlled by the TTL OTF Auto mechanism to assure the correct exposure.

With this system, unlike with regular auto flash units, you can choose even the most sophisticated kind of flash lighting, including bounced or diffused flash, and still be sure of perfect exposures. In the same way, you are absolutely free to select any available lens focal length.

Use of the Manual Adapter 2 extends your options even further, allowing you to freely choose any available lens aperture from wide open down to the minimum of f22 in TTL OTF Auto Flash mode. Shutting the aperture right down to f22 permits flash shots as close as 14cm away, opening up the possibilities of effortless flash macrophotography.

In fact, the camera offers all the versatility you need for just about any degree of sophistication in flash performance, including compatibility with non-T Series and non-Olympus flash units when the Manual Adapter 2 is attached.

The Electronic Flash T18 which went on sale at the same time as the OM-101 is the lightest and most compact in the T Series and, with a Guide Number of 18 (ISO 100, meters) might seem something of a lightweight in performance too. But only if you forget the huge advantage of TTL OTF Flash, which assures the T18 a flash range of up to seven meters with an F1.8 lens. Or close on five meters with an F2.8. This makes it more than adequate for regular use and a perfect, problem-free match for the OM-101.

As the above review of the OM-101's main features confirms, this camera undoubtedly far outperforms the run-of-the-mill SLR in the basic camera price range. The remarkable advantage in cost performance is accounted for by Olympus's unusually sophisticated manufacturing technology, which effectively keeps costs down to a bare minimum. VA

How to Select Interchangeable Lenses (Part 4)

What Are the Best Lenses for Snapshot Photography?

by Hidetaka Nawa

In VisionAge No. 8 we saw what kinds of interchangeable lenses are adequate for action photography. In this installment, I want to discuss the most appropriate lens selection for snapshot photography, a somewhat more commonplace theme than action photography.

What Does "Snapshot" Mean in Photography?

The term "snapshot" was used originally by bird and fox hunters. When a bird suddenly flies up from a nearby tree or a fox jumps out of the grass, the hunter quickly takes aim and fires a snapshot at his quarry. The term was then transposed to photography in 1858 by Sir John Hershell, a noted early photographer.

Today the meaning of the word is not very precise. Roughly, it means a quick shutter release in general, and may thus include action photography, which I discussed in the previous issue. But action photography is not included in the usual sense of the term "snapshot," which generally refers to pictures of people's facial expressions or their poses or an interesting situation seen while we are strolling. Thus the term "snapshot photography" is a bit more vague than "action photography," but at least it can be said that human beings are the main subject of snapshots. Rather than carefully planned portraits of the half or full figure of a person, the snapshot catches the person at the very moment of gesture, facial expression or unexpected action.

What are the most appropriate lenses for such photography? Like the term "snapshot" itself, lens selection is not so exact. There are no strict rules for choosing; interchangeable lenses ranging from wide-angle to telephoto types can be appropriate. In this respect, snapshot photography is definitely different from action photography — especially sports photography. By a survey of the interchangeable lenses used in the snapshots we have seen, however, we can arrive at the best selection of focal lengths and lens speeds for snapshot photography. Let us now consider these lenses.

Using Super-Wide-Angle Lenses for Snapshots

In my research, the most frequently used lenses in snapshot photography are wide-angle types. Focal lengths of around 28mm are used particularly often. In some cases, though, super-wide-angle lenses with focal lengths shorter than 28mm are more effective for snapshots.

The lineup of Olympus Zuiko interchangeable lenses includes three super-wide-angle focal lengths: 18mm, 21mm and 24mm. The 21mm comes in two speeds, F2 and F3.5, while the 24mm comes in F2 and F2.8. There is still another 24mm type, a 24mm F3.5 shift lens, but it is seldom used in snapshot photography because it is designed for special applications such as architectural photography. Again, there are lenses of still shorter focal length — 8mm and 16mm — but they are special-purpose fisheye lenses that are not very adequate for snapshots.

Photo 1: A super-wide-angle lens is effective in taking a snapshot of the choir in front of a tall church building. (18mm F3.5, at f5.6, multi-spot metering automatic exposure, ISO 400 film)

The 18mm F3.5 is the least frequently used among these super-wide-angle lenses because its view angle of 100° is too wide for an ordinary snapshot. It is sometimes required, however, especially when you want to include a large space within the picture frame. Photo 1 is a case in which I took a snapshot of the choir and the priest conductor singing in front of a church. To delineate the tall church building I used an 18mm super-wide-angle lens and deliberately slanted the picture frame a little.

With such a super-wide-angle lens you can take advantage of being unnoticed by the person you wish to include in a snapshot. Such a picture is called a "candid photograph," and Photo 2, taken with a 21mm F3.5 lens, is an example. In this picture the young couple at the left-hand edge of the picture frame was not conscious of the camera or the photographer. People usually do not realize how broadly a super-wide-angle lens covers the area of view. It should be noted that in such a snapshot with a super-wide-angle lens, focusing with the camera finder is not really adequate. It is better to set the focus by visual estimation at around 2 meters beforehand and to take the picture as quickly as possible. This prevents your being noticed by the person you are photographing.

Among super-wide-angle lenses, a 24mm lens is more frequently used for snapshot photography. Its view angle of 84° is not extraordinary compared to that of human vision. Thus the subject may be conscious of being photographed with a 24mm-class lens. Photo 3 is an example, portraying at the left-hand edge of the picture frame a woman waiting for someone. Though she was aware of the camera, she seemed not particularly conscious of being photographed. This is one of the advantages of super-wide-angle lenses. Had I used a lens of longer focal length, she would have been more self-conscious because

Photo 2: A super-wide-angle lens is a good choice because the subject is not conscious of the camera lens if framing is appropriate, as in this picture. (21mm F3.5, at f8, automatic exposure, ISO 100 film)

Photo 3: Again, the woman at left is not really conscious of the camera since a super-wide-angle 24mm lens was used, though she noticed the photographer. (24mm F2.8, at f5.6, automatic exposure, ISO 64 film)

Photo 4: A super-wide-angle lens is needed to cover a broad area like this wall with funny scribbles on it. I waited for a passer-by to be framed with the wall. (24mm F2.8, at f5.6, automatic exposure, ISO 64 film)

the camera lens would have been directed straight at her.

Photo 4 portrays a wall bearing funny scribbles, along a countryside path. As I could not gain more distance because there was a rice paddy behind me, only with a 24mm-class super-wide-angle lens was it possible to take a picture of the wall. I waited a while until the man on a bicycle was passing before releasing the shutter to take the snapshot.

Mainstay Snapshot Lens Is 28mm in Focal Length

There are lenses of longer focal length than these super-wide-angle lenses, and they are called simply wide-angle lenses: 28mm and 35mm. Among the Olympus Zuiko lenses there are four wide-angle types — 28mm F2, 28mm F2.8, 35mm F2 and 35mm F2.8. There is still another 35mm lens with a lens speed of F2.8, but it is a special-purpose perspective-control shift lens like the 24mm F3.5 mentioned above.

Among these wide-angle lenses, the 28mm types are the most frequently used in snapshot photography. The chief reason may be its adequate view angle of 75°, which is close to that of human vision. The other reason is that the 28mm focal length does not give an overly exaggerated deformation of perspective as does that of super-wide-angle lenses. Photo 5 is a typical example in which I took a quick and casual snapshot of a balloon salesman and his customer. In this case I preset the distance scale of the lens at 1.5 meters before taking the picture.

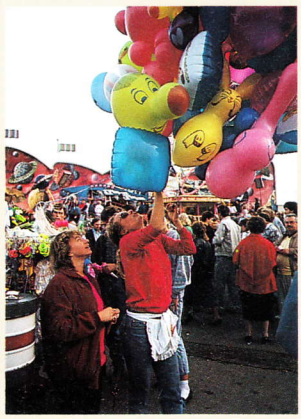


Photo 5: A wide-angle 28mm lens is adequate for a quick snapshot like this picture of a balloon salesman, because the lens has an appropriate view angle. (28mm F2.8, at f8, automatic exposure, ISO 200 film)

A snapshot may also be taken in a face-to-face situation. In such a case, of course, distance presetting of the lens is a must. Photo 6 is an example. Among the crowd at a festival, I quickly aimed the camera and released the shutter in the blink of an eye. The adequate view angle of the 28mm focal length is easy to use for such a quick snapshot.

Photo 6: In such a face-to-face snapshot, a very quick shutter release can delineate the subjects naturally. (28mm F2.8, at f8, automatic exposure, ISO 200 film)

If the person you want to photograph is conscious of you or your camera, it is better to say hello and take a little more time than for the quick shot. Conversation with the person may bring on a smile. If so, the smaller perspective deformation of the 28mm wide-angle lens is adequate for natural delineation. Photo 7 is an example in which I used a 28mm F2.8 lens to photograph two cute little girls and their grandmother during the festival. You can take time in that kind of face-to-face snapshot to focus accurately through the camera's viewfinder.

Photo 7: A wide-angle 28mm lens is adequate for this casual snapshot because it has an appropriate perspective effect. (28mm F2.8, at f8, automatic exposure, ISO 200 film)

The 35mm focal length can give a more natural delineation than the 28mm lens because its view angle is more adequate and its perspective deformation is smaller. Photo 8, my snapshot of tourists in a typical traditional Japanese house, is an example. If I had in this case used a 24mm or 28mm lens, the person at right would have appeared fatter than she really was due to the perspective deformation of such lenses.

Nevertheless, the 35mm-focal length lens is also a wide-angle lens. As it has a view angle of 63°, a wide-angle effect like that of the 28mm focal-length lens may be achieved by using an adequate picture-taking angle. In Photo 9, I took an upward-viewing angle to photograph the building and a passer-by. The

picture seems to have been made with a 28mm wide-angle lens. In such a case, it is best to preset the focus beforehand on the lowermost part of the building and to wait for a person to walk in front of the camera lens.

Photo 8: In such a "Say Cheese" snapshot, the smaller perspective deformation of the 35mm wide-angle lens is required. (35mm F2, at f5.6, automatic exposure, ISO 64 film)

Photo 9: A focal length of 35mm has a wide-angle effect similar to that of 28mm if you choose an appropriate picture-taking angle. (35mm F2.8, at f5.6, automatic exposure, ISO 100 film)

Standard 50mm Lens Is Versatile Choice for Snapshots

Between the wide-angle and telephoto lenses there is a group of lenses called "standard" or "normal" that I mentioned in the previous issue of VisionAge. These lenses have a focal length just between those of the wide-angle and telephoto lenses. In the lineup of Olympus Zuiko interchangeable lenses there are three standard lenses of these speeds — 50mm F1.2, F1.4 and F1.8. There are also two 50mm macro lenses, with speeds of F2 and F3.5. There is still another standard — or, more accurately, sub-standard — lens of 40mm F2 rating in the lens lineup.

As all three of the 50mm standard lenses have a fast lens speed, they are the best choice for available-light snapshot photography in a dim light. Photo 10 is an example. I took a picture of a family in dim illumination inside a beer hall. Because there is a reddish tint over the entire picture, due to the tungsten illumination, the picture gives a natural impression of the atmosphere. Had I used electronic flash in that situation, the background would have come out too dark and the atmosphere of the scene would have been damaged.

In a snapshot with electronic flash lighting, the fast speed of the 50mm standard lens is also effective. Focusing with the camera finder is made easier by the fast lens speed, especially in a night shot like Photo 11. It was very dim on a street with virtually no lighting, but I managed to focus on the carnival dancers because the fast lens speed provided a bright viewfinder field in the camera. In such a case, I advise you to stop down the lens aperture as small as possible to prevent focusing error. The TTL auto-flash control of the Olympus OM cameras is especially advantageous for this purpose because you have complete freedom in choosing lens aperture stops.

It is also good to use a so-called "standard zoom lens" instead of the 50mm single-focal length standard lens. Among the Olympus Zuiko interchangeable lenses there is a very compact standard zoom lens of 35-70mm F3.5-4.5 rating. The advantage of a zoom lens is that you can adjust the picture frame by the zooming operation. Photo 12 is an example in which I took a quick snapshot of a boy at play on the street. The focal length I used here was around 35mm.

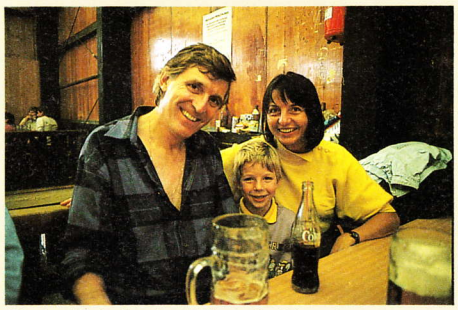


Photo 10: A standard 50mm fast lens is very advantageous for such a snapshot under available light in a dim-light situation. (50mm F1.4, at f2, automatic exposure, ISO 200 film)

Photo 11: The fast speed of a standard lens is also useful in providing a bright finder field for easy focusing in very dark conditions. (50mm F1.4, at f8, TTL automatic flash, ISO 400 film)

Photo 12: A standard zoom lens is sometimes more effective than a 50mm lens because you can adjust the frame by zooming. (35-70mm F3.5-4.5, at 35mm and f5.6, automatic exposure, ISO 100 film)

The 35-70mm zoom lens can give a mild telephoto effect if you set its focal length at 70mm. This allows you to take a candid photograph from a distance, as in the example of Photo 13, where I took a candid snapshot of people who had just bought soft drinks at a stand on the street.

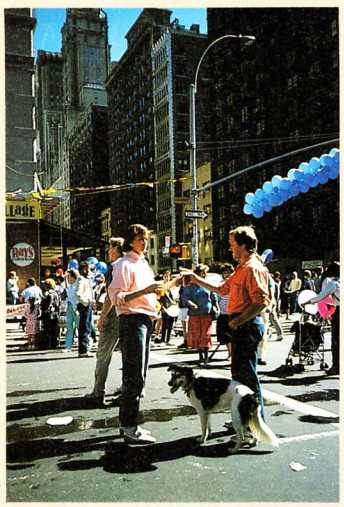


Photo 13: A standard zoom lens is also useful for a candid snapshot like this picture because it has a mild telephoto effect at 70mm. (35-70mm F3.5-4.5, at 70mm f5.6, automatic exposure, ISO 100 film)

Making the Best of Telephoto Lenses in Snapshot Photos

Telephoto lenses with focal lengths greater than that of a standard lens are also sometimes useful in snapshot photography. In the Olympus Zuiko lineup there are seven telephoto lenses, ranging in focal length from 85mm to 200mm. You thus have considerable freedom of choice in using one or two of them for your snapshot photography.

Among them, the lenses of shortest focal length such as the 85mm F2 and 90mm F2 macro lenses are easy to handle because their picture effects are similar to that of the standard 50mm F1.2 lens. Photo 14 is an example taken with an 85mm lens. As the picture-taking distance from camera lens to subject is a bit longer than that for the 50mm standard lens due to the longer focal length, the facial expressions of the subjects are natural because the people are not "pressured" by the camera gear.

Because the 100mm focal length provides a still longer camera-to-subject distance, the person being photographed will feel more relaxed, especially when the distance is

Photo 14: An intermediate telephoto lens like the 85mm lens is sometimes effective in taking a snapshot because it does not startle the subject. (85mm F2, at f8, automatic exposure, ISO 100 film)

considerable. An example is Photo 15, in which I could take a natural likeness of daily life in a country town.

The 100mm-class lenses can magnify a distant subject considerably, approximately twice as large as can the 50mm standard lens. This makes it suitable as well for snapshots through a window of a car or train. A focal length of 100mm or so is best for such pictures because longer focal lengths make focusing very difficult. Photo 16 is an example in which I took from a moving train a countryside scene with a passer-by stopping to watch the train.

Telephoto lenses of greater than 100mm focal length may be more appropriate for applications other than snapshot photography — sports photography, for example. In some cases, however, lenses of longer focal length such as 180mm or 200mm may be needed, especially when you want to take a candid snapshot or when you cannot easily approach the subject. Photo 17 portrays girls standing on the balcony of a church. I took it with a 180mm F2.8 lens from the garden beside the church. In Photo 18 I used a 200mm F4 telephoto lens to take a candid snapshot — from a considerable distance — of the casual expression on a woman's face

In such ways, the range of your snapshot photography can be expanded and varied through the use of the various interchangeable lens types I have discussed here.

