

PINHOLE EXPERIENCES

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INTRODUCTION

This paper does not aim at being a detailed technical explanation about the pin-hole camera. For a technical explanation, other papers already published on the subject, some of them in this magazine, should be consulted. Neither does it aim at pontificating about aesthetic theories, which is a thorny issue for a layman, like the author of this paper.

However, I intend to show my works, while at the same time showing their creative process which has conditioned a great deal the final result. Where, how and why does one reach this final result?. Nevertheless, some technical notes should be included, and some impressions should be pointed out. I hope this will not be too risky, since these have come up spontaneously and have not been corroborated.

WHY A PIN-HOLE CAMERA?

It would be foolish to overlook the benefits that information technology can provide (in the last instance what is known as Artificial Intelligence -AI-) and its application to fields such as the image treatment, be it video or photography. However, the intoxicating effects which emanate from its enormous potential originate a sort of blind faith in the machine (nothing new, by the way) which seems to define itself along this line of thought: one day, the machine will emulate and outwit human mind. Due to this intoxication, one tends to forget that this new totem-like power is nothing but an aid. No matter how much perfection technology achieves, it will be hard for it to be endowed with the intuition, the sense of humour and the feelings of its operator.

When it comes to publicising technology, we are informed about its potential properties, rather than about its actual quality. Properties even take over the object itself. Thus, comments such as the following are frequently encountered in publicity campaigns: "X, the bright car"; "Y, the wisdom of the fryer"; "Z, the intelligent camera"... None of these products are endowed with such attributes; these apparatuses are dependent on the handling of the user, on his/her intelligence. The user will define its limits within the range of its capacity. The market offers an increasingly wider range of photographic equipment, this provides the amateur and the professional alike with a great freedom to chose and combine the available material. Yet, in the field of design, apart from constant advances I am not referring to the automatic devices, which have rendered obsolete some of the previous functions of the photographer, that facilitate his/her work, but to the improvement of lenses-diaphragms, shutters and camera bodies- cameras are still conceived basically as a camera obscura, which defines frontal perspective, while the rest are nothing but additional supplements. At this scale, Euclidean mathematics have to be followed, although some "rara avis" such as the fish-eye lens or the Panoramic Globuscope upset the balance and, only technical cameras, whose uprights are adjustable, allow us to play with space rules.

The pin-hole camera is the basic application of the principles of the camera obscura: within a light-tight space, through a small hole (in this case a pin-pierced hole) an inverted image is thrown onto the opposite side. This basic principle, often overlooked, allows the photographer who has constructed his/her camera to experience a Demiurge-like pleasure, only comparable to the fact of fixing the resulting image on sensible material. It could also include the do-it-yourself activities involved, since you have to reinvent the system, with "a conceptual do-it-yourself" of the work providing a possible experimentation taking ingenuity as the point of departure.

The recreation of the medium allows the photographer, forever an apprentice of light, to recreate a more personal language, less restricted. Who has not dreamt of an infinite number of ideal cameras, overwhelmed by the literature on the subject and the way the cameras are described?. Making a pin-hole camera is within everybody's reach due to its simplicity. The result, far from being simple, still continues to cause surprise after 150 years. This leads us to forget or to play down its limitations and to focus on exploring the territories which define a vision inherent to the pin-hole camera.

AESTHETIC CONSIDERATIONS

As it is usually the case with beginners in photography, I got acquainted with a pin-hole camera through teaching. This, together with the still, were the first photographic notions to which I was introduced at university. It was in 1983 at the Fine Arts Faculty in Barcelona.

First experiences

The first camera I made, let's call it standard, had a focal distance equivalent to "ordinary vision" (60 degrees in angle). It was possible to convert it into a wide-angle lens and a telephoto lens, let me remind you that a pin-hole camera, which has not got any lenses, focal distance is defined by the distance between the hole and the image plane. Its "ordinary vision" is equivalent to the diagonal of the image format, in this case it was $18 \times 24 = 30$ cm. While getting closer to the hole produces a wide-angle lens effect, getting away from it provides a telephoto lens effect due to the narrowing angle. In addition to the possibility of cutting the cone of vision by means of the image plane at the chosen coordinates, and all the possibilities it can offer, its field depth should be highlighted, due to the fact that the diaphragm is simply a hole usually pierced by a pin, which results into a short diameter. Thus applying the following formula:

