

Photography Beyond the Still Image

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The strip technique seems to have been around for almost as long as photography itself and over its history of more than 160 years, the technique has proved useful in solving problems making photographic images where the classical shutter failed. Even today, in the age of digitalisation, the ideas of the strip technique are as valuable as ever and in some respect they even seem to be more appropriate for digital systems than for the classical framed pictures.

In a camera, the exposure to light of the photosensitive film is regulated by a shutter. Without going into unnecessary details, it is worth mentioning that different shutter techniques have been used frequently. A rotation shutter often installed on aerial cameras, the somewhat old-fashioned guillotine shutter and the two most well-known systems, the between-the-lens shutter and the focal-plane shutter. As the word already indicates, the between-the-lens-shutter is positioned in between the different lens parts. This shutter opens from the centre. As a result, in some circumstances the middle of the image gets a visible longer exposure than the edges. This happens because it takes time before the shutter is completely open and before it closes again from the outside to the centre. The focal-plane shutter either consists of a 'curtain' or a set of 'metal strips' that is positioned just in front of the film. The exposure mechanism does not open from the centre, but instead a slit moves gradually from left to right or from top to bottom to expose the film. The dimensions of this slit and the speed at which the slit moves in front of the film, define the exposure time. For very fast shutter speeds, the aperture of the shutter is no more than a narrow slit that moves over the film. In these cases there is not even a fraction of a second in which the whole frame is exposed to light as a whole.

In a certain sense one could then argue that the strip technique is a special kind of focal-

plane-shutter. Often the shutter is also positioned close to the photosensitive film, and the system is a progressive system that exposes the film through a narrow slit. The exposure time will also be determined by the dimensions of the slit and the speed of the slit with respect to the film. Moreover, in the extreme conditions of a fast-moving object and a very fast shutter speed, the similarity between the two systems – focal-plane-shutter and strip technique – becomes clear. The focal plane distortions that occur under these circumstances are easily reproduced with the strip technique. The best-known example of an image with a focal plane distortion is *Grand Prix de l'Automobile Club de France, Automobile Delage* made on 26 June 1912 in Dieppe by Jacques-Henri Lartigue (fig 1). In the background of the image we see some people watching a road race and telegraph poles all leaning to the left. The race car itself, only half visible at the right side of the image, leans to the right. Although at the time the image was considered a failure, because Lartigue's panning had been too slow to catch the car completely, leaving half of the image to show the blurred and distorted background, it later became one of Lartigue's most famous images. The shutter that first exposed the bottom of the image frame and gradually moved to the top of the frame while the panning of the camera repositioned the fixed background in respect to the camera, made these background elements lean to the left. The car, however, moved faster than Lartigue panned his camera and so, as the shutter gradually built the image from bottom to top, the wheel and car leant to the right. Of course these kinds of distortions only occur with objects that move faster than the speed of the shutter. But in fact they do not differ from the distortions that can be found in the strip-based images of Laura Medler, which are also created with a vertically moving slit shutter (fig 2), and some of the panorama images of Marie-Françoise Plissart (fig 3). In both cases the gradual exposure process which builds the image in time from bottom to top while the depicted object is in motion (spinning), results in twisted bodies in the final result. But as the strip technique is an extreme use of the focal-plane shutter, problems that do occur in normal focal-plane shutters are now copied and even magnified.



Fig 1 Jacques-Henri Lartigue 1912



Fig 2 Laura Medler



Fig 3 Françoise Plissart Clichés 5 1985

1. Basic principle of the strip technique

Basically the main difference between a normal focal-plane shutter and a slit shutter is that, also at low shutter speeds, the final image on the film is only ever partially exposed to the incoming light. As a result the image is always an image that is composed in time by the narrow slit shutter mechanism. Depending on the camera it is the slit shutter that will move in front of the film, as is often the case in panoramic cameras, or the film that will move behind a fixed slit shutter, as is the case in the photo finish camera. As it does not matter in this stage whether it is the shutter or the film that moves but only the fact that they are in motion with respect to one another, in the rest of this paper no particular attention will be paid to which part of the camera, shutter or film, is actually moving in comparison with the other. For the sake of clarity sometimes 'film movement' and sometimes 'shutter movement' will be mentioned, although what is really meant is the relative motion the shutter and the film have compared to each other.