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Photo 17: Longer focal lengths such as 180mm are sometimes required, especially when you cannot approach the subject. (180mm F2.8, at f5.6, automatic exposure, ISO 64 film)

Photo 15: Longer focal lengths like 100mm are more effective in catching the natural pose or facial expression of the subject. (100mm F2.8, at f8, automatic exposure, ISO 200 film)

Photo 18: Still longer focal lengths of 200mm or more are sometimes required to take a candid snapshot from a distance. (200mm F4, at f5.6, automatic exposure, ISO 100 film)

Photo 16: A focal length of 100mm is also good for snapshots of a distant subject like this picture, taken through a train window. (100mm F2.8, at f5.6, automatic exposure, ISO 400 film)

Zuiko Interchangeable Lens Group

TYPE	LENS	ANGLE OF VIEW	WEIGHT (oz.)	LENGTH	FILTER 46mm	49mm	55mm	72mm	100mm
FISHEYE	ZUIKO FISHEYE **8**mm F2.8	180° (circle)	640g (22.6)	83mm	Built-in (NEUTRAL, Y48, O56, R60)				
	ZUIKO FISHEYE **16**mm F3.5	180°	185g (6.5)	31mm	Built-in (NEUTRAL, Y48, O56)				
SUPER WIDE-ANGLE	ZUIKO **18**mm F3.5	100°	250g (8.8)	43mm				○	
	ZUIKO **21**mm F2	92°	250g (8.8)	44mm			○		
	ZUIKO **21**mm F3.5	92°	180g (6.3)	31mm		○			
	ZUIKO **24**mm F2	84°	275g (9.7)	48mm			○		
	ZUIKO **24**mm F2.8	84°	185g (6.5)	31mm		○			
	ZUIKO SHIFT **24**mm F3.5	84° (max. 100°)	520g (18.3)	75mm	Built-in (NEUTRAL, Y48, O56, R60)				
WIDE-ANGLE	ZUIKO **28**mm F2	75°	245g (8.6)	43mm		○			
	ZUIKO **28**mm F2.8	75°	170g (6.0)	32mm		○			
	ZUIKO **35**mm F2	63°	240g (8.5)	43mm			○		
	ZUIKO **35**mm F2.8	63°	175g (6.2)	33mm		○			
	ZUIKO SHIFT **35**mm F2.8	63° (max. 83°)	310g (10.9)	59mm		○			
STANDARD	ZUIKO **40**mm F2	56°	140g (4.9)	25mm		○			
	ZUIKO **50**mm F1.2	47°	285g (10.1)	43mm		○			
	ZUIKO **50**mm F1.4	47°	230g (8.1)	40mm		○			
	ZUIKO **50**mm F1.8	47°	165g (5.8)	32mm		○			
	ZUIKO MACRO **50**mm F2	47°	320g (11.3)	55mm			○		
	ZUIKO MACRO **50**mm F3.5	47°	200g (7.1)	40mm		○			
ZOOM	S ZUIKO ZOOM **35-70**mm F3.5-4.5	63°–34°	190g (6.7)	51mm		○			
	ZUIKO ZOOM **35-70**mm F3.6	63°–34°	400g (14.1)	74mm			○		
	ZUIKO ZOOM **75-150**mm F4	32°–16°	455g (16.0)	115mm		○			
	ZUIKO ZOOM **35-105**mm F3.5-4.5	63°–23°	470g (16.6)	85mm			○		
	ZUIKO ZOOM **65-200**mm F4	37°–12°	730g (25.7)	147mm			○		
	ZUIKO ZOOM **85-250**mm F5	29°–10°	905g (31.9)	196mm			○		
	ZUIKO ZOOM **50-250**mm F5	47°–10°	760g (26.8)	140mm			○		

TYPE	LENS	ANGLE OF VIEW	WEIGHT (oz.)	LENGTH	FILTER 46mm	49mm	55mm	72mm	100mm
TELEPHOTO	ZUIKO **85**mm F2	29°	260g (9.2)	48mm		○			
	ZUIKO MACRO **90**mm F2	27°	550g (19.4)	71mm			○		
	ZUIKO **100**mm F2	24°	500g (17.6)	72mm			○		
	ZUIKO **100**mm F2.8	24°	235g (8.3)	48mm		○			
	ZUIKO **180**mm F2	14°	1900g (67.0)	174mm					○
	ZUIKO **180**mm F2.8	14°	700g (24.7)	125mm				○	
	ZUIKO **200**mm F4	12°	515g (18.2)	127mm			○		
SUPER TELEPHOTO	ZUIKO **250**mm F2 *	10°	3900g (137.6)	246mm	○ (Slip-in type rear filter)				
	ZUIKO **300**mm F4.5	8°	1020g (36.0)	181mm				○	
	ZUIKO **350**mm F2.8 *	7°	3900g (137.6)	280mm	○ (Slip-in type rear filter)				
	ZUIKO **400**mm F6.3	6°	1300g (45.9)	256mm				○	
	ZUIKO REFLEX **500**mm F8	5°	590g (20.8)	97mm				○	
	ZUIKO **600**mm F6.5 *	4°	2800g (98.8)	377mm					○
	ZUIKO **1000**mm F11 *	2.5°	4150g (146.4)	662mm					○
SPECIAL USE	ZUIKO MACRO **20**mm F2	9° at highest mag.	170g (6.0)	46mm	21mm Slide-on				
	ZUIKO MACRO **38**mm F2.8	9° at highest mag.	170g (6.0)	46mm	32mm Slide-on				
	ZUIKO 1:1 MACRO **80**mm F4	9° at highest mag.	170g (6.0)	31mm		○			
	ZUIKO MACRO **135**mm F4.5	18°	320g (11.3)	47mm			○		

TELECONVERTER	2X-A ● APPLICABLE LENSES: 100mm F2.8, 50-250mm F5 ● OPTICAL CONSTRUCTION: 6–6 ● WEIGHT: 215g (7.6 oz.) ● LENGTH: 48mm (1.9 in.)
TELECONVERTER	1.4X-A ● APPLICABLE LENSES: 180mm F2, 180mm F2.8, 250mm F2, 300mm F4.5, 350mm F2.8, 400mm F6.3 ● OPTICAL CONSTRUCTION: 5–4 ● WEIGHT: 180g (6.3 oz.) ● LENGTH: 23mm (0.9 in.)

Note: Some of the lenses used for the photographs in this article are no longer on sale.

Photographing Butterflies

by Kazuo Unno

Natural Light Photography with Macro Lens

Generally speaking, the most convenient lens for photographing butterflies is the Macro 90mm. This lens is characterized by the beautiful out-of-focus effects that can be obtained with a fully open aperture. In macrophotography, since the depth of field becomes shallow and the focusing range narrows, it is sometimes said that better images can be obtained by stopping down the aperture. But by doing so, the special flavor of the beautiful out-of-focus effect will be lost. A butterfly is a level type of living thing. A level subject will be in focus even with a fully open aperture, and so, if a butterfly resting with wings folded is photographed directly from the side, a photograph generally in focus but with a beautiful blur can be obtained.

Photo 1 shows an Eastern Pale Clouded Yellow, which sucks nectar from flowers, aimed at with a Macro 90mm lens. Helicoid was prepared beforehand to be in focus at about 70cm (2.3 feet) and the butterfly was approached while looking into the finder. At a spot which would be practically in focus, the composition and the size of the butterfly in the picture were quickly decided and the shutter pressed. Lens opening of f4, aperture-priority automatic. The shutter speed was about 1/250 sec. In order to take this kind of a photograph with a beautiful blur, it is necessary to use natural light with the lens opening of faster than f5.6. At times, although a beautiful blur is seen when looked at through the finder, the resulting photograph is jumbled and unsightly. It should not be forgotten that the image in the finder is always seen with a fully open aperture but at the actual photographing moment, the aperture is stopped down as set. This was forgotten here and the aperture stopped down too much.

When not photographed directly from the side, the focus should invariably be on the eyeball of the butterfly. The eyeball is the most conspicuous object expressing the existence of a living thing. If the focus is not on the eyeball, it will become a photograph without firmness. Since the level will be in focus even with a fully open aperture, the eyeball should be on the level that is focused. Two points should be chosen from other parts. If these total three points are on the level, it will become a photograph worth seeing even if the whole is not in focus.

Photo 2 the Scarce Copper, which is common in various European regions, was photographed by focusing on the eyeball and the wing on the other side. Using Macro 90mm at f4.5 and seeking a position in which both points would be in focus, the camera angle was changed in various ways at a spot generally in focus.

In Photo 3, I aimed from the front at The Posy of Thailand perched on a leaf at the tip of a tree's branch. With a fully open aperture, I focused only on the eyeball. In this way the blur enlarged and emphasized this butterfly's gentle image.

To photograph the Scarce Swallowtail (Photo 6) flying over a field of lavender in southern France, the shutter speed was set between 1/500 and 1/1000 sec. Since the butterfly will not enter too large into the picture, manual exposure is better than automatic exposure, which is easily affected by the background color. Using Macro 90mm lens, this was taken with f4.5 aperture and shutter speed at 1/500, ISO 64. The helicoid was set at about one meter (3.3 feet) and while rotating it, the butterfly was pursued in the finder and the shutter pressed. Photographing in good focus is difficult but when it comes out as intended, the greatest joy is felt.

Flash Photography with Macro Lens

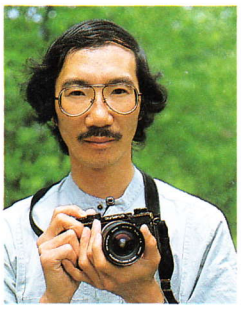
By employing electronic flash and stopping down the lens aperture, the subject's depth of field increases. In other words, the focusing range expands. But even in this case, rough focusing will not do. The expanded focusing range should be utilized throughout to produce creative work. Photo 7 of The Strait Swift, one variety of the Skipper which sucks the nectar of the zinnia, was taken with Macro 90mm lens at f22 lens aperture with Telescopic Auto Tube and T28 Macro Twin Flash. By stopping down the aperture to this extent, every part of the butterfly came into focus.

When using flash, if the background is distant from the butterfly, which is the subject,

Photo 1

Photo 2

Photo 3



Kazuo Unno

Kazuo Unno was trained as an entomologist at Tokyo University of Agriculture and Technology and has specialized in the ethology of butterflies. He was also interested in photography. He spent almost his time as professional photographer in these 17 years. His photographs have been published in natural history books and magazines. He is a member of the Japan Professional Photographers Society, the Society of Scientific Photography, the Lepidopterological Society of Japan, and the Entomological Society of Japan.

Photo 7

Photo 8

Photo 4. The Tree Nymph of Malaysia with wings spread. Since this butterfly flies with wings spread, focusing is easy. Macro 90mm f4 Auto

Photo 5. When photographing two butterflies perched on a flower, the eyeballs of both should be in focus. Shown in the photo are The Ceylon Blue Glassy Tiger and The Common Tiger. Focusing quickly before the butterflies escape is difficult. Macro 90mm f4 Auto

proper exposure for the butterfly will leave the background underexposed and dark. Some people dislike this because it makes the butterfly appear as if flying in the dark but, on the other hand, by utilizing this and making the butterfly stand out in relief, it is also possible to produce a photograph with impact.

In Photo 8, *Parides agavus,* a kind of Brazilian Swallowtail about to land on a flower was photographed with Macro 90mm lens, f11 aperture, 1/60 shutter speed and handmade Macro Twin Flash converted from Quick Auto 310 Flash which is used at one-fourth the light volume. With full light volume, the flash duration will be long and a moving subject will often become blurred. When a butterfly in flight is photographed with flash, the quantity of light should be reduced. It should be remembered in regard to flash that the less quantity of light, the shorter will be the flash duration.

Photos 9 and 10 show the use and non-use of flash. A comparison is made of how different the same subject can be. Both were taken with Macro 90mm lens. Photo 9 was taken in natural light with f4 aperture and Photo 10 with f22 aperture and flash. The Small Copper at rest was photographed with an OM-4 having Macro Twin Flash attached. The flash is charged beforehand but when approaching the subject, the switch is turned off. First, a photo is taken in natural light. The switch is turned on at once and a photo taken with flash. If the flash is used at the beginning, the butterfly might escape. Turning on the switch beforehand was in order to enable consecutive photography. In any case, the butterfly will have correct exposure and by focusing with care, there will be no blur even at f4.

In case the butterfly is in the shade, a bright picture can be obtained with the use of flash. The important point is to maintain a balance between the brightness of the background and the main subject. It is the same idea as using a reflector or flash as auxiliary lighting when making a portrait of a person. The exposure should first match the brightness of the background. Flash that is half a stop weaker will probably be satisfactory.

In Photo 11 is The Great Purple, a Japanese national butterfly, which sucks sap from the trunk of the "kunugi," a kind of oak. This butterfly was perched on the trunk of a tree in an

Photo 6

Photo 9

Photo 10

Photo 11

unlighted place. If photographed with auto, it would turn black and become invisible. The distance to the butterfly was one meter (3.3 feet). The exposure for the green background was 1/60 at f4. If T32 is flashed at one-fourth the quantity of light, f8 would be appropriate at a distance of one meter. But if photographed at 1/60 and f8, the background would be underexposed. Therefore, by making the shutter speed 1/15 sec., I was able to make the background a beautiful green.

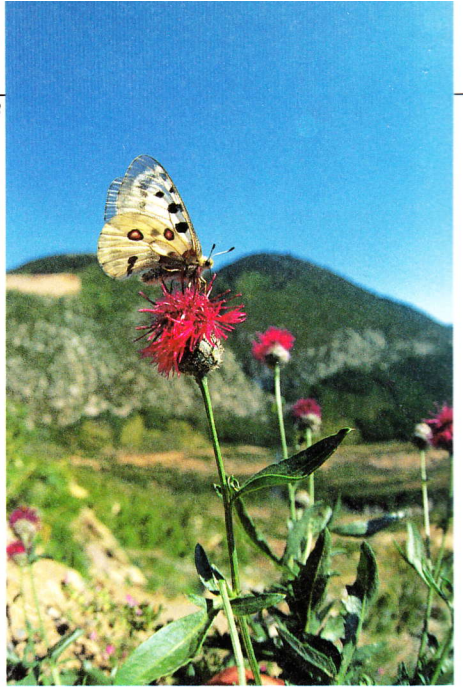
Natural Light Photography with Super Wide-Angle Lens and Fisheye Lens

By using other lenses besides Macro Lenses to photograph butterflies, it is possible to produce works with a different flavor. I myself am fond of using the 21mm super wide-angle lens and 16mm fisheye lens.

Use of super wide-angle lens with great depth of field enables both the butterfly and the landscape to be photographed. Photo 12 is a Black-veined white, which sucks nectar from tableland flowers, taken with 21mm super wide-angle lens. With aperture at f8 auto, the butterfly was approached to the proximity of about 50cm (1.6 feet). Looking

Photo 12

Photo 13



into the finder, I drew near and while thinking the composition, pressed the shutter. Because the butterfly is small, it is necessary to go as close as the lens' minimum focal distance. But upon doing so, the depth of field of super wide-angle lens becomes unexpectedly shallow. Thus the focusing must be carried out with the greatest care. Moreover, since the working distance is an extremely short 20cm (0.6 feet), the butterfly will often escape. A butterfly is insensitive to slow movements but sensitive to sudden movements, and so, it is important to approach it slowly. The helicoid should be extended beforehand and it is essential to press the shutter the moment the subject comes into focus.

Photo 13 shows an Apollo sucking nectar from a flower in the Pyrenees on the border between France and Spain. In Photo 14, the Common Bluebottle sucking water at a bathing place in Sri Lanka was photographed with a 16mm fisheye lens. The intention was not to utilize the picture distortion which is a characteristic of fisheye lens, but rather the great depth of field. When photographing up close, the depth of field becomes extremely shallow. I considered that even a 21mm lens would be insufficient. With a fisheye lens, if the horizon is brought to the center of the picture, the distortion will not be so noticeable.

Photo 14

Photo 15

Photo 16

In order to photograph Raja Brooke's Birdwing sucking water from the bed of a river flowing through a Malaysian jungle, together with the environment, 21mm lens and flash were used. 21mm F2, f11 1/60, 1/4 lighting quantity of T32 (Photo 16)

Flash Photography with Super Wide-Angle Lens

By using flash with a 21mm super wide-angle lens, it will be possible to take fantastic photographs. Photo 15 shows The Red Helen, which comes to the "santanka" flower, photographed with flash as the main source of light. In case ISO 50 film is used, the brightness of the sky, with OM-4 synchronized flash speed of 1/60, becomes f11.5. The distance to the butterfly was about 30cm (1 foot). The aperture was set at f11.5. Since T32 flash would be too strong, the quantity of light was reduced to one-fourth and further diffused. In this case, the butterfly, black in color, was dancing slowly between the flowers. Thinking that there would not be much blur from the effect of the natural light, I hid in the bush and waited. The part somewhat like a shadow is the blurred image affected by natural light.

In Photo 17, Eastern Pale Clouded yellow was photographed in exactly the same way but this butterfly was white and it was flying swiftly. Judging that if I photographed it in that condition, the blur from the natural light would be great, I employed a kind of drifting photography. While moving the camera in the direction of the butterfly's flight, I pressed the shutter. In addition, I set the aperture at f16 without using a diffuser. Since the butterfly was white, I judged that underexposure would be better.

Photographing a Butterfly in Flight Indoors

The close-up of a butterfly in flight is difficult to obtain outdoors. But this is comparatively simple in an indoor setting, provided that the materials are available. An infrared sensor switch will be required. A butterfly passing in front of infrared rays will release the shutter. This device is on sale in the market. A flash with very short duration should be selected. At the minimum, one with a flash duration of 1/5000 sec. should be chosen. If the flash is able to change the quantity of light, it would be best to keep it at less than GN10 (ISO 100, meters). If the infrared sensor is connected with a motor drive, since there will be a time lag between the passage of the butterfly and the shutter release, it will be necessary beforehand to shift the focus away from the position of the sensor.

In Photo 18, I put a Brimstone on a thistle. The infared sensor was just in front of the flower. Four GN12 (meter) manual flashes with flash durations of 1/5000 sec. were used for the photography. At the moment the butterfly flew off, it passed invisible infrared rays, turning on the switch and releasing the shutter. It was photographed at about 5cm to the right from the sensor's position. Since the butterfly flew parallel with the camera, although the focus was fixed on the sensor's position, there was no blur.

