



Motion Photography

11th April 2011

Langbank Camera Club

Gary Ramanathan

- **Motion Photography is the art of recording dynamic objects on a film or a digital sensor. In digital Photography it is also possible to produce the illusion of movement of a static image by digital editing/ manipulation using most of the popular digital software.**
- **Scientists use motion photography for investigative work. But photographers use the same art to convey a sense of speed. They make the photographs look dynamic. The basic principles used in the days of the humble Box camera, for photographing moving objects, still hold true.**

If an object is moving at speed, parallel to the film in a stationary camera, which is capable of low shutter speeds only, then the likelihood of the image being blurred is high.



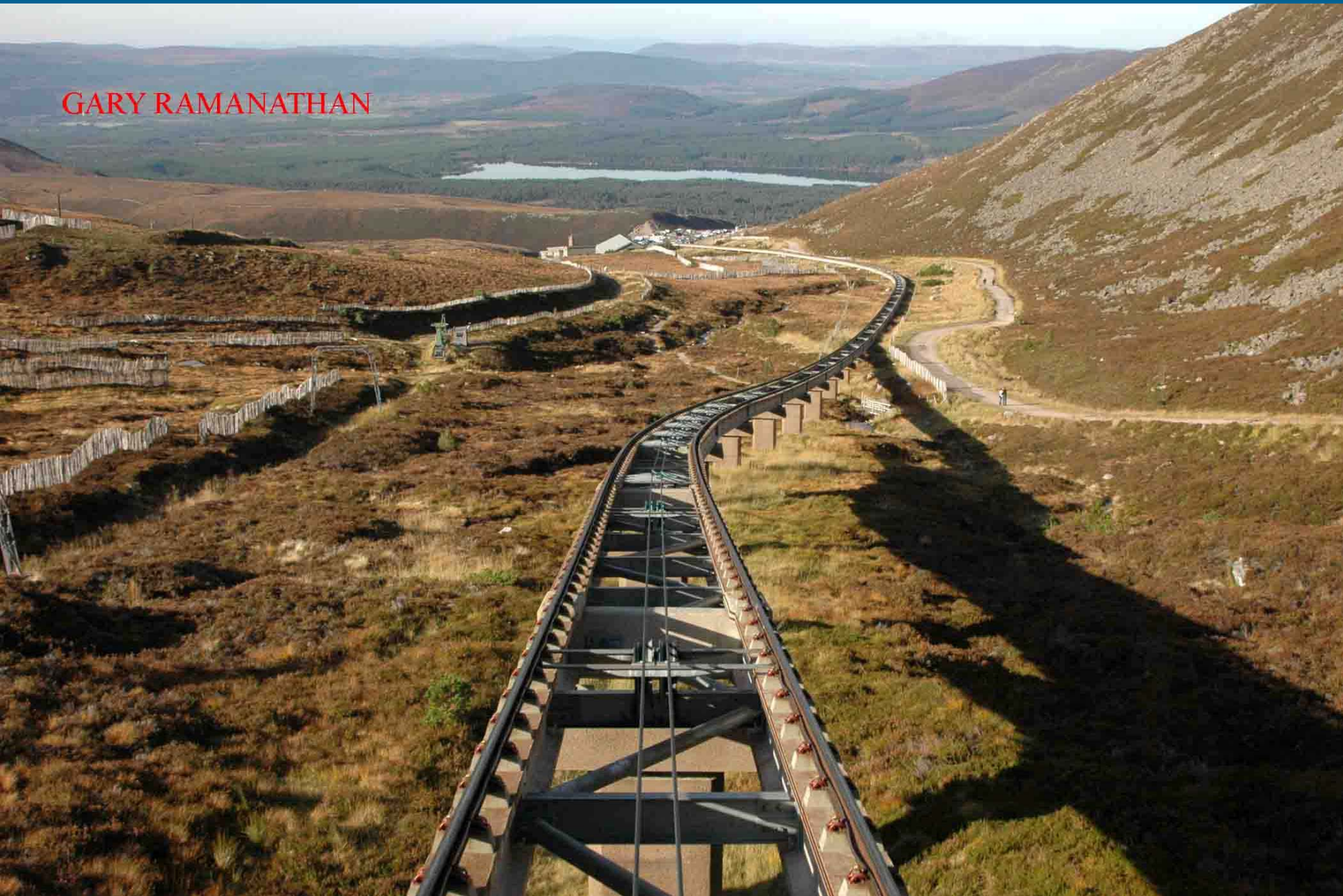
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- **But if an object is moving at speed, at right angles (90°) to the film in a stationary camera i.e. directly towards or away from the camera or even at a slight angle, even if the camera is only capable of modest shutter speeds, the resultant image is bound to be reasonably “sharp”.**



