

Neu-Eröffnetes

# MAGAZIN,

Bestehend  
In einer Versammlung  
allerhand raren Künsten und  
besonderen Wissenschaften  
Durch welche sich  
Alle Arten der Künstler  
sehr grossen Nutzen schaffen können,  
Aus denen  
Bis anhero geheim- gehaltenen Manuscrip-  
tis mit besonderen Fleiß zusam̄ getragen  
und in 2. Theil abgefasset  
Von  
Friedrich Gottlob Eyßvogel,  
der Natürlichen Künsten und Wissenschaften  
zugethaner Liebhaber.

~~~~~  
Erster Theil

Bamberg, verlegt Martin Götthardt,  
Universitäts- Buchhändler. 1756.

Das LVI. Capitel.

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Die Magische Laterne.

Die Magische Laterne ist eine in der Optica gar gemeine Maschine, welche man deswegen ohne allen Zweifel Magicam, oder Zauberisch nennet, wegen derselbigen übernatürlichen Wirkung und der Gespenster und entsetzlicher Ungeheuer, so man damit vorstellig machen kan, und welches die Leute, so es nicht verstehen, vor Zaubererey ansehen; Sturmius heisset sie Megalographicam, und zwar darum, weil sie kleine Figuren, so man darcin thut, groß, und so zu sagen, aus einer Mücke einen Elephanten machet. Diese Erfindung, von welcher einige vorgeben, als ob sie dem Salomon bekannt gewesen, habe man einem Englischen Münch, Rogerico Bacono, zu danken, und welches am meisten wahr ist, so hat diese Maschine eine gute Zeit viel Wesens in der Welt gemacht, und ist Schwender der erste gewesen, der die Zusammensetzung solcher in dem Buch, das er unter dem Titul Deliciae Mathematicae, heraus gegeben, p. 6. propof. 31. gewiesen.

Das Corpus solcher Laterne ist von weissen Blech, viereckicht, acht und einen halben Zoll tieff, und anderthalb Fuß hoch, hinten ist ein Metallener Brenn- Spiegel, der 4. Zoll über den Diameter, und 5. Korn tieff mit einer Lampen, deren Focht von Baumwolle, und sehr dick seyn muß, darcin man Baum- Oehl oder Brante- wein thut; Den Spiegel und Lampe kan man vermittelst eines Falzes, so unten an der Laterne ist, rucken, fornen an ist ein rundes Loch von drey

El 5

Zollen,

Newly established  
PERIODICAL  
consisting  
of a collection of various  
and 'rare arts' and  
special 'sciences'  
enabling all kinds of  
practical artists and scientists  
to derive great benefit

Collected  
with 'extreme diligence' from manuscripts  
hitherto unpublished and kept confidential

Arranged in two parts  
by  
F.G. Eyssvogel  
Devoted admirer of natural arts  
and sciences

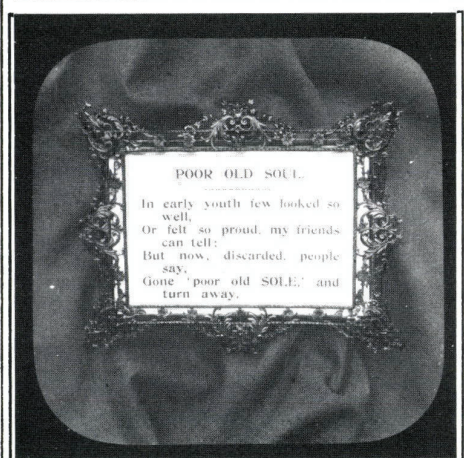
The magic lantern belongs into the *Optica* (Latin) category and can therefore be called *Magicam* (Latin for magic) or witchcraft, particularly because of its 'supernatural' effects and ghostly apparitions. People who do not understand such arts consider it witchcraft. *Sturmius* called it *Megalographicam*, because small figures could be 'made' large so to say make an elephant out of a fly.