In Photo 19, in order to photograph the extremely rare Agrias, which lives along the Amazon River in Brazil, it was caught for a while. It was photographed with a high speed shutter attached in front of Macro 90mm lens and taken with the camera's shutter set at bulb (B). Three special flashes with flash time of 1/22000 sec. and one T32 flash were used. VA

Photo 19

Photo 17

Photo 18

THE WAY OF THE PROFESSIONAL

Stretching the Limits of Photography for Personal Satisfaction

by David Higgs

To be a successful photographer requires a preoccupation with the visual image. Curiously, little more than two years before I took the leap into full-time freelancing in 1981, I would have considered it as incredible that I would soon be making my living from photography. So determined was I to make a success of myself as a scientist that I never noticed the photographer within me trying to get out.

In retrospect it now seems almost inevitable that I would become either a photographer or filmmaker. I was born and raised in Australia. I was fortunate enough to be able to witness the vastness of the continent, extraordinary natural wonders and climatic extremes from an early age. I have no doubt that these journeys with my parents made a significant contribution to my tendency to strong visual awareness as a child. This was further enhanced by a round trip by sea to England with numerous stops on the way, including an overland journey through Egypt, at the impressionable age of eleven years.

The experiences, sights and sounds were edited, cropped and preserved in my memory in a way which is still vivid today. It was almost as though there was a camera clicking in my head preserving each image long before I ever considered the possibility of using a real camera for the purpose.

My interest in photography only developed as an adjunct to my primary leisure pursuit of mountaineering. When I left Australia to continue my university studies in England climbing rapidly became the most important means of satisfying my thirst for adventure. I travelled overland to India and celebrated my 21st birthday at base camp in the Himalayas having just climbed my first 6,000m peak. The following year I was a member of an expedition to climb all the major peaks in East Africa.

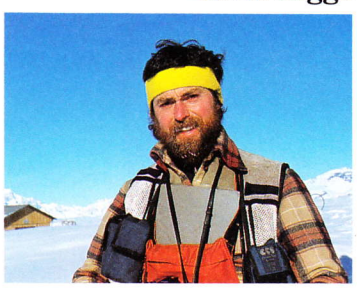
Zebra, Luangwa Valley National Park, Zambia. OM-2, Zuiko 500mm, Reflex F8

Europe's smallest bat species, the pipistrelle, in mid-flight, typically weigh 3-8g and have a wing span of about 15cm. OM-2, Zuiko Macro 50mm, F2

Special mobile surgical "Flying Squad" attending a serious accident, rendering assistance to an injured, trapped driver. OM-2, Zuiko 35mm, F2.8

Crashed Sopwith Pup, a publicity shot from the making of "Biggles — the Movie." OM-2, Zuiko 50mm, F1.4

David Higgs



David Higgs was born and raised in Adelaide, South Australia, but left to continue his university studies in England, where he is now resident. After graduating with a BSc (Hons) in biological sciences he moved to Derbyshire where he now lives with his wife and family.
He began working as a professional photographer in 1981. Shortly afterwards he wrote his first book entitled, "Mountain Photography," one of the first attempts to write a technical and creative handbook for mountaineering photographers. As the result of expeditions to the Himalayas and East Africa he has also made two films for the BBC.
His work is to be seen in many of the world's top publications including Sports Illustrated and other Time-Life publications, GEO, Stern, Vogue, and all the major British and European magazines. His work is published widely in various annuals including European Photography, and he won several awards for photojournalism.
In 1986 the Olympus Gallery in Hamburg staged his first major exhibition of work.

Storm sunset from Nevada Alpamayo, Cordillera Blanca, Peruvian Andes. OM-2, Zuiko 35mm, F2.8

Nick (left) and Dick Crane, the first to ride mountain bikes to the summit of Kilimanjaro. OM-3, Zuiko 24mm, F2

Winchman guiding in RAF rescue helicopter near Tryfan, a mountain in North Wales. OM-2, Zuiko 24mm, F2

Jon Chester at mouth of bergschrund (a crevasse), on Nevada Huandoy Norte (6,395m) in the Cordillera Blanca, Peruvian Andes. OM-2, Zuiko 24mm, F2.8

As the climbing got harder so did the technical and physical difficulties of taking photographs. It was around this time that the OM-1 suddenly appeared on the market. Having never owned an SLR camera before I was immediately impressed. Here was a camera system which, according to informed appraisal, was robust, reliable, small and lightweight with excellent optics. Above all it was innovative, which I found exciting. It had broken away from many of the conventions of SLR camera design and operation. Clearly it was the camera I was looking for.

Since then my career and my competence have grown in parallel with the developing OM System. In fact, it would be true to say that my technical expertise has been nurtured by the system. Some techniques I now use frequently I doubt I would have discovered because they cannot be executed so easily using other makes of camera.

In 1979, equipped with a tried and trusted OM-1, five lenses and a brand new OM-2, I embarked on my most ambitious expedition so far. We were setting off to climb new routes for two months in the Cordillera Blanca, the highest range of mountains in the Peruvian Andes.

By this time I had been grappling with the problems of how to climb safely and still take photographs easily. I had developed my own equipment to make photography more convenient and less inhibited by flying snow and rain, extreme heat and cold, and the rough and tumble of hard physical treatment. I designed new camera and lens cases, made equipment belts, and invented a bracket system which helped to protect as well as support my cameras. It was a tough school which taught me many "tricks" and "survival" techniques invaluable to any location photographer.

Toward the end of the trip, on the steep north face of Nevada Huandoy Norte (6,395m), I took one of my favorite mountaineering photographs. It shows a backlit climber in the gaping mouth of a crevasse toothed with dripping icicles. However, very few know how desperate the situation was when the photograph was taken. Ten minutes before the shutter clicked I had been dangling on the rope under an overhanging ice cliff after a fall. My pack, top-heavy with five days of food and spare rope, threatened to turn me upside down. After I had struggled up the ice and over the lip of the cliff it began to avalanche. Above us we could see a large crevasse which could provide us with some shelter. Desperate for breath after my exertion, and at times on the verge of passing out, I climbed up and reached the crevasse. My companions followed and just before the last climber appeared I preset my camera and took a photograph as he emerged over the lip of the crevasse. I took the shot one-handed while my other gripped the climbing rope around my waist.

World slalom canoeing champion, Richard Fox. OM-2, Zuiko 350mm, F2.8

The experience of taking photographs in such adverse conditions during this expedition had a profound effect on me. I had not realized how much mental discipline and physical energy I could bring to bear despite fear, fatigue and frustration. Up to this time I had never seriously considered that I could make a living from photography. Now it occurred to me, if taking photographs mattered so much to me that I was prepared to run these risks, surely I could find a way of turning my talent into a career.

When I returned to England my confidence was given a further boost. Magazines which I had always thought were beyond my reach liked my work. It was an incredible feeling. Just as importantly it looked likely that the fee for the right to first publication of these images might repay a majority of the debts I had incurred paying my expedition expenses. Luckily for me, much of the photography I now undertake doesn't involve this level of objective danger. Nevertheless, I have found that in order to produce the quality of results which brings me satisfaction still requires the same high degree of commitment to the assignment no matter what the subject matter or situation.

This was certainly the case during my first year of full-time freelancing. Being an unknown, no one would give me work. So, impatient to produce work which would get me noticed I decided to give myself assignments instead. The first project on my list was to photograph the RAF Red Arrows, arguably the world's finest military aerobatic team. I knew that unless I could come up with an utterly stunning image of this much photographed subject no one would publish the results. Having so little to show for myself it took six months before the team would take me seriously.

I wanted to concentrate on the human element of the Red Arrows without detracting from their superb aerobatic skills. Eventually I made some sketches of the sort of effort I wanted to achieve and showed them to the team's leader and manager. They liked the look of what I was trying to do and as it had never been attempted before they finally agreed to fly me.

However, as I wanted to place cameras inside the lead Hawk jet's cockpit, inches from the pilot's nose, the project was fraught with difficulties. I had to design and make a rig to hold the two cameras which were wired together for simultaneous operation (one horizontal and one vertical) and equipped with autowinders and 16mm full-frame fish-

Photograph of the RAF Red Arrows Aerobatic Team with a cockpit mounted camera. OM-2, Zuiko 16mm, F3.5

eye lenses. Furthermore, it all had to reach the very high standards of safety demanded by the RAF. You can't just go and stick cameras onto bits of Her Majesty's aircraft.

The photographs, which show a wing-tip to wing-tip view of a chevron formation, were used as a center-page spread by the Sunday Times Magazine. I was even more pleased when I heard that the Red Arrows were delighted with the results and the publicity. It is very important to me that those who give so much in assistance get as much back as possible in return for their time and trouble.

One of the most vital skills of a photographer is the ability to imbue his images with "emotional impact." Such subjective terminology is difficult to define, even more so than Cartier-Bresson's "decisive moment." Both are basically determined by "gut feeling," that is, the necessary discrimination takes place on an intuitive rather than an intellectual level. This does not mean, of course, that careful consideration does not go into the planning and execution of a "shoot," only that the precise factors governing the chosen composition, lighting and instant that the shutter is tripped cannot be assessed simply by logical deduction.

One needs to feel some passion when using a camera, otherwise the resulting images just won't "work." For me the acid test of "emotional impact" is to look at my images, possibly taken years before. If they still bring a lump to my throat then I know they have "worked." This is why I get great satisfaction from reportage photography.

Once, when I was doing a feature on the training of fire service officers I noticed a beautiful oil painting hung conspicuously on the wall of the college's refectory. The portrait, simply entitled "Saved," depicted an immaculately dressed Victorian-era fireman complete with brass helmet emerging from a smoky doorway. Draped across his arms was the unconscious figure of an angelic-looking young girl in nightclothes with flowing golden hair. Though it was a typically romantic portrait I found the image particularly moving and it was clearly treasured by the fire service college. It embodied the emotional crux of their training — to save life.

I decided to recreate this image but in a 20th-century context with modern equipment, oxygen apparatus and mask. However, I wanted to remain true to the emotion and spirit of the original image. One of the fire service officers had a beautiful little daughter with blonde hair who was inseparable from her teddy bear. We set up the shot on a stairway in one of the college's superb training buildings. A little careful lighting to simulate flame and to light the figures, nontoxic smoke so as not to harm the little girl (still clutching her teddy), and the set looked and, most importantly, "felt" authentic. Both the "shoot" and the resulting images were very moving. I deliberately made it all look too perfect to be real. I don't believe in conning people, but the emotion felt right and real. It is one of many images that I am very proud of, the reader response to its publication was enormous and positive, but above all it passed my "acid" test.

Photography of everyday people, sometimes involved in ordinary circumstances, sometimes in the extraordinary, can produce wonderful images. Of the latter, some of the most rewarding times have been spent with various emergency services. These have included rescue dogs, firemen, police and armed services, rescue helicopter crews and emergency medical teams like the Derbyshire Royal Infirmary Flying Squad. This particular squad is crewed by an accident and emergency consultant doctor, two nurses, and a driver. The vehicle used is a highly modified Range Rover capable of considerable speed in almost any conditions. The drivers are police trained to be able to cope with adverse circumstances with maximum safety and control.

During a four-day period with the squad one of the first callouts was to an incident where a car had left the road and crashed into the base of a concrete flyover. The vehicle was buckled and distorted, the engine compartment almost completely obliterated. Surrounded by a crush of rescuers, the scene around the shattered vehicle appeared chaotic. One fireman had even crawled halfway through the windscreen of the car in an attempt to free the driver who was trapped by the legs and apparently badly injured though still conscious. Something told me there was a classic shot among this heap of twisted metal and anxious rescuers if only I could find it. Suddenly it occurred to me that from above the scene must look quite extraordinary. I climbed up a steep embankment and walked along the bridge footway until I could look down on the wreckage. A passerby offered to hold onto my arm while I leant out far enough to get an unobstructed overhead shot. This image has since won a number of awards for photojournalism.

Many people wonder how one can take photographs in such circumstances. They imagine it must require a very cold-blooded and mercenary attitude. Personally I couldn't function effectively if I had to be anything other than straight and honest with those I work with. In any case I believe that the images reflect the spirit in which the photography is done. A photographer has to earn the trust of his subjects and show that he is capable, cool and clearheaded, and responsible. With few exceptions I have found that the best way to "infiltrate" a situation or group and to achieve the necessary rapport is to simply adopt a "softly, softly" but professional approach. Your enthusiasm and empathy will shine through if they are genuine. It's a good old- fashioned process of winning hearts and minds. One needs the abilities of the chameleon, able to

Fireman rescuing little girl. OM-4, Zuiko 100mm, F2.8

Soldiers on patrol in Northern Ireland, OM-2, Zuiko 100mm, F2.8

Top British freestyle skier, Jilly Curry, skiing moguls, Tigne in France. OM-4, Zuiko 16mm, F3.5

blend into the background, or, stand out from the crowd, depending on the circumstances.

If one is interested in capturing great moments, sport is a subject which rarely disappoints. One of my first professional assignments was to cover the World Canoeing Championships for Sports Illustrated. Presently one of my favorite sports subjects is freestyle skiing. There is no doubt that familiarity with a sport contributes greatly to the chances of getting good results. However, the necessary appreciation of the dynamic qualities of a sport can be achieved in a very short space of time by an experienced photographer. The two images of the skiers published in this portfolio were taken during a five-day period when I first photographed the sport at Tignes in France. The skier inverted in mid-air was photographed during competition. For the other photograph I persuaded the top British freestyler, Jilly Curry, to ski over me while I lay on my back and used a 16mm full-frame fish-eye lens. It's the sort of situation where the knowledge that the skier is world class is very reassuring, especially when razor-sharp skis are hurtling toward your head at over 50 mph!

Any profession which is governed by strict deadlines and time limits can become a little strained at times. After a period of such intensity I like to try to do some wildlife or landscape photography. It is the perfect antidote. The uniqueness of both types of subjects is that they can't be hurried. You have to simply wait and watch.

The photograph of the zebra herd resulted from a three-month trip to northern Zambia. Like the majority of the work I did in the bush, this image was taken on foot. Though one usually associates big game photography with vehicles and hides I was astonished at how successful one could be by stalking or waiting beside favorite water holes for the game to come to drink in the evening. Though seemingly more time consuming, the rough terrain of this particular region of Africa gave stalking a major advantage in enabling me to penetrate into the many areas inaccessible to motor vehicles. Most of my photography was done with a 500mm Zuiko Reflex lens which I found quite manageable despite the fixed F8 aperture. Being so light I was able to mount the lens and camera combination permanently onto my tripod which I then carried on a strap over my shoulder.

It was a very different situation when I was asked to provide photographs for the Observer Magazine of a bat in mid-flight. Faced with a strict budget and a time limit, I had to produce results within a few days. This was further complicated by the fact that in Britain bats are strictly protected from most forms of molestation — even by well-intentioned photographers! However, I managed to overcome the legal restrictions by combining my requirements with research being done by a scientist I knew, who was investigating the dynamics and energetics of bat flight. Given the fact that the species which I had chosen to photograph (Pipistrellus pipistrellus) is the tiniest of the European varieties, with a wing span of only 15cm, and weighing between three and six grams, technical difficulties abounded. I constructed a flight tunnel in a studio environment so that we would have maximum control over lighting and the bat's flight path. To maximize depth of field I chose to use a 50mm macro lens which meant placing the camera a mere 40 cm in front of the proposed subject position. In such circumstances the only means of ensuring a sharp photograph was to use an infrared triggering system. A cardboard cutout of a bat was used to prefocus and frame the image. Then all you had to do was find a way of making the bat fly through the beams. It took a day to set up the studio and two days in which we had to learn how to use the bat's echo-location facilities to our advantage. Finally we got one roll of perfect results including the image published here. It was an extraordinary and moving experience working with one of nature's most amazing and under-rated fliers. Needless to say I am now a confirmed bat freak!

At present one field which particularly excites me is movie stills photography. Having recently had a very encouraging and enjoyable experience doing stills on the set of a WWI adventure film, I hope to be doing a lot more in the future. The photograph of an upturned Sopwith Pup crashed on a battlefield was one of the results which Olympus chose to feature here. Films offer one of the few opportunities I know where you can take advantage of a cast of thousands, exotic and costly sets and locations, garnished with special effects and not have to worry about organizing (and sometimes financing) it yourself.

Most of all I look forward to returning to Australia with my wife and family to work on a number of projects. After an absence of 16 years I find myself no less drawn back to my homeland. With its flourishing film industry brimming with talent the prospect is very attractive. Hopefully, too, with my broad professional experience and the benefit of eyes and ears which have matured in the northern hemisphere, I will produce a book about Australia which goes beyond the usual superficial impressions and stereotypes of its people and places.