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- As the Camera engineering technology evolved so did the art of motion photography. Four distinct techniques are now in vogue to capture motion photography or at least to create a sense of movement. They are as follows:-
 - **PANNING (also PANNING and ZOOMING),**
 - **FREEZING,**
 - **SMEARING**
 - **and LONG EXPOSURE PHOTOGRAPHY.**

PANNING

- Tracking or following the movement of a speeding object such as a racing car, Boat, cyclist or skier with active tracking auto-focus or manual focus telephoto lens. Panning and zooming in on the speeding object is best done with an SLR. If preferred the exposure control could safely be left to the camera's electronics.
- In such photographs the background tends to be streaky and out of focus whilst the speeding object is photographed pin sharp. But the background, if it is within the selected depth of field, can also be made sharper if the shutter speed is set very high. This is usually done with very expensive lenses used by professional photographers. These lenses have high focal power even at maximum zoom allowing high shutter speeds.



High Flyer

PHANTOM 18

MERCURY

FREEZING

- **Still photography of a moving object by using high shutter speeds with manual pre-focusing to an anticipated spot. Useful for out door and indoor sports photography. E.g.: Football, Tennis, Golf, cricket, Boxing etc.**

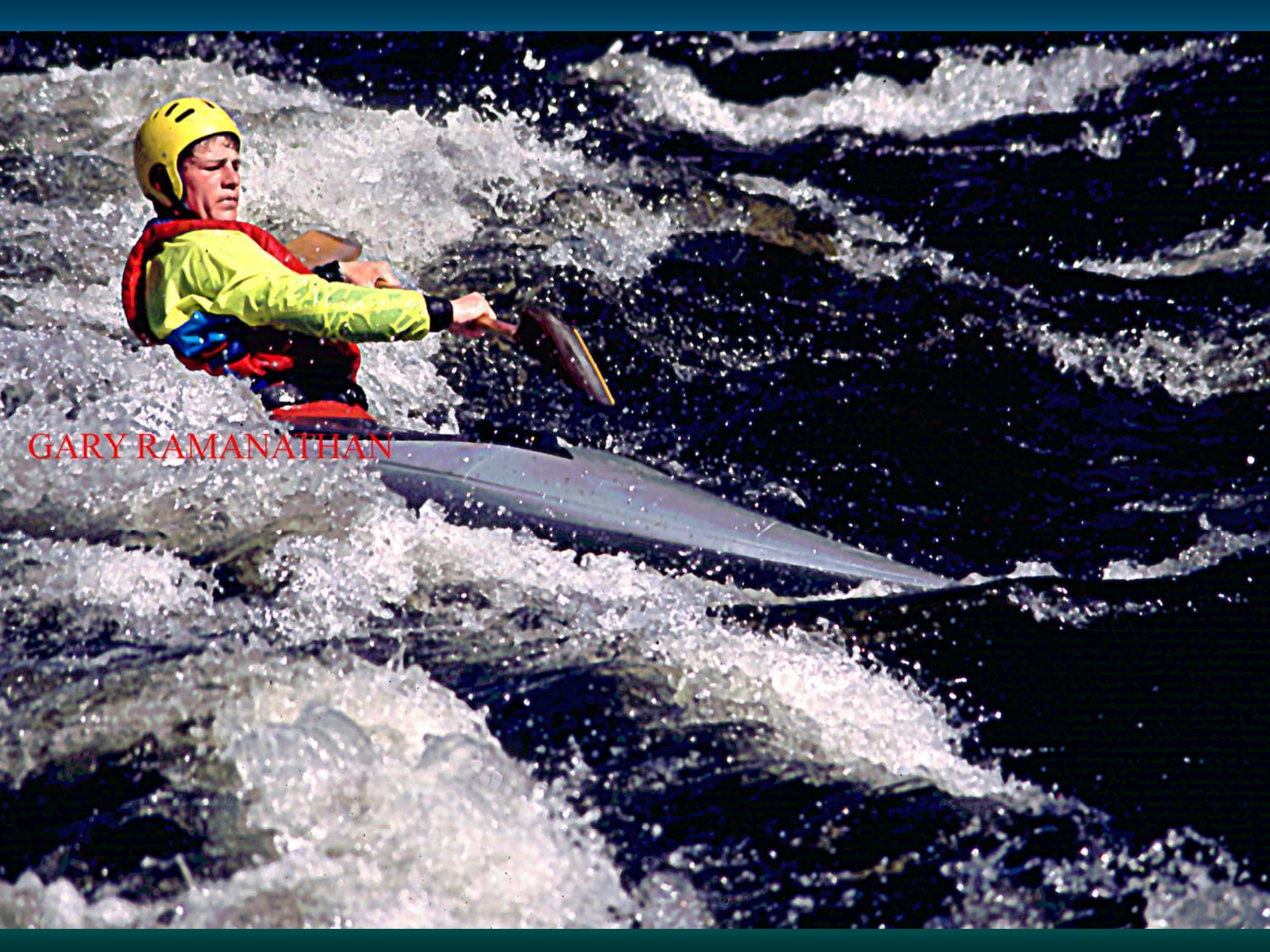
FREEZING

- **Set the camera to Shutter priority with the shutter at 1/200 to 1/500. The higher the shutter speed the better. Let the camera's electronics work out the correct aperture. If a flash gun is used the shutter speed should not exceed the particular camera's recommended maximum "flash-shutter" synchronisation speed. It may be necessary to increase the Camera's "ISO" setting or use a high speed film. Higher ISO makes the "sensor" in digital cameras more receptive to light. Nowadays even modest cameras can tolerate ISO speeds up to 400 or more without loss of quality caused by electronic noise. Most compact cameras have "Sports" setting. Compact cameras with Optical viewfinders or SLR cameras make the job a lot easier. A professional users' camera such as the Nikon D3 can permit continuous bursts of 9 shots per second. That Camera is heavy. It has full frame optics and the and the high power battery is large and heavy.**
- **It is essential to be at the right place at the right time with the right Camera equipment. A feel of the shutter lag is useful with most cameras but unnecessary with the high end Compact and SLRs. [Nikon D3]**



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"X-FIGHTER" STUNT RIDER



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SMEARING