This invention which many people believed to be known to King Solomon, is attributed to an English monk *Rogerico Bacono*. This seems to be almost genuine claim. This 'machine' has therefore been in existence for some time and *Schwender* is the first person who collected facts and published a book under the title *Deliciae Mathematicae* (page 6, para 31).

The *Corpus* (Latin = body) of such lanterns is made of 'white tin', 'four-cornered', 8½ inches (German 'inches', 18th century) and 1½ feet high (German foot, 18th century). At the back is a reflector or concave mirror. Just below the centre of the diameter a lamp has to be placed. The wick must be of cotton and fairly thick to be able to use 'natural oil' or 'spirit'. The mirror can be moved under the lantern by means of a roller. In front is a 'round hole', three inches in diameter. To use this machine a straight 'tin tube' has to be put in front. Reflecting glasses are put into this tube to enlarge reflections of articles. Between the front part of the 'machine' and the tubes (with the 'said' glasses encased) a slit is left. Here one can push a glass slide or selent, to be able

to paint pictures in transparent paints on these. Three inches above the lamp are air holes (vents) through which the smoke can escape without 'darkening' the light. The light must be very bright to give better and more 'beautiful' effects. To use these lanterns one 'darkens' the room to be used. To 'perform' the 'spectacle' a white sheet is placed about 18 'paces' from the lantern to observe the 'gigantic' pictures.

## PAIRS OF PUNS





The Barnes Museum of Cinematography in St. Ives, Cornwall, England is one of the most complete collections of magic lanterns, slides, optical toys and early cinematography in the world. Comprehensive in its optical material from the mid-1600s to the early 20th century it is a compulsory visit for all those interested in the magic lantern and associated material.

The collection was started by John and William Barnes in 1939 whilst they were working in London and in 1970 Part Two of the Catalogue was published. Sadly this catalogue, containing several papers comprising a definitive history of the lantern, is no longer available, although the editor understands that an illustrated

catalogue is in preparation.

We are therefore delighted and privileged to be able to reprint two extracts from the 1970 Catalogue. It should be noted that the numbers referred to in the text are those of items on display in the Museum and as such we are unable to illustrate them here. However, we feel that the written material is of sufficient importance to justify its reproduction here in an unillustrated form.

The editor expresses his sincerest gratitude to the Barnes Brothers for permission to reprint 'Magic Lantern Shows' and the 'Magic Lantern in the Nineteenth Century'.

## MAGIC LANTERN SHOWS

During the 17th century, public performances of the magic lantern must have been exceedingly rare, for none seem to have been recorded other than Walgensten's, if indeed his were public performances. More likely they were given before a specially selected audience of invited guests. The years 1659 to 1721 may be regarded as the formative period of the magic lantern when the instrument would be relatively unknown to the general public. The public debut of the magic lantern most probably took place when it passed into the hands of the itinerant showmen. These early exhibitors of the magic lantern are recorded, unnamed, in contemporary pictures and engravings or casually noted in the literature of the times. Tobias Smollett in his third novel *Ferdinand Count Fathom*, first published in 1753, writes of the "travelling Savoyards who stroll about Europe, amusing the ignorant people with the effects of a magic lantern." Such a one is pictured in the anonymous sketch in the present collection, where he is shown on the road with his lantern strapped to his back [65]. Another is shown pausing awhile with two girls, in the engraving by R. Blyth titled "The Magick Lanthern" [66], and one even serves as decoration on a Delftware stove tile [67]. A lively performance is depicted in the engraving by Bosio called "La Lanterne Magique" [68]. The showman has evidently been invited into a fashionable French household, accompanied by his young assistant with a hand-organ. The family is gathered around the lantern while the servants are permitted to view the show from behind the top of a screened enclosure. The close proximity of the apparatus to the screen was necessitated by the poor illuminants then available. Indeed, the want of a suitably powerful illuminant was the one factor which precluded the magic lantern from being used for public exhibition on a grand scale and was no doubt the reason why it remained for so long the preserve of the poor travelling showman.