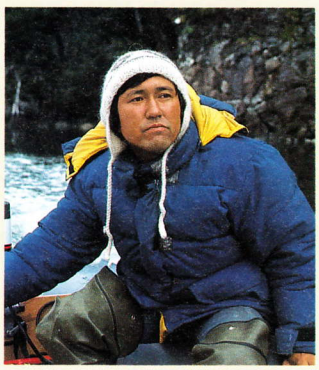
Throughout my professional career I have tried to be as inconsistent as possible in my choice of subject matter and my approach to it. The only consistent factor which is embodied in my work is, I hope, excellence. Many photographers deliberately stay within a particular specialization and become identified with it. I have always believed that photography should bring me enjoyment and the freedom to do what I want to do. This I have certainly been able to achieve in most of my work which, even today, comprises a good many personal projects. By continually delving into new areas I try to ensure that I am constantly being "stretched" as a photographer and encourage a rich variety of commissioned work. It is all too easy, in this unforgiving profession, to stick with the tried and true rather than "live dangerously." Personal satisfaction is the name of the game. VA

WWF

Life in the Unlimited Extreme North

By Michio Hoshino

A herd of caribou traveling in the night under the midnight sun. Zuiko 100mm F2.8 at f8, 1/250



Michio Hoshino

Michio Hoshino was born in Japan in 1952 and graduated from the Keio University Department of Economics in 1975. Since 1978, he has concentrated on photographing wildlife in Alaska. His work has appeared in major publications in Japan and the United States, including The Smithsonian, Audobon *and* National Geographic Magazine, *and has been introduced in Europe through* GEO *magazine. In 1986, his first photo album book,* Grizzly, *won the annual Anima Award, a prize given for the most distinguished wildlife photography. His second publication,* Moose, *was featured in the August 1987 issue of* National Geographic Magazine. Grizzly *and* Moose *have both been released in Japan and the U.S.*

In the summer, caribou like the surface of the remaining snow, to escape from the masses of mosquitoes 350mm F2.8 at f4, 1/250

The wind blowing directly from the Arctic Ocean seemed to have become frenzied. With nothing to obstruct it on the vast ground of Alaska's Arctic zone, my tent of only one meter 50cm was exposed and I felt that it was stopping the wind all by itself. The aluminum center pole was arched like a bow and it was almost miraculous that the tent was still standing.

May in Alaska's Arctic zone. I was waiting for the seasonal spring migration of the caribous expected to come in from Canada. Even when the various conditions are calculated, to encounter the seasonal migration of caribou on this vast land extending over an incalculable distance is ultimately a gamble.

The amount of snowfall during that year, whether or not it was a severe winter, the speed with which the snow melted . . . all these factors are involved in a complex manner. But one day the caribou leave the place where they were born and grew up and start out on a long journey. What route will they take to enter Alaska's Arctic zone for the sake of childbirth? This is something that not even caribou researchers can predict. After setting up the base camp, I could only wait at that point in the vast Alaskan Arctic zone.

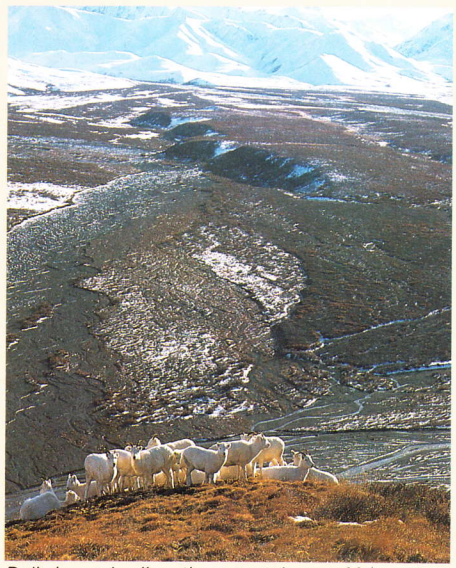
I slipped into the sleeping bag. The wind was howling. I had already been waiting for two weeks. Was this an absurd gamble after all? Before going to sleep, I thought of making sure of the outside once more. While still staying in the sleeping bag, I leaned out. I opened the entrance of the tent and thrust out my face.

The snow picked up by the strong wind had turned into a blizzard, making it difficult to open my eyes. But there was something moving down the mountain slope. What could it be? As I strained my eyes, figures could be seen forming a line extending like a chain to the base of the mountain. Hastily stuffing my camera in a bag and forgetting about the tent that might be blown away, I rushed out. Even with snowshoes, the deep snow made it difficult to walk.

I reached the riverbank. From there a sweeping view could be obtained. Shoving aside the snow, I set up the tripod and sat it down. Although the tripod would not ordinarily receive the impact of the wind, it seemed that if I released my hold now, it would fly away. What a tremendous wind this was.

The caribou in the van must have already reached the river. But hardly anything could be seen because of the blizzard. Although it was already past midnight, an orange-colored sun was shining directly ahead. In the Arctic zone, the midnight sun does not set.

The row of caribou continuing from the mountain ridge line showed no break. How many caribou were there on the other side of the mountain? Suddenly a pause in the wind removed the blizzard's veil. The procession of caribous crossing the river was silhouetted in the backlight. It was a beautiful sight beyond description. I pressed the shutter frantically.



Dall sheep dwell on the mountaintops. Macro 50mm F3.5 at f5.6, 1/250

I can never forget that moment. It was like a night that had been devised to determine my future direction. The long journey of 1,000 kilometers by the caribou, the vagabonds of the extreme north, has been constantly repeated since ancient times without being seen by human eyes (except for the Eskimos who live in the extreme north).

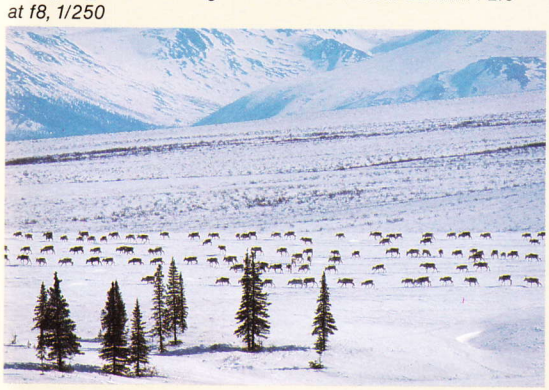
I became fascinated by the caribou. Before long, they had become the greatest theme for me in Alaska. The caribou are like the core of the ecological system of the extreme north, inclusive of the people living there.

In Alaska, a land for which I had yearned over a long period of time, I was attempting to open an unknown door little by little. Alaska did not betray my dream. It was a world of unparalleled vastness having purity hidden inside. As a matter of fact, after experiencing Alaska, everywhere else seemed to have something lacking. Nature in Alaska is not gentle. At times it can even be violent. The temperature can fall to –50°C (–90°F). Winter is long and dark. That is the very reason why spring's first sunshine is greeted with such a thrilling feeling. The expanse of the earth gives a true realization of what space is. Photographing the people and wild animals living in that mighty nature was my work. Nevertheless, I constantly felt as if the big footsteps of someone or something were approaching from somewhere.

Alaska — America's last frontier — has been undergoing a big change following the discovery in the Arctic zone of oil on the world's largest scale. The big controversy that arose in 1968 over the building of a trans-Alaska pipeline was one symbol of the environmental problem that mankind is facing. In the selection between energy to maintain modern civilization and primeval nature, the United States chose the former. The waves of this choice are spreading not only to the development of oil fields in Prudhou Bay and the building of a pipeline but also to the entire north slope area of the Arctic zone. In this, the problem of exploiting oil fields in the Arctic Zone National Wildlife Sanctuary situated in the northeastern part of Alaska has entered the spotlight during the past few years.

The Arctic Zone National Wildlife Sanctuary is land that was designated during President Eisenhower's administration for the preservation of Arctic zone animals and plants in their natural state. This vast area is the largest wildlife sanctuary in North America. The Arctic Zone National Wildlife Sanctuary can be called America's last wildlife preserve in the sense that it has hitherto remained untouched by man. This is a world

The spring seasonal migration of the caribou. 350mm F2.8 at f8, 1/250



The snow melting in the Arctic zone. 350mm F2.8 at f8, 1/250

A red squirrel, an inhabitant of the forest. 350mm F2.8 at f5.6, 1/125

Aurora borealis dancing in the night at the extreme north of the Arctic zone. 24mm F2 at f2, 10 sec.

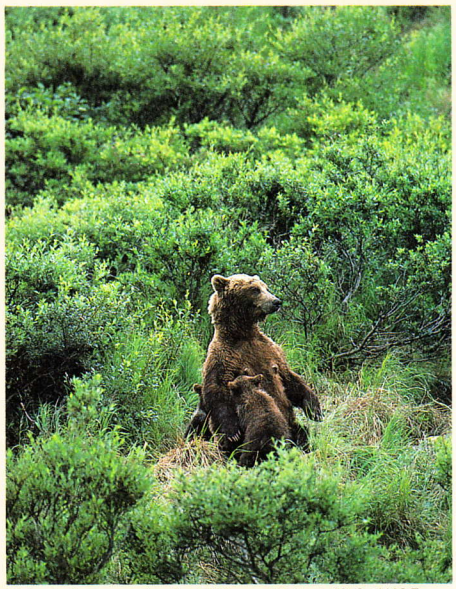
of grizzly bears, caribou and various other animals. Roaming here are packs of wolves which are practically extinct in the American mainland. In spring, this is a precious nest building place for different kinds of migratory birds coming from the south. Morever, this ecological system of the far north has hitherto remained undisturbed by man. Nowhere else on earth is there such a place today.

At the start, this area was designated as a wildlife sanctuary with the objective that "in the future, no matter what happens, this area will be excluded from the development of resources and will be protected forever in its natural state."

This original concept, however, is about to be abruptly overturned by an energy crisis situation created by human civilization. It has been reported that the Arctic Zone Wildlife Sanctuary contains a huge amount of underground oil resources. If this sanctuary is exposed to oil exploitation in the future, it will undoubtedly greatly affect America's biggest herds of caribou which give birth to their young in this reserve.

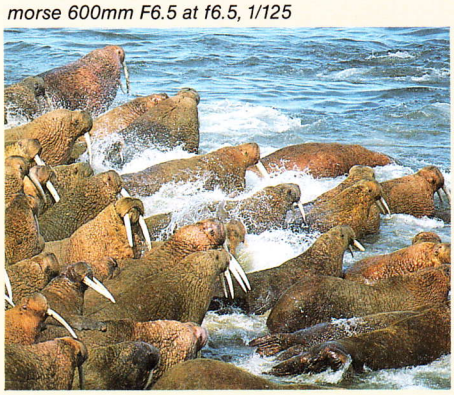
In July of one year, I camped in this area for a long period of time. One morning, caribou were seen on the far side of the tundra. They seemed to be coming my way. As I looked through binoculars, an unending number of caribou appeared from along the horizon. There must have been at least 50,000 of them. Before long, I was in the midst of caribou milling around as far as the eye could see. The herd, whose members had already completed childbirth, was heading southward as if drawn by some unknown force. What a magnificent sight still remaining on this earth. After a few hours, all the caribou had vanished beyond the horizon. Not a single caribou could be seen any longer on the extensive tundra.

The principal difference between the ecological system of the far north and the ecological system of the south, such as in Africa, is the comparatively scarce variety of species. Another characteristic is the temporary abundance of living things at a certain place. During one period in summer, Alaska's Arctic zone becomes an important breeding ground for migratory birds flying in from the south. The tundra becomes a different world overflowing with new life. But when August comes, the birds have already started on their southward journey. The twittering of birds can no longer be heard on the tundra.



Grizzly bear and cub. 350mm F2.8 at f2.8, 1/125

Marine animal in the extreme northern Arctic, morse 600mm F6.5 at f6.5, 1/125



It was at this spot that I saw a wolf for the first time. The distant howling of wolves could be heard almost every night at the base camp. Were these wolves which had become separated, and were seeking each other's location? The distant howling started with calls to each other. It invariably ended in a chorus. How many wolves were out there, anyway? The distant howling echoed between the hills. While warming myself beside the bonfire, I listened intently to the sound. It was exactly like the sound that I had imagined in childhood from Disney's films and Seton's stories. The howling of the wolves gradually seemed to come closer.

When I returned to the base camp one evening, there was a wolf seated beside my tent. Upon seeing me, the wolf slowly left and disappeared into the forest. All that I remember now is that the color of the wolf was light brown.

Even in Alaska, the last land remaining for wolves, a history of persecution has continued as in other places. The policy of exterminating wolves, without a sufficient survey, in order to recover the moose and caribou populations, aroused a big controversy throughout Alaska. Because of a standard of values

Autumn seasonal migration of the caribou. 35mm F2.8 at f5.6, 1/125

Grizzly bear and cub awaken from their hibernation. 100mm F2.8 at f8, 1/500

convenient to some people, other species are threatened. An important life environment is to have a diversity of living things surrounding us. This makes us feel relieved and continues to teach us what we are.

There are probably only a few people who have seen the grand migration of caribou or the sight of wolves. The severe natural environment of the Arctic zone, which has continued to reject the entry of human beings, is not for visits by tourists. I believe that this in itself is good. Somewhere there is a world remaining where from remote antiquity, the magnificent migration of caribou has been continuing and wolves continue to roam. Even if this cannot be seen, just to be able to think about it is a big spiritual asset.

The ecological system of the far north, which is maintained by a delicate balance, is weak toward change, as represented by the simplicity of its food chain. This may be the most easily harmed nature on earth. Even if one link of the chain is broken, the entire system will face a collapse from which recovery may be impossible. Lichen, the main food of caribou, is so weak toward inflammable contamination as to be a barometer of pollution standards. Its growth is extremely slow and it is said that if once impaired, it will take about one century to grow back to its former size. What effect will the atmospheric pollution of the Arctic zone, which is likely to be caused by the the development of oil fields, have on the lichen that is the key enabling caribou to pass through the winter? Then again, what changes will the ensuing derivatives bring to the ecological system of the Arctic zone?

Nature in Alaska is vast and infinitely beautiful. It remains unchanged as yet. The unending flow of glaciers. A land where wolves still roam under the aurora's curtain. But an ominous wind has begun to rustle. What future will the Arctic zone, where certain movements have already begun, provide for the caribou that require extensive land on which to live? Their fate should not be like that of the bison which once roamed on the great American prairies but have now disappeared.

I would like to continue from now on to capture with the camera the grandness of nature in the Arctic zone, centering on the caribou. VA

Grizzly bear and cub at play. 600mm F6.5 at f6.5, 1/250

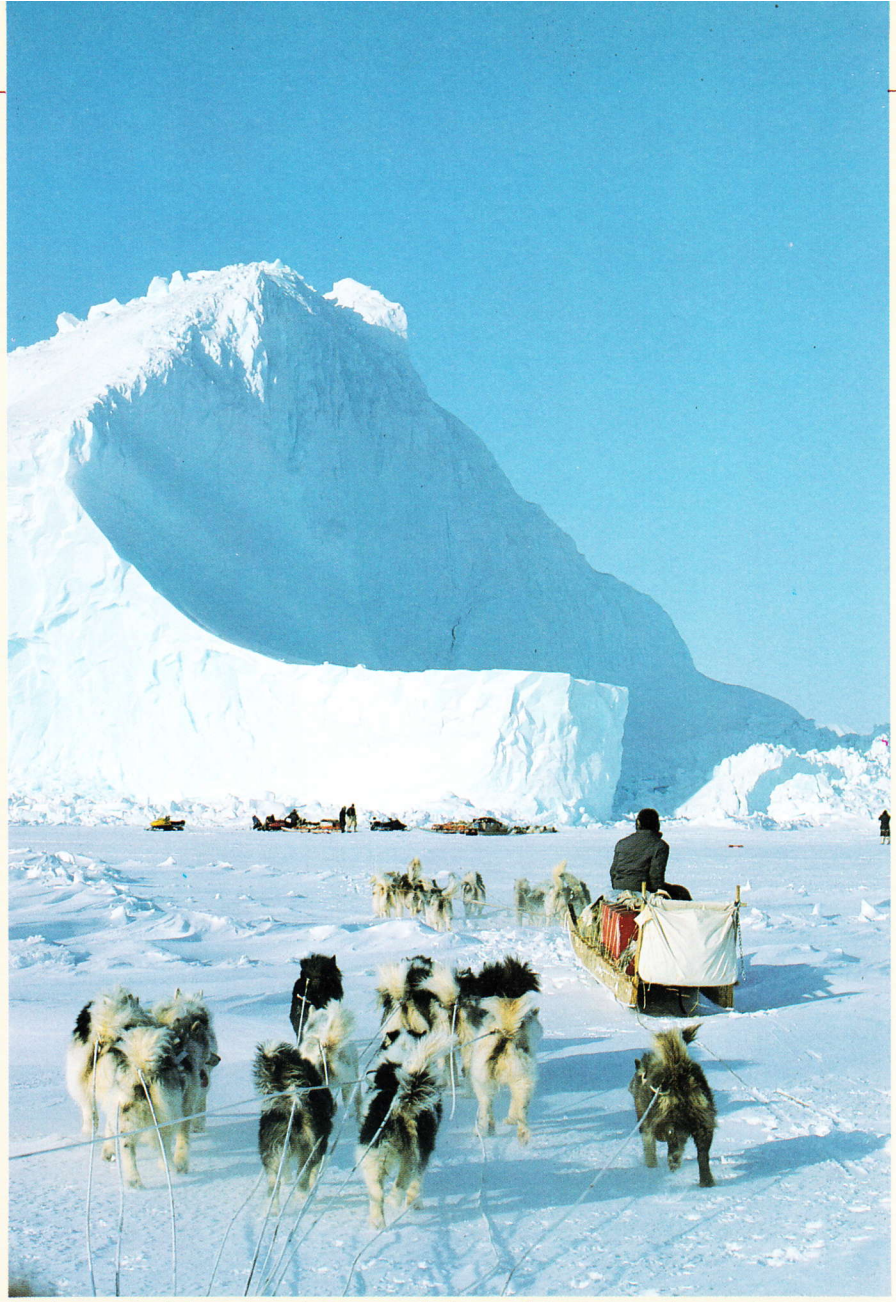
A black bear watches the salmon run. 350mm F2.8 at f2.8, 1/500