$$\text{diaphragm} = \frac{\text{focal distance}}{\text{hole diameter}}$$

with a 0.4 mm diameter and a 30 cm focal distance a f/75 is obtained. The aesthetic achievement in the first experiences and works was the fact that both the objects in the foreground and those situated in the background were in focus, a photographic possibility which is unattainable by the human eye, which is otherwise mobile. Thus, in *The Man: Oh! Genesis, Oh! Death* (87) this radical apprehension of space is depicted. This phenomenon provokes an alteration of the real scale of objects, or at least their ambiguous perception. In this instance, the infinite field depth results in an attempt to dissolve the limits between a still life and a landscape. Another aspect worth mentioning is that the traditional appreciation of detail, one of the first gratifications of the photographic medium, is achieved through this rudimentary but effective system. The use of a pin-hole device is not restricted to cardboard boxes, this device can also be applied to the lenses of conventional cameras and, of course, when these devices are applied to a technical camera, without lenses, the result is a very sophisticated pin-hole camera.

By means of the cylindrical cameras, such as the powdered-milk and Skip cameras (the latter named after the detergent) a distortion of the image is achieved. Conventional perspective lines are altered because of the curving of the image plane due to the fact that the negative is placed on the interior surface of the cylinder-camera producing a concave or convex effect, depending on the orientation. The vanishing point is turned into a sort of hole where perspective seems to be swallowed up, not unlike the phenomenon experienced when a plug is pulled out of a bath-tub. This whirl-like experience transforms into mobility the static and cool qualities of straight lines, which can be methodically reproduced by the camera obscura. Not even the horizon-line can avoid being curved upwards or downwards, depending on the inclination of the camera.

Other considerations emanate from the camera itself, from its shape and from its value as object which contribute to the idea-process. On the one hand, in the case of the powdered-milk can its former use, as a tin, as a container of a product, persists. This former use pervades the idea which one tries to express through the work, such as in the series entitled *Palma: 100 Pinhole Postcards* (87) Palma has been the subject of pictures taken time and again. This has resulted into images which are no more than commonplaces, images that could be described as "canned images", in an ironic analogy. On the other hand, the association of the Skip camera with the motif captured in the series *Zooformalin* (89). The motif consisted of animals preserved in formalin inside big jars. Thus a correspondence-confrontation is achieved between the camera and the motif, due to the cylindrical shape shared by both and also because both the camera and the motif are tight receptacles. While the former is light-tight, the latter is airtight. Carrying this analogy further as far as the toning process of the positives is concerned, using selenium as though to emulate formalin: both guarantee the durability, the former in relation to the photographic copying, the latter in relation to the animal body.

The portrait

Using a pin-hole camera in the streets has provided me with a good deal of anecdotes. I was once taking a picture of a friend of mine in the Ramblas in Barcelona, a usually crowded boulevard. I had placed the "Skip camera" on the ground. One has to admit that for a layman this sort of practice may be very disturbing: the sitter has to keep still for an unusually long period of time, in this case 8 minutes, in front of an apparently strange and extraterrestrial artefact, with an aesthetic of the 50s, while the photographer keeps staring at his/her watch in order to survey the time of exposure- and being in control of the situation.

A few minutes after removing the adhesive tape-shutter from the camera, some girls who must have seen us with a circumspect, solemn air, approached us and one of them exclaimed: "What's the matter?. Are you all right?".

Half way through the exposure a policeman, who from the very beginning had been watching us from a distance, approached us too. Previously, this policeman had asked us for an authorization for doing "this". I had explained to him that we did not intend to perform a show, we were only going to take a picture. Yet, the detailed explanation of the process that I had given him at the beginning seemed not to have convinced him

in the least. In his second approach, the policeman, with a grim in his face and while he was holding my arm, said close to my ear: "So you are taking a picture, ...you can't deceive me". Such ignorance, which has to be overlooked, makes us go backwards in time, not only because of the technique itself, but also because of the attitude towards something that although apparently very well known, is largely unknown in its essence. So the use of a pin-hole camera can raise the awareness of the process of taking a picture in an amateur, usually only concerned with knowing which button to push in order to take it.

This anecdote gives us a clue of the particularities of portraits produced by means of a pin-hole camera, which is determined by the main limitations of this type of cameras. These limitations will have to be taken into account if we want to take pictures of living creatures or of moving objects. The maximum depth of field of the pin-hole camera, thanks to its diaphragm of a narrow diameter, has as its main characteristic the long period of exposure, particularly so when we use a low-sensitivity developing paper as the sensible material. This, which at first could be regarded as a shortcoming, since we cannot prevent movement, turns out to be a peculiar reflexion on time, for by means of a pin-hole camera -unique image (picture)- the action is conceived as a whole. Even though this is achieved through an imprecise trace where before, meanwhile and after intermingle.