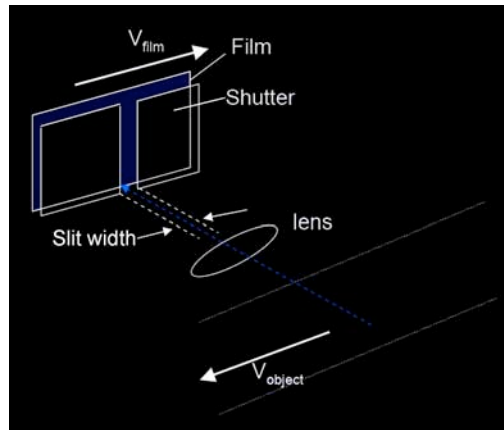


Fig 4

The basic principle of the slit shutter is that the motion of the film, during the exposure, compensates for the motion of the subject in front of the camera (fig 4). In this sense the basic idea is similar to the technique often used in sports photography where a panning of the camera, at the same pace of the subject in motion, blurs the background but keeps the subject sharp. What happens in this situation is that the film in the camera is stationary with respect to the moving object, which as a result leaves a sharp imprint, but the film is in motion with respect to the background which renders its imprint blurred. This is what Jacques-Henri Lartigue intended to do in 1912. However, as explained before, his panning was too slow and his shutter gradually exposed the film. Instead of panning the whole camera, one could as well only move the film while the exposure is made. If the film movement is synchronous with the subject's speed, a sharp image can be recorded which will look similar to an image made with a panning camera.

If we move the film during its exposure to light, we might as well change the shutter mechanism. Imagine a narrow slit in front of a moving film instead of a whole frame. The time the film is positioned behind the slit, it will be exposed to the incoming light rays. The regular shutter mechanism is made redundant then. The plane that is in front of the slit and perpendicular to the film, will be projected onto the film. Moving the film will then endlessly reproduce the same plane on the moving film, transforming every point into a line. It is only when there is a movement by the subject with respect to the camera that this imaginary plane in front of the camera will operate as a scanning device. Everything that passes the plane is scanned and as such leaves a trace on the film. As the subject moves at the same pace as the film a sharp image will be produced. As such the three-dimensional space in front of the camera will be projected onto a two-dimensional

photosensitive film but through an almost one-dimensional line, the narrow slit shutter, moving along the film and gradually exposing the film line after line. As we have already seen, this is a common practice in scanners and copiers today, but its analogue predecessor is the strip technique that is based on a slit-shutter mechanism.

An easily understood example of this mechanism is shown on the website of Kazumi Namiki¹. He specialized in making strip images of trains. Here it is obvious how the passing of the train is compensated by the movement of the film in the camera. As there is no limitation of a frame, a whole train can be recorded on the film in one continuous exposure. On his website Kazumi Namiki re-animates these images.

2. The use of the strip technique in science and art

Probably the first time the strip technique was used, was in a panoramic camera designed by Joseph Puchberger². In the late nineteenth century Steven Morton discovered an 1843 Austrian patent, for a hand crank-driven swing lens panoramic camera. The patent was granted to Joseph Puchberger from Retz (Austria). This panoramic camera could cover a 150 degree arc, had a lens with a focal length of 8 inches (20,3 cm) and used daguerreotype plates of 19 to 24 inches (48,3 to 61 cm). Little is known about J. Puchberger himself.

So soon after the first photographic images were taken in 1839, the strip technique was used as one of the possible ways to expose the photosensitive plates. If in 1843 Joseph Puchberger was the first, others did follow: Friederich von Martens in 1844, M. Garella in 1857. All those early strip cameras were panoramic cameras yielding a panoramic image as result. In these panorama views the primary attention is focused on the elongated view and the enlarged space, not on time. With peripheral images this could have changed from as early as 1900. The resulting rollout images of cylindrical objects could never be snapshot images. The change in attitude towards strip images did not occur as those rollout images stayed in the realm of scientific research. It was only with the photo finish, in 1937, that the obvious link with the time-capturing strip technique was established. And non specialists would have to wait until the Mexico Olympic Games in 1968 to see the results published in newspapers and other media.