Expedition members triumphantly hold up the Canadian flag after an epic 120-km crossing of jagged sea ice and pressure ridges. Members are L to R: Mike Immaroitok, Theo Ikummaq, Paul Apak, Mike Beedell, Renee Wissink.
OM-1 35mm — 105mm F3.5~4.5

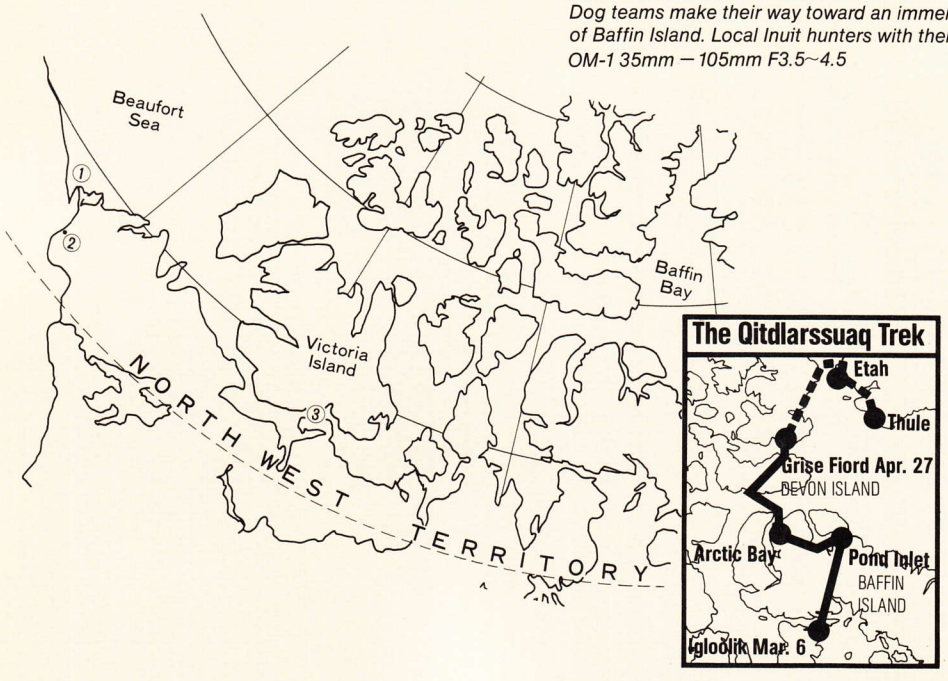
PHOTO TOPICS

Tracing the Footsteps of Legends

by Mike Beedell



Dog teams make their way toward an immense iceberg stuck fast in the sea ice near the northern tip of Baffin Island. Local Inuit hunters with their modern snowmobiles can be seen in the background.
OM-1 35mm — 105mm F3.5~4.5



The desire to be a photographer, I think, was with me for a long time. As a small child, I loved the pictures in nature books. Later, I went through National Geographics absorbing the images and fantasizing the experiences of a wildlife photographer. I often pictured myself in a natural setting — walking in the country or camping in the woods. I was a daydreamer, to the concern of most of my teachers. My imagination worked well with my vivid technicolor dreaming. So, visually, I was quite tuned when I discovered the camera.

I bought my first one at age 22. At the time, I was working on a degree in "Recreation." In dealing with such things as "National Park Management" and "Open Space Planning," I became aware of my desire to work in an outdoor environment. The life-style of an outdoor photographer appealed to me — being able to experience a variety of wilderness set-

An igloo glows with warmth on a cold Arctic night. The temperature inside our snowy abode was 30° C while outside it was a frosty -45°C. OM-1 65mm — 200mm f4

Mike Beedell

Mike Beedell is a 31-year-old Canadian and an internationally published photographer represented worldwide by the Miller-Comstock Photo Agency. His major passion is adventure, travel and landscape photography. For the last 8 years he has traveled extensively in the Canadian Arctic recording its rugged beauty and hardy people. He is constantly contributing to major books and magazines with his images. His first book, THE MAGNETIC NORTH, *was a great success and a book on the Northwest Passage and the Arctic islands will be released in 1989.*

tings. Luckily, I have been able to develop a niche and work in this field that I love and find very stimulating.

Early in my career, I was inspired by Elliot Porter and his book, "In Wilderness is the Preservation of the World." Porter's ability to isolate simple or natural phenomena, such as light and water and abstracts in nature, intrigued me. I remember poring over his books and reading those beautiful writings. I felt that we worked on a similar plane in terms of visual awareness. Andsel Adams and Gaelen Rowell also inspired me. Another person I admire is Freeman Patterson, a great Canadian photographer who has a beautiful perception of the natural world.

While traveling in the perpetual daylight of an Arctic spring the Eskimo sled dogs whisk along a "Dogsled Highway" in northern Greenland. OM-3 16mm Fisheye F3.5

My first photographic assignment was not a great success. With my two-day-old camera, I approached the university newspaper, offered my services and was taken on as a cub photographer. I was totally ignorant of the technical aspects of photography, but my eye was tuned to visual stimuli and my conceptual sense was very trained. In my enthusiasm to get as many photographs as possible I cranked the roll, ripping the film from the canister. I humbly returned to seek aid from the student director. And so, my photographic career was launched.

I enjoy adventure travel photography and adventure sport. I am an explorer of sorts, I love to investigate landscapes and new lands, and to meet new people. The camera, I feel, is the ultimate implement in exploration. It is a superb instrument for documenting one's visual explorations. For me, the photographer records changing landscapes as civilization encroaches on them, natural phenomena as they occur, and the wonders of nature. I enjoy isolating unique natural objects and bringing these to people in the hope that they, too, will see the beauty and wonder that lies in nature.

Because photography is a universal language, it can be enjoyed by all. Its beauty lies in the many areas the photographer can pursue and perfect.

Although I enjoy photographing in cities and often do tourist-related work, the pure, pristine wilderness environment is the place I love to photograph most.

I find that the harder I work, the more previsualization I do. I am forever thinking of new images, planning and becoming aware of light at different hours. Unique light is my greatest joy. The Arctic has the greatest light in the world, with months of continual daylight painting the landscape in many wonderful hues.

The images captured on film are a constant reward for my visual pursuits. Even when I push myself to my limits to get the shot I desire — running up a mountain slope, dashing across a river valley or freezing my fingertips to get a unique angle — these stresses and uncomfortable moments are soon forgotten in the pleasure of recording that exact visual moment in time.

Many times I travel alone on trips lasting 15-20 days. My level of consciousness changes during these isolated periods, and my concentration level increases. For me, it is the absolute form of freedom, as I can concentrate solely on my photography. It is almost a spiritual thing for me to travel in these environments and to feel such an intimacy with nature.

In the autumn of 1986, I was asked to join an epic dogsled trip across the Canadian Arctic to Greenland. Renee Wissink, a fellow adventurer and breeder of Eskimo sled dogs, was the leader of the expedition. We shared a sled on one of the most rewarding journeys of my life thus far.

Forty-five Eskimo sled dogs howled, yelped and strained excitedly at their chains. As we hurried to harness our team, Renee cracked his whip to keep the eager beasts from rushing across the frozen ocean without us. The dogs seemed to sense that today was special. I wondered if they had any idea of the ardu-

One of the most beautiful phenomena in the Arctic are "Sun Dogs" or scientifically called parahelia caused by sunlight refracting through ice crystals. We stop the dogs for a rest and absorb this stunning sight. OM-1 65mm — 200mm F4

Paul Apak falls asleep on his komatik (Inuit sled) and is kept warm in his traditional caribou skin clothes. OM-1 65mm — 200mm F4

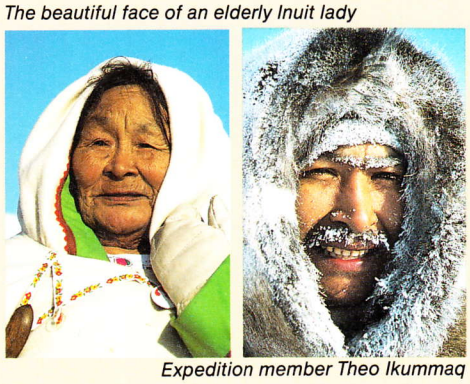
Spring breakup creates dangerous traveling conditions as we make our way across moving ice pans and at times the dogs are forced to swim through the frigid waters. OM-3 35mm — 70mm F4

ous and epic journey that lay ahead.

It was March 8, 1987. A large crowd of Inuit people had gathered on this clear, frosty morning to bid us farewell. The temperature was –40°C. My hands felt the bite of the cold through my mitts as I snapped several photos of our unique entourage. In a few minutes, we would be racing across an eight-foot-thick mantle of sea ice, on a 3½-month journey that would take us 2,500 km through Canada's vast Arctic wilderness to Greenland. Our team was Canadian, 3 Inuit and two whites. We had trained with our canine companions for months. As the last dog went into harness the team bolted and I was keenly aware of the 1,000-pound *komatik* (sled) descending on me. I jumped aboard, landing with a thud of elation. The komatik careened over the pack ice at 15 km an hour. We were off to Greenland! Apak and his team came up quickly behind us followed by Theo Ikummaq and Mike Immaroitok who rode together. The intense cold caused the warm vapor from the dogs' bodies to hover in a cloud over them. Our own beards became more frosted with each breath we took. I leapt from the sled, dodging some pressure ice, to photograph the teams as they headed across the Foxe Basin west of Baffin Island. It was an exceptional morning with soft Arctic light and soon a roll of film was exposed. It was necessary to rewind the film slowly, for at these temperatures film can snap into fragments if wound too quickly and every image was a precious record of our historic journey.

Over the next 3½ months, we would make our way across northern Baffin Island to Pond Inlet, head west to Arctic Bay and run north across Devon Island and along the coast of Ellesmere Island to Smith Sound. In this vicinity, we would attempt to cross the ice bridge and dash to northern Greenland. Our goal was to retrace the last great Inuit migration which occurred 130 years ago. This clan of 50 people was led by the legendary shaman and mystic, Qitdlarssuaq (Kit-Lar-Soo-Ak), who was searching for new lands and more favorable hunting grounds.

The beautiful face of an elderly Inuit lady



Expedition member Theo Ikummaq

Qitdlarssuaq's powers were said to be incredible and, by the time he died in the 1870's, many stories of his strength and spiritual connections had been passed on orally in the Inuit tradition. One fascinating story occurred while Qitdlarssuaq was polar bear hunting with a young man, far out on the pack ice. They were caught in a severe storm, which began to break up the sea ice around them and the open ocean raged around nearby. Qitdlarssuaq ordered the young man to lie down on the sled and close his eyes. The young man began to feel the sled rush forward and, as he opened one eye, he saw that Qitdlarssuaq had turned himself into a polar bear and his own dogs were chasing him across the ice. Wherever the bear ran the sea turned to solid ice, but to the young man's horror, when he opened his eyes too long, the sled began to sink through the ice, so he quickly closed them and didn't reopen them until the sled stopped and Qitdlarssuaq told him to stand up. This powerful shaman was once again human and they stood safely on land. Such were the legends of the man! It is no wonder he had a faithful group of followers.

We had no such powers to assist us on our modern-day journey, but our three Inuit companions were direct descendants of Qitdlarssuaq and their skills for surviving and traveling in the Arctic were well tuned. I marveled at the igloos they built — so strong we could safely stand on the roof. We lived in igloos whenever snow conditions were right. When the winds howled and the temperatures were –40°C outside, we were snug inside our snowy abode at a balmy 5°C. Our traveling techniques were similar to those used by the Inuit centuries ago. Instead of using sleds made of bone and antlers, however, we used wood, but they were the same basic design.

The dogs were purebred Eskimo sled dogs that have been used by the Arctic natives for over a thousand years. Our outer clothing was identical to that of the Inuit centuries ago. The caribou fur parkas, pants and boots were warmer than any high-tech insulation. The caribou clothes were of great interest to

Two komatiks make their way across a glacier on Ellesmere Island in Canada's high Arctic.
OM-3 65mm — 200mm F4

A Greenlandic woman

Expedition leader Renee Wissink

the dogs and it was necessary to keep a wary eye on all apparel that was not being worn. The dogs have a voracious appetite and they joyfully tore apart any fur clothing and ate it with delight. These hardy beasts were quite entertaining with their antics. One morning they chewed through the igloo wall and tried to steal my caribou pants! Their endurance and eagerness to work never ceased to amaze me, as they hauled 1,000-pound loads over the most rugged terrain. After 14 hours on the trail, they would gulp down their meal of frozen seal meat and curl up in a ball protecting their noses with their warm, bushy tails. At times, when the temperatures were –60°C with the wind chill, the dogs had only their blankets of snow to protect them from the elements. Eskimo sled dogs took "Peary" to the pole in 1909 and several of our own dogs had been to the pole with the "Steger" international expedition in 1986.

The twilight of each passing evening became shorter as spring began to bring warmth to the land. By mid-April, we had 24 hours of daylight. At times it was difficult to get sleep, with the spring sunshine glaring through the tent walls. The enchanting landscape of northern Baffin was soothingly mesmerizing. Our perpetual battle with the cold earlier in the journey had produced frozen noses and frost-nipped fingers and it was a relief to feel the warmth of the spring sun. But the toughest challenge was close at hand as we entered Lancaster Sound, the gateway to the Northwest Passage. Here we would have to deal with one of the largest populations of polar bears in the world and some of the toughest ice conditions, with pressure ridges rising as high as forty feet.

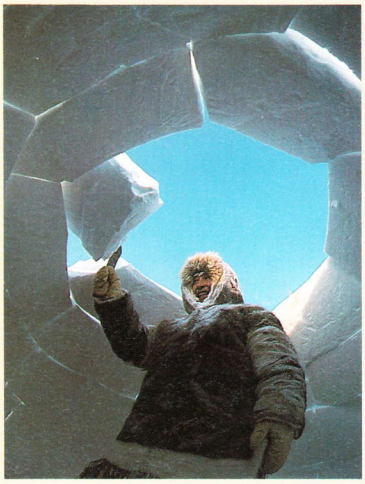
At night, the ghost-like giant carnivores would appear near our camp or, during the day, we saw them roaming through the pack ice hunting for unwary seals. The jumbled ice was like a giant maze stretching for 90 miles and we began to see magnificent icebergs towering at heights of 200 feet above us. Here were some of nature's most wondrous works

Renee Wissink leaps exuberantly into the air with the Canadian flag in a statement of sovereignty over the Lancaster Sound region amongst Canada's Arctic islands.
OM-4 65mm — 200mm F4

of art, fixed fast in the sea ice. Fresh bear tracks were everywhere and the strong bear scent filled the dogs with nervous excitement. We cautiously made our way over the bone-jarring pack ice, ever alert to the possibility of the "great white hunter" who could be concealed in the icy labyrinth. On several occasions, we narrowly escaped serious injury as the sled flipped over on the jagged terrain. As we manhandled our sled through one gut-wrenching ice pile, Renee was knocked to the ground and, before I could do anything, the sled ran over his legs. I feared his legs would be broken, but, miraculously, his legs had found a small patch of soft snow between two bulges of ice and the sled had run over them without injury.

One of the many highlights of our travels was visiting some of the native communities along the route. Our arrival in a village heralded great excitement. Children came running from their classrooms. Often the entire village would swarm down onto the ice to greet us. The wonderful warmth of these people and their enthusiasm for our journey was most rewarding. After shaking hundreds of hands, we felt sure we had met the entire town! A few days rest was always in order at a village and the dogs delighted in the extra food and long, well-earned sleeps. The Arctic spring was at its peak, and the 24 hours of daylight at times interfered with our biorhythms. The point was reached where arguments began whether the time was A.M. or P.M. and we wondered if we should be eating breakfast or dinner. The temperatures fluctuated from –35°C to –5°C in a single day and our faces were bronzed by the constant sunlight. Snow blindness could occur in a matter of hours and we kept our sunglasses on at all times.

Ellesmere Island was spectacular and the immensity of the landscape was a joy to photograph. Glaciers hung from precipitous cliffs while others flowed calmly to the sea. Here flotillas of icebergs sailed out into Baffin Bay. To the east was Greenland and we could clearly see miles of open ocean along its shores. We prayed that further north the ice



Theo Ikummaq, master igloo builder completes a snow house which will accommodate the five members of the expedition.
OM-1 100mm F2.8

The colors of midnight paint the sky and the wind-sculpted snow with enchanting colors.
OM-4 24mm F2.8

would still be intact and allow us to reach Greenlandic shores before spring breakup. As the open ocean encroached on our anxious party, we were forced to travel inland. A few days of weaving across deadly crevasse-ridden glaciers left us wondering if we would ever make it, but we were rewarded with a beautiful sight as we reached an elevation of 3,000 feet; stretching north from Canada to Greenland was a solid expanse of ice to the north. To the south, however, the sea ice was breaking and our campsite of only a few days ago had drifted out to sea. We had to move very quickly if we were to achieve our goal. On May 20, we touched the shores of Greenland, after an exhausting two days of toiling through grinding pack ice. We knew we would soon be sharing stories with the polar Eskimos, the most northerly living inhabitants of the world. In the open sea, nearby, spouting whales broke the surface and seals basked on the sea ice. As summer nudged out spring, I realized our Arctic odyssey was nearing its end. It was a joy to meet the Greenlanders and share with them our experiences during the last 3½ months, but I was also overcome with a feeling of sadness and the words of Knud Rasmussen (the famous Greenlandic explorer) came to mind: "Realization is the extinguishment of dreams." So I shall make room for new dreams and prepare for more wonderful journeys in the future.