The first successful use of the magic lantern in a recognised place of entertainment did not take place until towards the end of the 18th century. By this time Ami Argand of Geneva had invented the lamp which is generally known by his name and often popularly referred to as the quinquet. It was vastly superior to any previous illuminant but even so, it was not sufficiently powerful for exhibiting the magic lantern from a great distance. This deficiency was overcome however, by a novel expedient. The lantern was placed behind a semi-transparent screen and the pictures viewed by back-projection. Used in this way, a lantern equipped with an argand burner could be successfully exhibited to a reasonably large audience. It was upon this principle that a new kind of lantern entertainment was evolved, which was presented in France as the Fantasmagorie and in England as the Phantasmagoria. The lantern was placed on a movable carriage, and on moving it nearer or farther from the screen, the images were made to decrease or increase in size. The audience seated on the other side of the semi-transparent screen were thus under the impression that the images were advancing towards them or retiring into the distance. By this means, a wide variety of weird and ghostly effects were devised.

The inventor of the Fantasmagorie was Etienne Gaspard Robertson (née Robert), a Belgian [70]. He opened his show in the early part of 1797 at the Pavillon de L'Echiquier at Paris and it was so successful that he moved to more suitable premises in a converted chapel of the old Capucine convent near the Place Vendôme [71]. This latter was particularly suited to the macabre nature of the performances and Charles W. Quin, in the English edition of *Marion's optics* (London, 1868, p. 176) gives the following description of it, "[It] was in the middle of a vast cloister crowded with tombs and funeral tablets. It was approached by a series of dark passages, decorated with weird and mysterious paintings and the very door was covered with hieroglyphics. The chapel itself was hung with black and feebly illuminated by a single sepulchral lamp." The audience was completely shut off from the operating area by a white cloth or screen about 10 to 12 feet square, which had been soaked in a bath of pure wax and then ironed out to the required transparency by a hot iron. It was hidden from view by black curtains which were only withdrawn when the light in the auditorium was extinguished. The slides were prepared with black opaque surrounds so that only the images were visible, thus eliminating the normal circle of white light which would otherwise occur. By this means, the audience was never aware of the existence of the screen and the pictures took on the aspect of aerial images [72]. The lantern itself, patented under the name Phantascope, consisted of a wooden box made of walnut, about 3 ft. x 2½ ft., with a door at the rear. It was raised to the height of five feet on four uprights and four grooved blocks of hardwood fixed underneath, allowed the whole apparatus to slide on two copper rails fixed to the floor. A rectangular lens tube 15 inches long extended from the front of the lantern and contained a plano-convex condensing lens and a biconvex objective adjustable by a rack and pinion. A variable diaphragm was employed to regulate the brightness of the image. The lamp was a single quinquet (argand). As the lantern was moved forward or backwards on the rails, the image was kept in focus by adjusting the rack, and the brightness of the image was kept constant by varying the diaphragm. Two biconvex lenses placed close together were suggested in place of the plano-convex condensing lens if desired. The apparatus could be also adapted as an episcopes for showing opaque objects by reflection. For this purpose a 4-burner argand lamp was substituted and a different combination of lenses employed. Robertson gave an account of his Fantasmagorie séances in his *Memoires récréatifs scientifiques et anecdotiques*, 2 vols., Paris, 1831/33, but as these were written more than thirty years after the event, they are not always reliable. Over the years, Robertson had given a more sophisticated form to his Phantascope lantern which is in marked contrast to the rather primitive one described in his patent of March 17th, 1799 (B.F. No. 65). It is from this patent that our own description of the apparatus has been taken. A few relics of Robertson's Fantasmagorie are preserved at the Conservatoire National des Arts et Metiers in Paris and date from 1797 to 1810. These include painted slides and some objects used by reflection (Inv. Nos. 16521 to 16525, 16527 and 16529).

PRODUCED BY JAMES BAMFORTH FROM HOLMFIRTH