- Still photography of a moving object, by intentionally blurring parts of the object, using a slow shutter speed to create the illusion of speed. Typical example is a skater, a golfer or even waterfalls.
- To create this illusion the camera is set to Shutter priority with the shutter set to a slow speed say below 1/25. For really slow shutter speeds it is best to have the Camera mounted on a Tripod and use a cable or electronic shutter release. Failing which the self timer is a suitable alternative. Within limits the slower the shutter speed the better. Let the camera's electronics work out the correct aperture.





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LONG EXPOSURE PHOTOGRAPHY

- With the camera mounted on a suitable Tripod single shot long exposure photography is used for recording events that happen only in microseconds such as lightning or events that happen *very slowly* such as the apparent “movement” of the stars caused by the Earth’s rotation. Star trail photographs should best be taken on a clear cloudless night.

AUTHER TINESOW



- **Such night shots require higher ISO, larger apertures, manual focusing and remote or self-timed shooting. Most Compact cameras are generally not suitable for this task which requires full manual control. But “not too long exposure” photography such as of fireworks is well within the capability of most cameras.**

Wikipedia



Long exposure motion photography can be very useful to photograph the trail left by forward and rear lamps of city traffic by night.



It can also be used with simple or LED torch lights or even sparklers to create images with light.



- **A poorly lit wide area such as a warehouse, aircraft hanger or street can be illuminated with repeated firing of a detachable flash gun from various angles and places so as to bathe the area concerned with light while a camera is left standing with an open shutter on a tripod.**

VARIOUS SCENARIOS IN MOVEMENT PHOTOGRAPHY

- **Photographer is steady but the subject is moving as in Sports, Birds or Animal photography.**
- **Subject is stationary but the photographer is moving say in a Car, Train, Bus or Aircraft. Never let any part of the camera touch or rest against a window pane.**



2005.08.14

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- Both the Photographer and the subject are in motion as in a safari say when an enraged Bull elephant or Rhino is chasing a Safari Land rover, loaded with photographers, in full retreat.

SUMMARY

- Four distinct techniques are now in vogue to capture motion photography or at least to create a sense of movement. They are as follows:-
- **PANNING (also PANNING and ZOOMING),**
- **FREEZING, (Fast Exposure Motion Photography)**
- **SMEARING**
- **and LONG EXPOSURE MOTION PHOTOGRAPHY.**