1. I find that I plan for the image well ahead of the instant I actually photograph. I am always thinking of new ways to look at a subject.
2. In photography, patience is a necessity. One must be very tuned and ready, anticipating the moment when something will happen, like a sixth sense.
3. For cold-weather photography, I always keep my camera cold. The OM-1 and OM-3 perform very well in severe cold. I have used them in –40°C temperatures and not reheated them for a month. The cameras continued to function perfectly, although my film was snapping regularly. Rewarming a camera with body heat may put moisture into it, causing a malfunction.

A Canadian Eskimo sled dog

For adventure photography, one must have his cameras accessible at all times. I wear a custom-made chest pack which holds 2 camera bodies and lenses. I also wear a hip belt with assorted lenses in protective pouches. This setup allows me quick access to all my camera gear when I am walking with a heavy pack or skiing.

I use a tripod or monopod a great deal. They are excellent devices for discipline with composition.

The lenses I use most are the:

i) 65-200mm zoom, which is beautiful and light with a close-up function;
ii) 24mm F2.8;
iii) 100mm F2.8;
iv) 500mm mirror lens F8;
v) 400mm F6.3

The beauty of the Olympus system is in its compactness and lightness, along with its superb sharpness. The cameras are hardy and perform well in rugged conditions. During one wilderness journey, I slipped while crossing a creek. My cameras were completely submerged for one minute while I swam to safety. Once I regained my footing and reached the bank, I quickly poured the water from my camera bodies and lenses, then dried them carefully over the heat of a fire. I continued on my trip, using the equipment for the next month. The cameras performed with no technical problems, and the images were excellent.

I have carried my Olympus gear through the most rugged wilderness regions, from Mt. Logan, Canada's highest peak, to the rain forests of Tasmania. It has always functioned beautifully, never letting me down.

(In the summer of 1988 I will be putting it to even greater tests when Jeff MacInnis and I will attempt to complete the first solely sail-powered voyage through the Northwest Passage, an expedition of great historical significance, supported, in part, by the National Geographic and Olympus Optical Co.)

Fumio Matsuda's "Advice on Anything and Everything" Part (3)

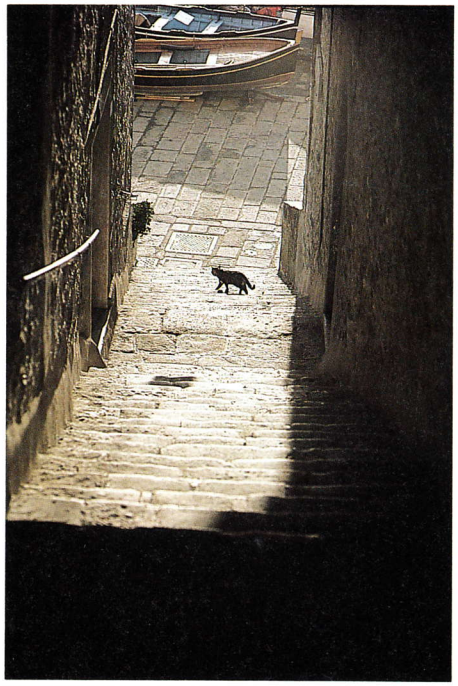
by Fumio Matsuda

"Silence is best captured if there is some element of motion. Motion is best expressed by including a still element inside the flowing images."

I do not think that utilizing the stop motion achieved by a high-speed shutter is the only way of creating the effect of motion in photographic expression. Stop motion freezes a moving image that is impossible for the naked eye to capture, and in that sense it is an expression of motion that only photography can achieve. But it is also, obviously, just a still image. It is not really an expression of the perception of motion captured by the naked eye. It is only through our previous knowledge that we can regard it as an image of motion.

I feel that a photographic expression of the human perception of motion can best be achieved by implementing the contrast of motion against stillness. Motion can be emphasized through contrast with stillness, and stillness can be amplified by bracketing it with motion.

A well-known Japanese *haiku* reads: "The old pond; A frog leaps in — And a splash" (translation by Makoto Ueda). In this *haiku,* the stillness and silence of the old pond is much stressed by the small motion of the little frog jumping into the water. A photographic interpretation could be: A slight inclusion in the photographic image of elements in motion enhances the expression of stillness and silence.



The stillness and silence of the scene is much emphasized by this small movement of the cat.

Motion is always more efficiently expressed through a contrast of stillness versus motion.

To express motion there are two choices: Highlight the flowing motion of subjects by using a slow shutter speed, or capture the image of background motion by moving the camera along with the moving subject while shooting. For subjects like automobiles that move in a regular manner, you can choose either of these techniques as desired. For subjects like human beings that move in irregular patterns, I think the most effective method is the use of partial blurring of the subject. This use of different shutter speeds can be challenging, but all the more offers great possibilities for expressing motion through photography. VA

The movement of fighting bulls is captured in various intensities by use of different methods.
① Using stop motion.
② Moving the camera in pace with the subject.
③ Using a blurred image to express flow of action.

INTERNATIONAL COLOR SLIDE PHOTO CONTEST

The best shots for 1987 by amateurs and professionals from around the world.

the Winners

The Olympus VisionAge '87 International Color Slide

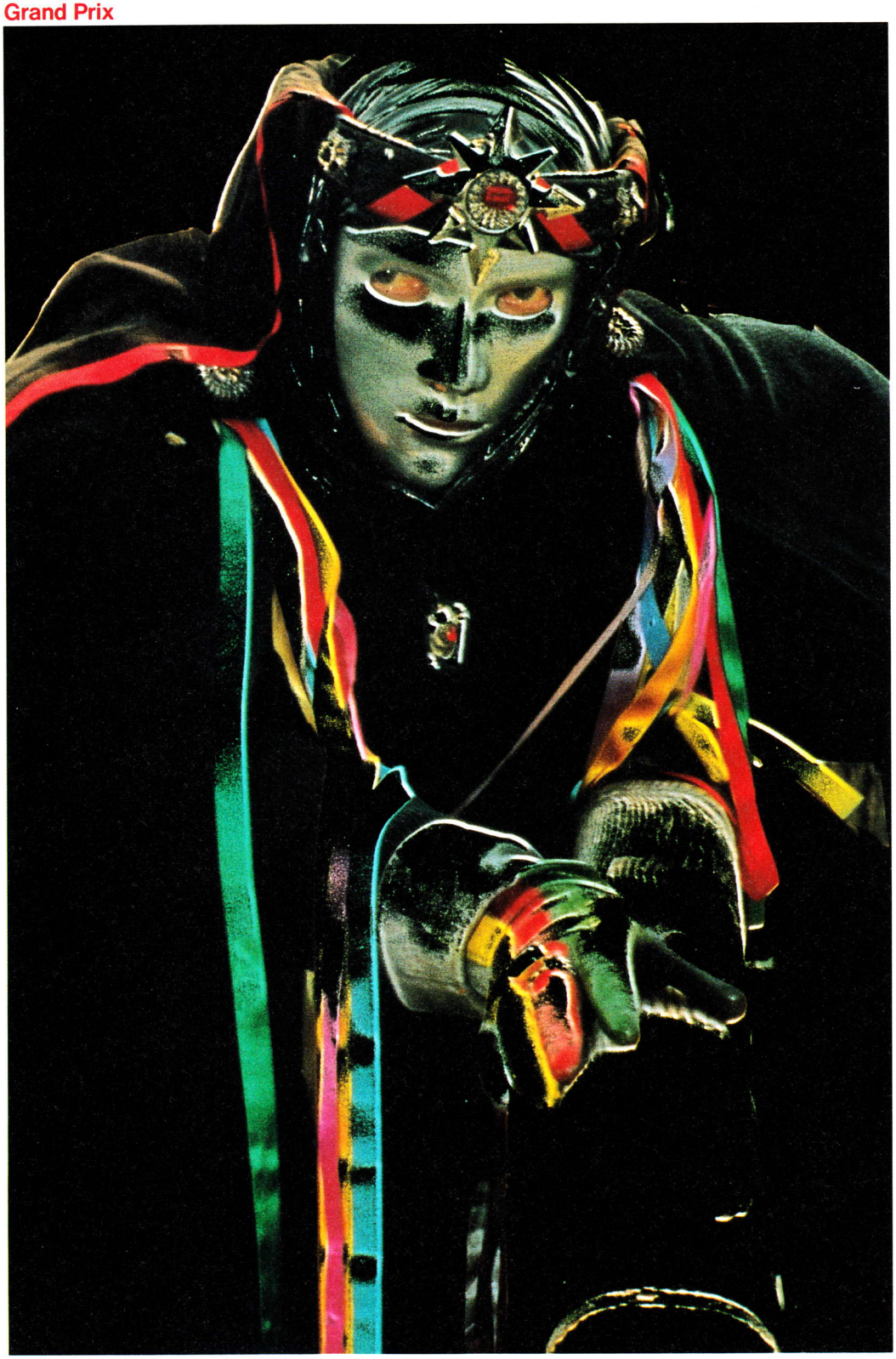
VisionAge holds this Photo Contest to give camera lovers all over the world the opportunity to show their work to photo enthusiasts everywhere. It is intended to contribute to photographic culture and pleasure. The deadline for the second Contest was November 10 last year. Preliminary judging began immediately thereafter, and the final selections were made December 9 in Tokyo and December 22 in New York to decide the winners.

There were 17,631 entries in the '87 Contest. Entrants included amateur and professional photographers from sixty-seven countries around the world. The number of entries was more than four times those in the '86 Contest, and the choice of themes and photographic techniques was quite remarkable.

After careful judging in both Japan and the USA the Grand Prix was awarded to Christian Theijs of Belgium. In addition, Special Recognition Awards went to three entrants, Awards for Excellence to 20 and Merit Awards to 100 entrants. Among the wildlife photo entries, one winner was selected for the WWF (World Wide Fund For Nature) Special Award.

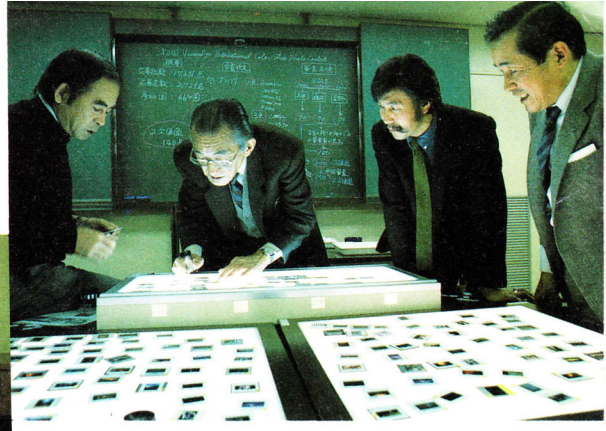
The winning entries are all shown in the VisionAge Special Issue '88. Meanwhile, the competition continues and we are now accepting entries for the '88 Photo Contest. We ask you to send in the product of your efforts according to the application format.

Grand Prix



Le Carnival De Venise <The Venice Carnival> Christian Theijs (Belgium)

Photo Contest



Special Recognition Award

Low Flight Lindsay Stepanow (Australia)

Special Recognition Award

Gewitter <Thunderstorm> Friedrich Fleisch (Austria)

Special Recognition Award

Insect Rolf Sylta (Norway)

WWF Special Award

Ibex dans la Neige <Ibex in the Snow> Jean Claude Bacle (France)

An Active Character on Life's Stage

by Sorrel Wilby

Sorrel Wilby

Born: June 19, 1961
Began travel and photography in Australia 1981
Cycled 20,000 km across Asia Dec. 1983–Apr. 1985
Climbed Mt. Fuji by bicycle 1984
Trekked 3,000 km across Tibet 1985
First book, A Journey Across Tibet, due for Australian, U.S. release in March 1988
Freelance work 1984–1987 (photography, writing) has appeared in

POL Festival
POL Travel
National Geographic (Dec. 1987)
Australian Geographic
Free China Review (Taiwan)
China Times Weekly, China Times (Taiwan)
Australian Photography

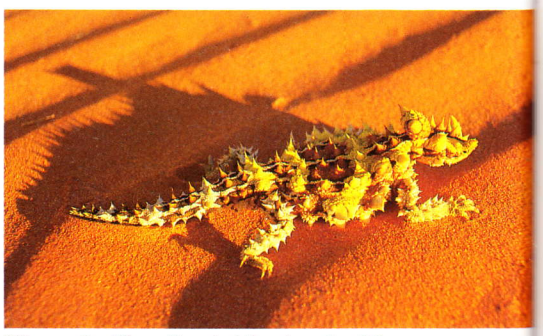
"Tasmanian Tanin" — 28mm

"Crocodile Skin" — 70–210mm zoom

"Those Fatal Jaws" — both 70–210mm zoom

"Too Close for Comfort" — 70–210mm zoom

"Child's Play in the Desert" — 70–210mm zoom



"Thorny Devil" — a lizard of the desert — 28mm

The crocodile — all 14 feet of it — charged toward me. Mud and water fountained from its sides and splashed the bow of my aluminum dinghy. I prepared to shoot. The spotlight I held in one hand shone upon the beast's fire-red eyes. The camera I held in the other hand, focused on his teeth. I was terrified. Seconds took hours to pass. I fired. My camera took one shot, then another and the giant saurian slipped past my boat and vanished.

Was this sane? Lurking in the murky backwaters of a crocodile infested river after midnight? Shooting film, not bullets?

Several weeks later, having returned to the safer environs of my editor's office in Sydney, I retold my chilling tale. "What if the crocodile had attacked? Mauled me beyond recognition? What if I'd died out there, on assignment for your magazine?" I fired my questions without pausing; my mind was on motor drive. My editor grew impatient. "Never mind about your life," he said. "Where are the photographs?" If you thought professional photographers led glamorous lifestyles mate . . ., you'd better think again! Adventurous, yes — but glamorous? NEVER! I shouldn't complain. I love adventure — in fact, that is why I became a photojournalist.

At the impressionable of 12, I saw my first National Geographic Magazine. It wasn't the actual photographs which inspired and enchanted me then, rather, the world which those images conveyed. Exotic cultures and unheard of tribes. . . . Unseen landscapes of mountains and desert terrain. . . . Undersea corals and tropical butterflies. . . there was so much more to life, beyond school and home in the suburbs of Sydney. And I wanted to discover it all — firsthand.

I decided that the only way to experience the world National Geographic revealed was to work for them. I saved my pocket money and bought a $10, 110 camera. In lieu of handsome tribesmen, I practiced portraiture on my family. The absence of high Himalayan peaks in my neighborhood was not too disheartening; we had a park nearby, with plenty of trees and an oval to photograph. As I got older, my little 110 and I explored further afield, climbing, bushwalking and camping out in the various National Parks around Sydney. I started noticing the vast difference between my "snapshots" and the "real photographs" in my beloved magazine. At the same time, I noticed boys, and well, to be quite honest, playing with my 110 camera wasn't so much fun anymore.

Eventually, I went to art college, intent on becoming an art teacher. While pursuing my studies, I undertook a course on photography and discovered a thing called an SLR. I was even allowed to borrow one from the photography department on weekends! Suddenly, playing with boys became a bore. My enthusiasm for exploring the environment through the eye of a camera was rekindled and I quickly focused the standard 50mm lens on my college and its surrounding cityscape. It didn't take me long to realize how "out of focus" and uninspiring this part of the world was to me. MY world — the world I wished to photograph — lay a long way away from the city. I was only truly content when out in the bush, sleeping beneath the stars, listening to the gentle sound of a river or challenging myself against a rugged mountain face. I had grown restless in the city and ached to travel. I left college, took various jobs, bought my own 35mm camera and headed off in a 4WD into the unexplored wilds of Australia. Every day I experienced something new; a new landscape, a new person, a new attitude or life-style and a new depth or arena of feeling for the natural landscapes around me. I recorded my impressions through my photographs and writing.

When I returned to Sydney, I compiled these words and images into book form. Proud of my efforts, I sought to have the book published. But no one was interested in a 21-year old amateur's work. The photographs were not diverse or good enough and there were already too many books published on Australia. One editor told me "to do something more exciting, in some other part of the world; do something that's WORTH photographing and writing a book about, before you try to break into this competitive field." He suggested running along the Great Wall of China, or paddling a canoe down the mighty Amazon.

To cut a long story short, I took the publisher's advice. I didn't tuck an oar beneath my arm and head towards South America, but I did buy myself a bicycle, a new camera, and 50mm, 28mm and 70 — 210mm lenses, and a one-way ticket to Asia.

Over the next 18 months, I cycled 17,000 km around Japan, Korea, Taiwan, China and Thailand. Alone, and often in completely alien environments and situations, my experiences were, above all else, unique. My way of seeing and interpreting all that happened and existed around me was ultimately revealed through my photography and writing.