fig 4 Davidhazy Peripheral portret 2003

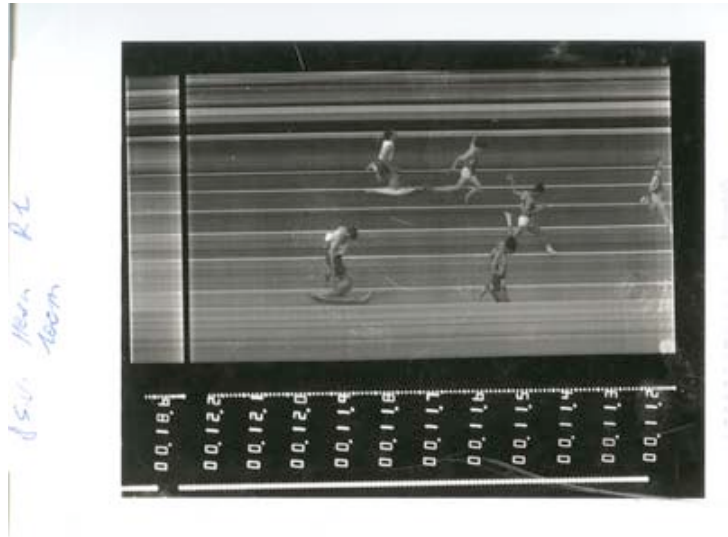


Fig 5 Photo finish 100m Juniors-Seniors-Veterans Men Heat 1 Leuven c. 1996

Taking a closer look at the images made by and the intention of about twenty five photographers using the strip technique, three tendencies can be detected. There is the non-scientific use of the technique, or the use of the scientific camera for non-scientific purposes. Then there is the aesthetic use of the technique in which the technique is used to obtain a specific artistic image result. Finally there is the meta-photographic use of the technique which – together with the aesthetic use – seems to lead to new insights into the concepts of ‘time’ and ‘the moment’ in photographic practice. But there seems to be no real accumulation of knowledge or building of a tradition among the photographers using the strip technique. They all seem to be isolated with their art-practice and often ignorant about their colleague’s work. That the work of Jonathan Shaw seems to be unknown by Michael Golembewski is only one example out of the many.

It is therefore difficult to make a representative list of photographers that do use the strip technique, other than the panorama photographers. That only 30 photographers could be found, highlights once more that the strip technique is neglected by photographers.

No wonder also theoreticians are often ignorant about the existence of this extraordinary technique. Something also mentioned by Patrick Maynard's, his remark in *The engine of visualization* can be seen as symptomatic. "Photographic literature is strangely silent about this importantly revealing technology –even literature devoted to sports-timing photography" (Maynard, 1997: 135).

Compared to most photographic exposure techniques, the strip technique differs in its relation to time. Strip images contain a fourth dimension, that of time. As mentioned before the technique can best be conceived as a scanning technique. Just one line (plane) of information is recorded. By moving this line (plane in front of the lens) one builds up an area, but at the same time one creates a time-line. In other words, the camera does not expose a single frame in a fraction of a second, but records movements through a narrow slit onto moving film. With regard to any vertical line in the image, the short or long strips of photographic images always show a small section before, during and after. In this sense they are photographic images that cry out for movement. After all, when you look at them and you try to translate the images back into a graspable reality, you have to compose the image again and again using elements left and right of the point you are looking at, points from before and after.

The *Diamond-houses* (1963-1967) and the *Wall-houses* (1968-1974) by John Hejduk (1929-2000) are designed around a similar idea. In both series of designs, a central axis (the hypotenuse) and a solid wall take on the role of organising the space. For Hejduk, they represent the present. Hejduk explains: "Life has to do with walls; we're continuously going in and out, back and forth, and through them. A wall is the quickest, the thinnest, element we're always transgressing. I see it as the *present*, ... the wall is a moment of passage. The wall heightens the sense of passage, and by the same token, it's thinness heightens the sense of being just a momentary condition ... what I call the moment of the present" (Martin, Smals, p. 41). So for Hejduk, the wall symbolises the present through which one is constantly breaking. On the one side is the future, on the other, the past. This is also how the photographic images are composed. The narrow slit in front of the film allows the projection of the two dimensional wall onto the film. There is no framing of a split second of time in these images, but a constant repositioning of the wall, the present. If something or someone transgresses this virtual wall in front of the strip-camera, it will be recorded, present in the image. But only the part that really transgresses will be visible. For this reason, that which is contained in the image cannot ever be conceived by the naked eye. These photographic images are a synthesis of the

passing of time. They are the choreographic notes of a photographer in motion, who continually seeks the right synchronisation between the surroundings, the camera, the film transport and the movement made. One does not do these photographic images justice if given no more than a glance. They must be read. Only then do their internal variations of speed, rhythm and tempo become clear. They indicate where there is acceleration, where there is a change of direction and where there is a return to the basic tempo. The images do not represent objects or people as such, but movements and things in flux.

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¹ Information on his cameras and a long list of images of trains can be found at (<http://www.asahinet.or.jp/~js4k-nmk/egindex.htm>) (accessed 05/2006).

² Bill McBride made a detailed time line of panoramic cameras (Panoramic Cameras 1843-1994). This time line has been published in *Photographist* (Whittier, California), Winter 1994/5, n° 104: 19-22, but it is also widespread on the internet on several homepages dealing with panorama photography. (<http://www.cirkutpanorama.com/Timelin.html>, <http://www.panoramicphoto.com/timeline.htm>, accessed 10/2004).