An image is always an interpretation of reality. When an image is depicted in movement -cinema, television- (even though it is an illusion) is more descriptive, probably because it develops over a period of time. When an image is still -photograph- since we are dealing with a fragmented appropriation it is necessarily more symbolic in nature. Conventional photographic portraits usually appreciate the decisive instant of a gesture, of a precise expression, an accident. Therefore, this arrest of time, due to its specificity, is likely of conveying half-truths if not of deceiving or lying. As far as portraits are concerned, an instant shot runs the risk of becoming a stereotype, because of the falsehood of the pretended pose. When we know we are being observed by a camera, we are immediately on our guards, even at an unconscious level. The long exposure, in this case the one required by the pin-hole camera, spoils this immediacy, therefore, it is an interesting alternative to the instant shot.

In color

The black and white photographs were obtained by means of the calotype, that is to say, using developing paper as a negative and producing the positive through direct contact with a sheet of paper of at least the same size. Although I started to use colour with a pin-hole camera out of sheer curiosity about new materials, I would like to make some considerations as a result of my experience.

I would like to start, of course, with the use and handling of colour. Although, I am one of those who believe that genuine photographs are black and white, since it is the simplest symbiosis of light, colour photographs have an added sensation. Colour and its different hues have always found as many interpretations of their register as the varied individuals who have bothered to perceive it. The light spectrum once is split into colours can be extended so much, that the different limits, depending on the palette, tend to a visual autonomous interplay, different from black and white.

The second consideration deals with the material involved, which turns these pictures into unique copies: since a direct-copy slide paper is used in the process, transforming the negative into positive is unnecessary, because the image produced in the camera obscura is positive. Even though, it is possible to put the image upright by turning it upside down, it will still remain an inverted image (left to right). That is to say, that the resulting image is literally like a mirror, one can take conceptual advantage of this feature in Soma-Trans-Lucid. The handling of the camera becomes even more mysterious and it conditions the whole process, for the time of exposure includes not only the time of taking the picture, but also the time of copying or enlarging the picture. It has to be taken into account, that everything is resolved within the camera itself, there is no opportunity for further manipulation, except when developing takes place.

Peep Show

In the Peep-Show series, the mimetic principle in the construction of the cameras is retained. Thus the construction of the camera depends on the subject-matter of the photographs (in the same way as it occurred with the works produced by means of the cylindrical cameras). In this case, one intends to capture the atmosphere of this mode of pornographic consumption.

Peep-shows involve a user who locks himself in a dark booth and drops some coins into a slot-machine. A small curtain is drawn, not unlike a shutter, which reveals contorted bodies live. It is, indeed, an exaltation of voyeurism -a feature inherent to photography- which in this ritualized example, given the place where it is undertaken, results into a paragon of the camera obscura.

The Peep-Show Camera was the only one to have a lens placed before the pin-hole device. The lens was a made out of a door peep-hole, which reinforces the idea of voyeur on the part of the viewer.

Soma-Trans-Lúcid

Soma-Trans-Lucid tries to combine two photographic techniques: making a picture by means of a pin-hole camera and then a treatment through the still ("light self-impressions" or "photogenic drawings" as H. Fox Talbot used to call them) involving body-art or the expression of the body as the guideline. One draws on the idea that the performer works with his/her body, which is at the same time an instrument of experimentation and the field in which this very experimentation takes place, that is to say, it is simultaneously subject and object.

It could be suggested that it is perhaps a recreation of the space where the photographer moves around, of his/her condition and of his/her working process. This space is articulated between two worlds: that of the field and that of the counterfield of the photographer. This is, of course, always so, but in this case this implies a real-physical approach in the unique resulting image, the result is a photograph which tries to summarise the whole idea-process.

This image is quite similar to a "false" translucent mirror, for the opaque body which covers the photograph, reveals, after the light impression, the image previously photographed, enacting the photographer this play between subject and object. This soma translucid, which the photographer selects not only as subject, choosing the object to be photographed, but also acting as object outlining its contour. The size of these photographs is 50 x 60 cm. In these pictures, the body-print is life size.