Initially, landscapes awed and inspired me. The great variety of the physical world — the deserts, mountains, jungles and coastlines — played endlessly before my camera. As I traveled further and grew more familiar with the veritable smorgasbord of environments the world hosts, I began questioning the role and dynamics of people and landscapes. My precious mountains and deserts became stages for characters who, with a producer's direction, performed an even more diverse theater of reality.

Captivated by the development of cultures and traditions in response to environments, my journey led me to Tibet, and ultimately a 3,000-km trek across her mysterious, barren western extremities. I lived with nomads; learning their language and exploring their spiritual as well as physical realms. The very

"For every person in Australia, there are 10 sheep" — 50mm

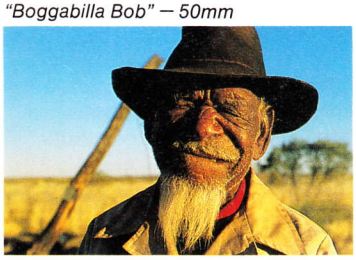
"Droving Days" — 70–210mm zoom

"Baby Emu" — 70–210mm zoom

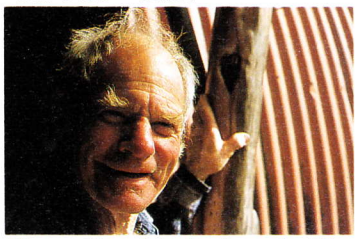
Pro's Corner

"Australia by Night" — 28mm

"Boggabilla Bob" — 50mm



"Whir-o-lee" — 50mm



"Deny — King of the Southwest" — 50mm

"The Mission" — 28mm

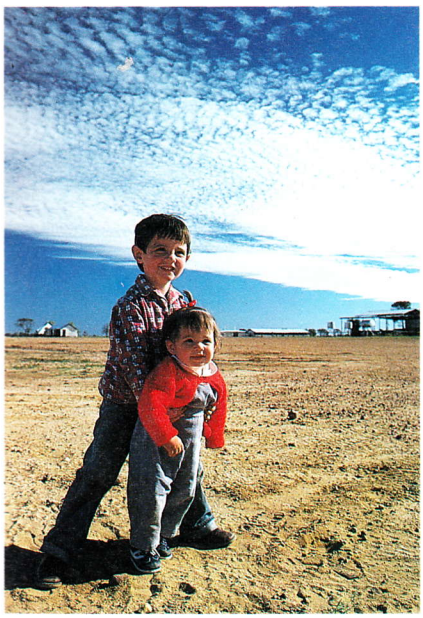
"The Drought's On" — 50mm

"When Day Ends at Longreach" — 28mm

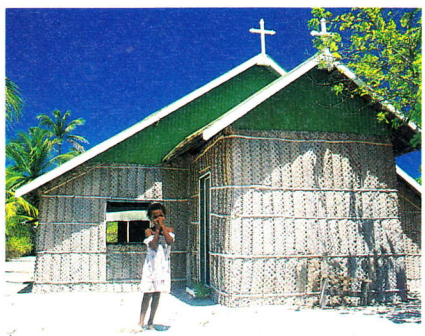
"Going Home" — 70–210mm zoom

unique and intimate nature of my journey gave me the opportunity to record a very unique and intimate series of images. Somewhere "out there," adventure and photography became inextricably interwoven as my life's purpose. Adventure and photography became my way of communicating a unique, personal view of a location and people. I photographed best when I was PART of the photograph; part of the family, the environment, the scene; part of the total experience, rather than a passive bystander or observer of the act — the life.

My Tibetan images and impressions were first published in the Australian Geographic Magazine and, somewhat miraculously, were brought to the attention of the National Geographic editors in Washington. My childhood dream was fulfilled! In December 1987, the magazine with the famous 100-year-old yellow border published 22 pages of photography and words gleaned from the rich array of my Tibetan encounters. In April 1988, my first book, "A Journey Through Tibet," will be released in both Australia and America.



"The Sunburnt Country" — 28mm



"Palm Throng Worship" — 28mm

"Tasmanian Sunrise" — 50mm

After one and a half years in Asia, I returned home to Sydney with a renewed enthusiasm towards my own fascinating country, and a strong desire to communicate its unique diversity to the world. Accepting a continuous stream of assignments from Australian Geographic, I have had the opportunity to explore life on a massive 123,673 hectare sheep station, life as a drover (moving cattle on foot across some of the harshest terrain the "great outback" boasts), life with the Western desert Aborigines, life with Australia's lesser known indigenous minority — the Torres Strait Islanders — on their coral encrusted string of enchanting isles, life in the crocodile infested waters of the Northern Territory, life in the remote Southwest wilderness of Tasmania . . . the list goes on and on.

Through my image making and journalism, I attempt to pin an identity on the diverse cultural components which have made up the history and dynamism of a place, and up to now, that image making and journalism seem to have focused on Australia. I still feel a need to express the beauty of the environment as well as the people, and attempt to encourage protection of the fragile, unique landscapes presently threatened by greed and progress. As a photographer, I have become obsessed by the effect of light and atmosphere on landscapes — as an environmentalist, I remain concerned by the greater issue of political and economic pressures on landscapes.

Upcoming adventures, in life and photography, include a film documentary on the rain forests of Australia, a 5,000-km trek through the relatively unexplored Kimberley region of Western Australia, and a 10-month journey down the Andes of South America. Finding a camera which suits my "working" life-style has been easy — the new Olympus OM-4Ti is perfect for shooting in such wildly unpredictable environments; perfectly designed to meter correct exposure in jungle darkness or desert glare. The titanium body is remarkably tough and the body and range of lenses are incredibly lightweight. If you've ever had to carry several months' worth of food, shelter and photographic equipment on your back for a few thousand miles, you'd understand the glowing significance of this feature, synonymous with all Olympus products. (If I carry a book with me on trekking expeditions, I discard each page after reading it, in order to keep the weight of my backpack to the barest minimum!)

With the best Olympus technology and will in the world behind me, I'm on my way to the top. And for now, at least, I don't mean the summit of Everest — just the peak of my own capabilities and aspirations as a photographer and writer. VA

The Olympus XA Story (2)

by Kunio Yanagida
(Translated by John S. Brodie)

The "PEN" Proves a Big Success

Maitani made an all-out effort to reduce every part except the lens to the simplest format possible.

Today the Olympus camera development group has spacious headquarters in the Hachioji Institute, but back in those days it had to work in the company Head Office in Hatagaya, a bustling but not too fashionable backwater quite close to central Tokyo. To say the Olympus Head Office sounds rather grand, but in fact it consisted of a single, two-story ferro-concrete building. The camera development group, which went by the formal title of "Second Design Division," was snugly housed on the third floor in a single-room addition to the original building. The Division had only thirteen members and Maitani, as

The world's smallest transistor radio at the time (1958) (Photo by courtesy of Sony Corporation)

the youngest engineer among them, was hidden away at a corner desk where he plodded on silently putting designs to paper, then erasing them once again.

In order to cut the cost of the camera the first decision Maitani reached was to make it a half-frame format. This was around the time that Sony transistor radios were first beginning to grow popular, and he had a strong — and accurate — intuition that compactness would become the watchword of the age.

Maitani was not the first person to have the idea of a half-frame camera. In fact the very first half-frame camera had appeared on the American market some 50 years previously and since then American, German and Japanese makers had launched a variety of models. All of them, however, had ended up as failures, for the simple reason that they weren't able to take good pictures.

In view of this background, for a company to take up a half-frame camera was a major gamble. Even the young and still inexperienced Maitani was able to understand that much, so he decided to confide his ideas to Division Head Sakurai.

"Nowadays, in the camera industry, the trend seems to be to big, deluxe models that can do everything, and are fitted with range-finders, exposure meters, film advance levers and all the latest gadgets. But if you look at

the trend in radios, or in cars, it seems more like the general public is demanding compact, inexpensive products. That's the reason why I want to go ahead and make the camera I'm designing a compact, half-frame model. I hope you will approve."

As Sakurai was a designer with a great respect for originality, he questioned Maitani thoroughly about his design concept and ended up saying, "It sounds interesting. All right, we'll try it your way. But you'd better make sure it's good!"

Having gained Sakurai's stamp of approval, Maitani wasn't worried about what any of the other designers might think of his project. In fact he had in mind the words of Souichiro Honda, the brilliant head of Honda Motor Co., Ltd. which was then pioneering the booming growth of the motorcycle industry. What Honda had said was, "If more than five people out of ten approve the development concept, better give up on the product right away. If

The first Olympus Pen (1959)

only about two approve, then by all means go ahead."

Keyed up to achieve his "mission impossible" that no other designer was prepared to challenge, Maitani found he could tap usually inaccessible resources of stamina and enthusiasm. He drafted endless diagrams, and kept revising them incessantly.

In order to minimize the cost of the body to make up for the extra money that went on the lens, his plan was to attempt to design a body construction that eliminated gear wheels entirely. A regular camera design would utilize something like a hundred gear wheels. Simply by eliminating this element, the price of the camera could be reduced dramatically. In the end, it turned out that there was no way of eliminating gear wheels entirely: he still had to use two! But by and large he had achieved his goal with distinction.

Another element he designed anew was the film advance knob. From the user's point of view the easiest way to wind on the film is with a lever. But for the designer using a lever takes up more space and also adds on extra cost. So his idea was a rather clever compromise. Instead of the traditional knob, he proposed to use a coin-like disc with vertical grooves cut around the rim, and to conceal the knob inside the camera with just a small part protruding at the rear. In this way all the knob's advantages in compactness and economy could be maintained, while for the photographer's thumb the sensation of winding on the film would be fairly similar to that of a lever action. The final design and positioning of the knob were carefully worked out and tested from the human engineering viewpoint, to make sure the action was easy and natural whether the camera was held vertical or horizontal. And the idea proved a great success.

When the rough outlines and dimensions of the new camera had been determined Maitani called upon an outside industrial designer to produce the final design. In those days, at Olympus, that's the way things were done.

Three different drafts came back for the new camera's exterior design. But each and every one of them looked like the design for a toy camera. Angrily Maitani took the designs to Division Head Sakurai. "I can't use designs like these! Who on earth would want to hang one of these things on his shoulder together with a Leica?!"

"If that's the way you feel, then do it yourself!" Sakurai replied without blinking an eyelid.

Maitani was always looking at things from the user's point of view. And the Leica was not only the recognized standard for camera excellence; it also happened to be Maitani's favorite. Naturally then, his first thought was to give his camera such a high quality image that it wouldn't look strange hanging on the same shoulder together with a Leica.

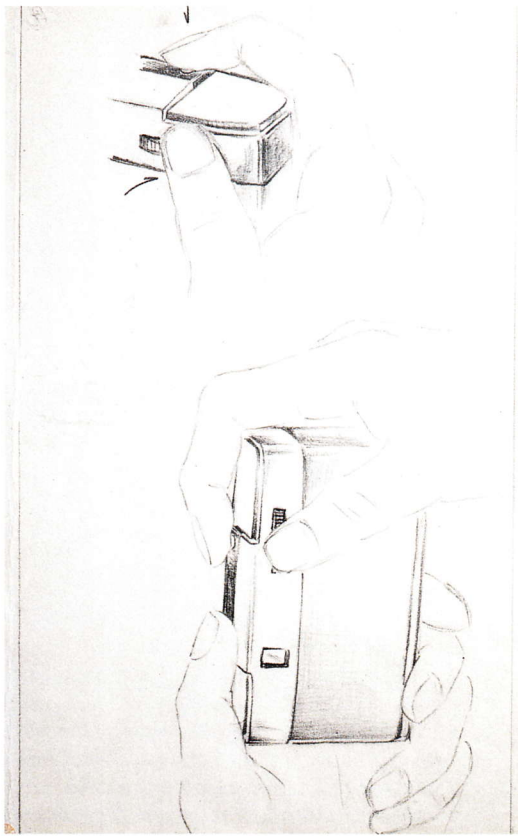
With the brand name of Olympus PEN, Maitani's new half-frame camera first reached the market in October 1959. Maitani was still only twenty-five years old. The PEN was a tremendous, unbelievable success, and however hard they struggled the Olympus factory was simply unable to keep up with the demand. In fact the PEN was to account for 90% of the entire Japanese production of half-frame cameras.

What was the reason for the PEN's huge success? First, without any doubt, was the fact that the design target, "What kind of camera do we want to create?" was clearly and precisely elaborated right from the start. Next and no less important was that first and last the PEN was designed from the standpoint of the photographer, and it made a clear distinction between what compromises could be made to assure a reasonable price, and what kind of cost-cutting must be rejected because it meant unacceptable sacrifices in performance.

And one last crucial reason: Maitani's dogged persistence in refusing to accept the general view that ¥6,000." (about U.S.$17 at the time) was the price not of a camera, but of a toy.

Maitani's obstinacy in pursuing his concept of performance and function to the bitter end first became clear with the PEN Series. But it was exactly the same kind of persistence that ensured the remarkable success of his next major project, the OM Series.

By force of circumstances, Maitani had



Sketch drawing of thumb (rear) winder of Olympus Pen

created a half-frame camera with the PEN, but the camera he had really wanted to design, in his heart of hearts, was a high performance full-frame 35mm camera.

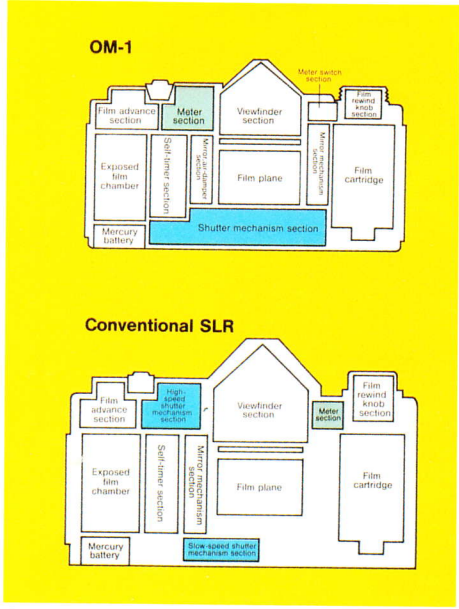
Reducing Size to Create Added Value

After pursuing the possibilities of the half-frame format to the very limit with the half-frame single lens reflex PEN FT that appeared in 1966, Maitani decided the time had come to do something new and exciting with a full-frame camera. One important consideration behind his decision was that although the PEN had become an all-time best-seller in Japan, as far as America was concerned it was worth nothing at all — for the simple reason that America had no developing and printing services that would handle the half-frame picture size.

What he wanted to do was to make a 35mm SLR (single lens reflex) camera that was both compact and light in weight.

There was no question of the excellent performance characteristics of SLR cameras, but they suffered from three major drawbacks: bulky size, heaviness, and high noise and shock levels. For Maitani, enthusiastic photographer that he was, the weight problem was especially galling because it was constantly brought home to him through personal experience.

There was only one problem. By 1967 the SLR had reached such a high degree of sophistication it was considered pretty much perfect. Making it smaller was deemed an impossible task.



Comparison chart of interior basic structures

How exactly were the insides of a conventional SLR laid out? Let's take a look at the basic construction of a very typical example. On the far left side as seen from the front were the film advance section and the chamber for the film take-up spool. Next to them were the high speed shutter control section and the self-timer section. In the center were the viewfinder section and the mirror, and at the base of the camera was located the low shutter speed control mechanism. On the right hand side was the meter section, and at the far right were the rewind knob and the film cassette chamber.

The general consensus was that in view of the limitations imposed by mechanical linkage, component performance, etc., this basic construction was the only one conceivable, and there was absolutely no spare space available for playing around with the SLR's innards or trying to rationalize its various functions.

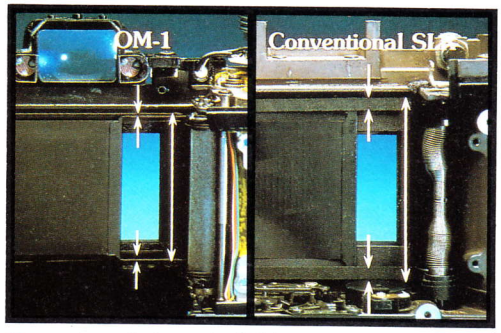
To find a way out of the impasse Maitani decided the modus operandi would have to be to put the commonsense ideas about SLR construction to one side, start off afresh with a blank sheet of paper and take a new look at each camera function one by one, redesigning every structural element in turn. In short, once again it was back to basics.

The biggest discovery was that putting the high speed shutter control section normally located on the side of the viewfinder together with the low speed shutter control section beneath the mirror, provided leeway for reducing the camera size. There was a tiny but extremely valuable space beneath the mirror that the conventional SLR layout was unable to utilize. Putting it into service allowed for an appreciable reduction in overall dimensions.

Along with the relocation of the shutter control section Maitani discovered that by slightly altering the layout of other mechanical sections he was able to achieve a remarkable gain in compactness — without cutting the size of component parts at all.

Written down like this it all seems very simple. But the basic SLR layout conceived by Maitani was revolutionary enough to merit its own patent, and it was backed up by an impressive measure of innovative technology. Especially harrowing among the technical assignments was replacing the ribbons conventionally used to move the shutter curtains by strings.

The ribbons normally attached to the top and bottom of the shutter curtains in order to pull them across the film frame are quite wide, enough to contribute to increasing the height of the camera as a whole. Maitani wanted to replace these ribbons by thin strings, thereby making it possible to sink the pentaprism of the viewfinder section deep into the camera body. This would result in making the camera profile quite a bit lower.



Comparison photograph of ribbons

The big problem lay in the strength of the strings. They had to be tough enough to stand up to continuous and repeated use at shutter speeds as high as 1/500 sec. and 1/1,000 sec. They had to be resistant to changes in temperature and humidity, because any stretching or shrinkage was unacceptable.

By this time Maitani had become head of his own section. So he mobilized his staff of Kunio Shimoyama and the others, telling them to get hold of any kind of thread or string they could think of: cotton, gut, fishing net, the strings of such classical Japanese instruments as the Biwa and Shamisen, violin strings, etc., and put them through exhaustive tests for strength, elasticity and endurance.

"When I was a kid, I remember I was told sour persimmon juice was good for toughening up fishing nets. Scout around for some sour persimmon juice and get it over here!"

Maitani was prepared to stop at nothing.

As it happens, though, unlike in the old days, there is nowhere in Tokyo where they still make things like sour persimmon juice. Shimoyama had to rush off to Izu, sometimes known as the Japanese Riviera, where the traditional fishing industry is still strong, and search around till he eventually found some of the rare substance and eagerly bought it up. But all this effort was in vain. It turned out that even when suitably treated with sour persimmon juice, neither cotton nor hemp thread met the demanding specifications required for use in the control section of a high precision camera shutter.

Finally someone hit upon the idea of using surgical thread. A hasty enquiry to the manufacturer brought the response that if the surgical thread was suitably treated it might indeed be possible to make the kind of string required. Maitani rushed ahead with the testing, and at long last he found he had precisely the material he had been looking for.

In this way Maitani spent five whole years before he finally succeeded in his goal of creating a compact, lightweight SLR. But in all this time, despite the constant diversions of the research program, he never lost sight of the basic question, "What is the real meaning of a camera?"

"The reason for making a camera smaller is to make it more responsive and easier to use. Making it smaller just for the sake of making it smaller is not our goal."

Although the OM-1 was in fact dramatically smaller than previous SLRs, Maitani could have made it considerably smaller still. The reason he did not, was simply that he wanted it to be the "right" size, not the smallest camera possible. Making it even smaller, he felt, would have meant that when the photographer held it with both hands his fingers would get in each other's way and make operation more difficult rather than easier.

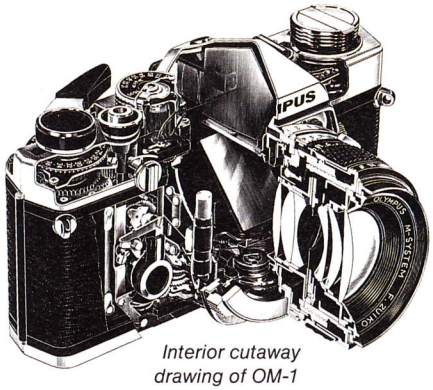
Not only that, to assure optimum ease of operation he even made many essential controls — the shutter dial, rewind knob, film advance lever, shutter release button, etc., bigger than in other cameras.

When at last the OM-1 was completed in 1972, there were not a few people inside the Olympus management who grumbled "The only thing he's done is made it smaller!", and "Small size! What kind of a sales point is that?" But, in answer to their complaints, the OM-1 became a best-seller and, in addition, with one mighty bound it propelled latercomer Olympus to the forefront of the prestigious ranks of 35mm SLR manufacturers.

How radical a development was the OM-1's breakthrough in compactness? This little anecdote helps to give the measure of Maitani's achievement: One day the head of the design division of another camera maker came up to him and said, in a jesting tone that had the ring of sincerity about it, "You are a very bad man, Mr. Maitani. Just recently I was explaining to our distributors how it was impossible to make a single lens reflex camera any smaller. Now you have come out with the OM-1, and I look like a complete idiot."

With the appearance of the OM-1 all the big camera makers rushed to bring out compact SLRs, but thanks to Maitani's inspiration Olympus had a clear — and very rewarding — four year lead.

Maitani was that rare creature, a first rate engineer and technical specialist who also had a clear philosophical understanding of what a camera is and should be.



Interior cutaway drawing of OM-1

Expressionism, Maitani Style

Then, with the first half of the 1970s behind him, and after at long last gaining some respite in the OM Series development program, Maitani finally had an opportunity to take a long, cool look forward to the '80s, and the still more intense competitive environment they promised to bring in their train. It was time to knuckle down once again to the task of conceptualizing a new product and bringing it to life.

In the summer of 1976 Japan was awash with stories and rumors of the Lockheed Bribery Scandal, and the arrest of Prime Minister Kakuei Tanaka on suspicion of complicity in it.

In those heady days of high political scandal Maitani had other things on his mind. The concept of a remarkable new camera was gradually taking shape. In the evenings, returning to his newly built (with the help of a company loan) house in a new residential development in Hachioji, he would put in long solitary hours making clay models, and slowly refining his revolutionary design.

This time he left all considerations of the camera mechanism to one side, concentrating solely on the external design. And what a design it was: brilliantly original and totally unlike any camera ever seen before.

But Maitani felt it would be wrong to suddenly spring his idea on the company. At the time of the PEN or the OM-1 he was still just a young member of the company's design staff, and there was no harm in him enthusing over his own projects. But now, as leader of the Camera Development Group, his job was to encourage the many people under him to express themselves and polish their talents. He had to pay attention to teamwork.

He couldn't just give preemptory orders "Do this!", because the result would be to dampen the enthusiasm of the young engineers under him altogether.

The same reason was behind the way he launched the new camera project the previous fall, by telling all the ten-odd members of the development team to give free reign to their ideas.

In fact nearly a year had gone by since then, so Maitani asked the project team if they would soon be ready with their conclusions. They answered, "Yes, we've worked out our ideas. When can we have a meeting?"

So they arranged a big meeting to report on their efforts.

At any given time just about everyone has three or four well-entrenched ideas going around in his head. So if you give ten-odd people a whole year simply to think up new ones, you are likely to end up with an awful lot of ideas.

At the meeting these ideas were introduced one by one. Adding them all up they came to more than a hundred.

After listening them all out, Maitani spoke with a dazed expression on his face, "Wait a minute! Surely you don't expect Olympus to make all of these cameras? Until you narrow them down to serious suggestions there's no point even discussing them."

By the second meeting the project team had cut the number of suggestions down to seventeen, but Maitani again dismissed them saying, "There are still too many. The company is only going to make one or at the very most two new cameras. Go and fight it out between you, and this time I want you to come back with something really useful!"

At last, by the third meeting, the ideas had been narrowed down to just one. The conclusion was lucid and explicit.

The team's spokesman started to explain, "We have finally come to the conclusion that Company X is the clear leader in camera design, and their new camera model is the best possible solution . . .", when Maitani interrupted him with a resounding "Nincompoop! I didn't give you an entire precious year to come out with a conclusion like that. If you think Company X makes the best camera, why don't you just go over to Company X and buy one! We could buy one for each of you with less than $2,000. Our company doesn't have to throw away millions of dollars in development funds just to build a camera like that! If you can't make something original, better not to make it at all. A camera maker that simply copies others has no right to call itself a camera maker in the first place.

"Think if a company goes bankrupt. If the company was making just the same products as some other company, then all the customer has to do is switch to the other company. The bankruptcy wouldn't worry him the least little bit. In other words the company that went bankrupt never had any reason for existing in the first place. If you make the kind of products nobody would miss if you went bankrupt, then making the products was pretty pointless right from the start. . . ."

Maitani was getting well into his stride. As he expounded his philosophy with growing vigor, trying to get the development project firmly on the right rails, he let fall just a hint of what he himself had in mind.

"Why don't you analyse the ideas you've put out so far, and try to see what kind of pictures they could take that a regular SLR camera can't. If you can manage to do that you should begin to understand more clearly the kind of thing we are looking for in the new camera."

Once again the team of budding young engineers and designers thrashed out their ideas together. One of them came up to the blackboard and, sifting out the key elements from what the group was saying, started to write a list of photo situations a regular SLR couldn't handle, with reasons. From time to time Maitani would interject, little by little expanding on his own "theory of expressionism" as he did so.

"For instance, what if you've been invited to a party? With all those people there it's a grand opportunity to take a few snaps. But when you're all dressed up in your party best, you can hardly go into the room with an ungainly SLR slung over your shoulder.

"Or if you've been asked to be best man at a wedding. It's a perfect opportunity to take an informal peek at the fresh young faces of the bride and groom — and a beautiful picture too. But there's no way you can lug a 35mm SLR with you into the wedding reception.

"If you think about it, there's a whole host of great photo opportunities people miss simply because the physical limitations of the camera's size make it impossible or unreasonable to use it. It's true you could get away with stuffing a half-frame camera in your pocket and using that, but it would be much nicer if you could be sure of full-frame 35mm picture quality. How do you think we can get around the problem? . . ."

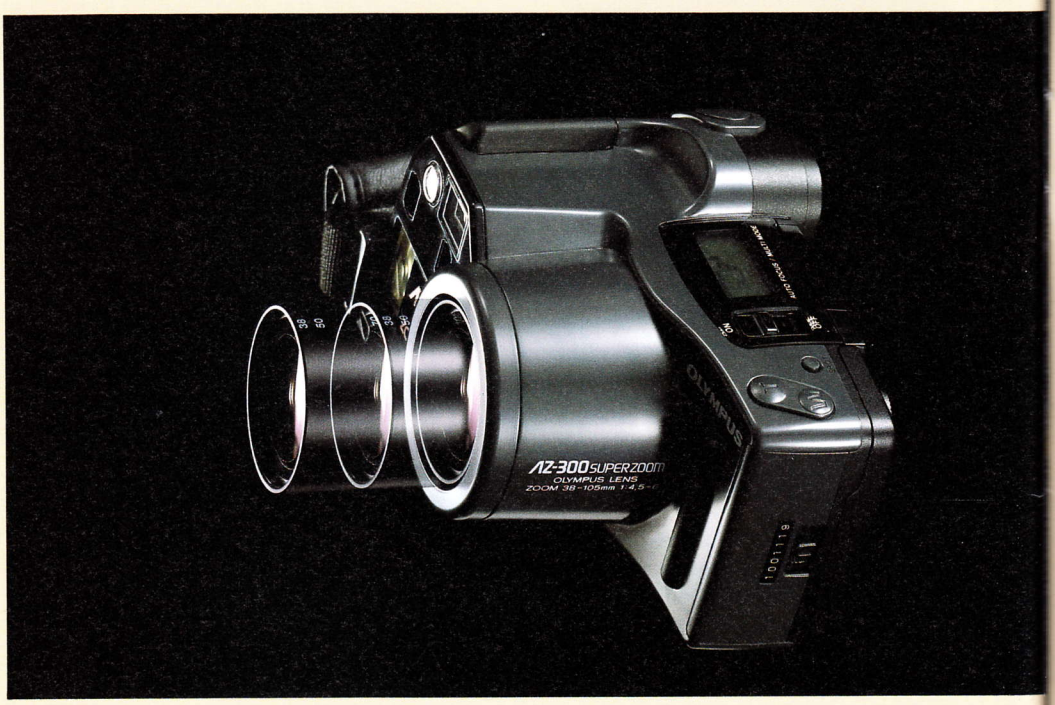
"There's another thing too. I'm a hi-fi fan, and I have a top quality audio system at home. The trouble is, it's so sophisticated my wife is scared to even touch it. Many women are put off by high precision equipment. That's no doubt the reason not many women use SLR cameras.

"Then again, when women dress up to look good, that alone prevents them from slinging a camera over their shoulder. All in all, as far as most women are concerned SLR cameras constitute a psychological burden. In fact for all I know, that could be true of the majority of men as well. So how do we go about creating a full-frame 35mm camera that people don't think of as a psychological pain in the neck?

"If we were only talking about a camera you can keep in your pocket all the time, there's always the Minox. But Minox film is no bigger than your fingernail. It might be great for taking sneaky spy pictures, but if you're looking for photos you can be proud of it doesn't really fill the bill." VA

This article is translated into English through the courtesy of the author, Kunio Yanagida, from his article "The Man Who Changed History by Compact Design" which appeared in the Japanese weekly magazine Shukan Gendai *in 11 installments from February 1980. This article is based on facts learned during Mr. Yanagida's wide-ranging information-gathering efforts in Japan's camera industry, including Olympus Optical Co.'s Development Division. Mr. Yanagida is well known among the Japanese as a news commentator of NHK (Japan Broadcasting Corp.) and as a writer.*

Introducing sophisticated versatility



A Multi-Auto Compact Camera for Tomorrow. AZ-300 Super Zoom

Few new products can live up to their claims as the AZ-300 Super Zoom can. It's a new kind of camera, not just a new model.

The AZ-300 is the first compact to incorporate an almost 3x zoom lens. The new lens has 12 elements in 11 groups mounted in an ultra-compact, lightweight design with a special inner focusing mechanism. Just a touch on the Power Zoom button moves you from 38mm wide-angle focusing to 105mm telephoto. With the new 200 step autofocus mechanism — 150 steps for macro — it's precise at any focal length, and there's no waiting. The autofocus works down to EV3 and even in the dark with the automatic AF Illuminator on.

While versatility was a primary development goal, the AZ-300 also offers an unprecedented combination of simplicity and sophistication. With its thorough automation, the AZ-300 may remind you of the convenient second camera that you carry for easy candids. With its superior photographic performance, however, you might think you're using an SLR.

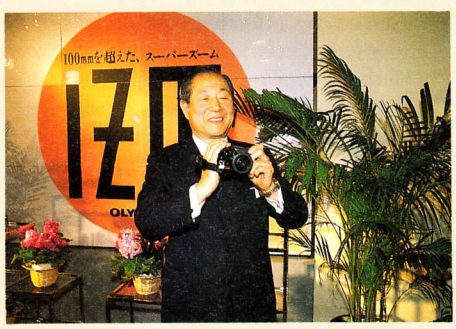
A fundamental departure from former designs, the AZ-300's lines are a reflection of zero-based engineering. There were no preconceptions as the development team sought out a form that would bring greater simplicity and stability to handling. The result: A stylish camera you can hold comfortably and securely in one hand.

The Kepler zoom finder, ranging from 0.46-1.2x, is linked directly with the action of the lens, so you see almost what the lens does. With an image as bright and clear as that of an SLR, the zoom finder makes composition easier and more controlled. In the macro-photo mode, it automatically corrects for parallax.

The ultra-compact zoom flash is also linked to the lens, changing the flash angle and the guide number according to the focal length for a shot. The flash is set to fire automatically in dim light or for fill-in, but you can also turn it off or have it fire with every shot. Continuous flash sequences can handle approximately one frame every 2.5 seconds.

For all of its automated simplicity, the AZ-300 incorporates careful creative control. Four mode buttons give you such options as continuous drive at 1.3 frames per second, servo AF photography, double exposures, macrophotography and special flash effects.

One of the most intriguing modes is Auto Zooming, a first that opens up new possibilities in photography. When the shutter button is pressed halfway in one of the two Auto Zooming Portrait Modes, the lens automatically follows a subject and frames it as a full figure or a bust portrait size.



The new product announcement in Japan (The product is named IZM300 in Japan)

The Power of Creativity. OM-101 Power Focus

Serious photographers have had to pick between the convenience of autofocus and the control of manual focusing. It's not an easy choice since most want to concentrate on the subject rather than on the process — but they also want to give their work a personal style.

With its Power Focus, the new OM-101 has been designed to make the decision straightforward. Combining manual control with auto ease, it has a focusing dial on the back. Precise and responsive, it makes focusing fast and simple without sacrificing personal expression. It also leaves one hand free so you can concentrate on photography rather than on the camera. The bright Super Lumi Micron Matte screen in the viewfinder smoothes focusing as well.

While creative control is built in, so are a range of convenient automated features. In the normal mode, a computerized program selects the optimal aperture and speed, electronic assistance that ensures the image is distinct and exposed correctly in any situation. A high-performance CPU and a new three-motor system regulate such mechanical functions as auto film loading, winding and rewinding.

The Manual Adapter 2 gives you still more creative options and special effects. Nine AF/PF lenses with Power Focus are available for the OM-101, along with a wide selection of OM System lenses with manual focusing.

Put Your Pictures in a New Perspective AZ-1 ZOOM

Dedicated photographers may carry an SLR as their first choice, but more and more have compacts as second cameras. For many advanced lensmen, the compacts nevertheless seemed limited even though they offer many functions.

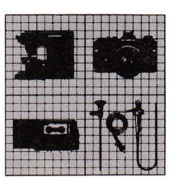
The AZ-1 Zoom compact camera relieves this drawback with a 2x 35mm-70mm power zoom lens. The zooming dial is located for easy control with your thumb. And the lens is synchronized with the large, bright viewfinder to make composition almost as easy as it is with an SLR.

This convenience extends throughout a design that's automated from focusing to film handling. There's auto flash so you don't loose a picture to dim light. It has automatic fill-in for backlit situations. And when the background is unusually dark, you can use slow-speed synchro to bring out the details.

There are also ample functions for creative expression. When you want to document a sequence, you have continuous drive as long as you hold your finger down. The macro mode puts you as close as 60cm to the subject, and there's a multiple exposure capability for surrealistic effects. VA

The Power of Creativity

Photographic,
Medical,
Microscopic,
Industrial &
Business Equipment



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