SOME FOOTNOTES TO THE LANTERN IMAGE

DEAC ROSSELL

Entries 63 to 64 of *The Lantern Image* reproduce plates showing a variety of lanterns illustrated in Johann Georg Krünitz's *Ekonomisch-technologische Encyciopädie*, published in Berlin between 1787 and 1858, in 242 volumes (see Hecht No. 102D), Krünitz gives detailed descriptions of the lanterns he illustrates in Vol. 65 (1794), which gives us the opportunity to identify the specific lanterns and their original sources. These plates are also reproduced in the illustration volume (unpaged) of Friedrich von Zglinicki's *Der Weg des Films (Hildesheim*, 1956/1979), and in his text volume Zglinicki expands on some of Krünitz's comments (pp. 64–66). Together, these sources provide interesting information on German 18th-century lanterns, and expand the usefulness of the illustrations in *The Lantern Image*.

The Lantern Image, illustration 63:

No. 3922 shows a magic lantern made of wood with one lens, after E L Denecke, *Lehrgebäude der Optik oder der Sehespiegel und Strahlbrechkunst*, published in Altona in 1757 (Hecht No. 74). To align the light rays in parallel, Krünitz reports that in this lantern Denecke used a water-filled sphere between the lamp and the lens. Over a hundred years later, in 1875, Denecke was one of two Nuremberg lantern manufacturers who made 'properly useful dissolving view lanterns', according to Wilhelm Bahr (cf. Deac Rossell, 'Some German Professional Magic Lanterns', in *Servants of Light*, p. 72). This was most probably a later member of the same family.

No. 3923 shows a magic lantern made of tin, with two lenses, after Johann Michael Conradi, *Der dreyfach geartete Sehe-Strahl, In einer kurtzen doch deutlichen Anweisung zur Optica Oder Sehe-Kunst*, published in Coburg in 1710 (Hecht No. 49C). The oil lamp to the right of this lantern, marked 'E', was positioned in the middle of the round lamphouse 'between two fixed tracks on the [lamphouse] base, so that it could move forwards and backwards', focusing the light precisely for a concave mirror at the back of the lantern.

No. 3925 shows a magic lantern made of wood, with a tin chimney, after Christian Gottlieb Hertel *...vollstandige Anweisung zum Glasschleifen...*, published in Halle in 1716 (Hecht No. 51). Notably, this lantern used two openings for slides, which allowed the use of either a second slide giving movement to the first image, or a black slide to darken the screen.

No. 3926 shows a magic lantern made of wood, after Heinrich Johannes Bytemeister, Bibliothecae appendix sive catalogus apparatus curiosum artificialium et naturalium ... (Hecht No. 57A), published in Helmstadt in 1735. This image is very similar to the Bytemeister lantern shown in illustration 31 in *The Lantern Image*.

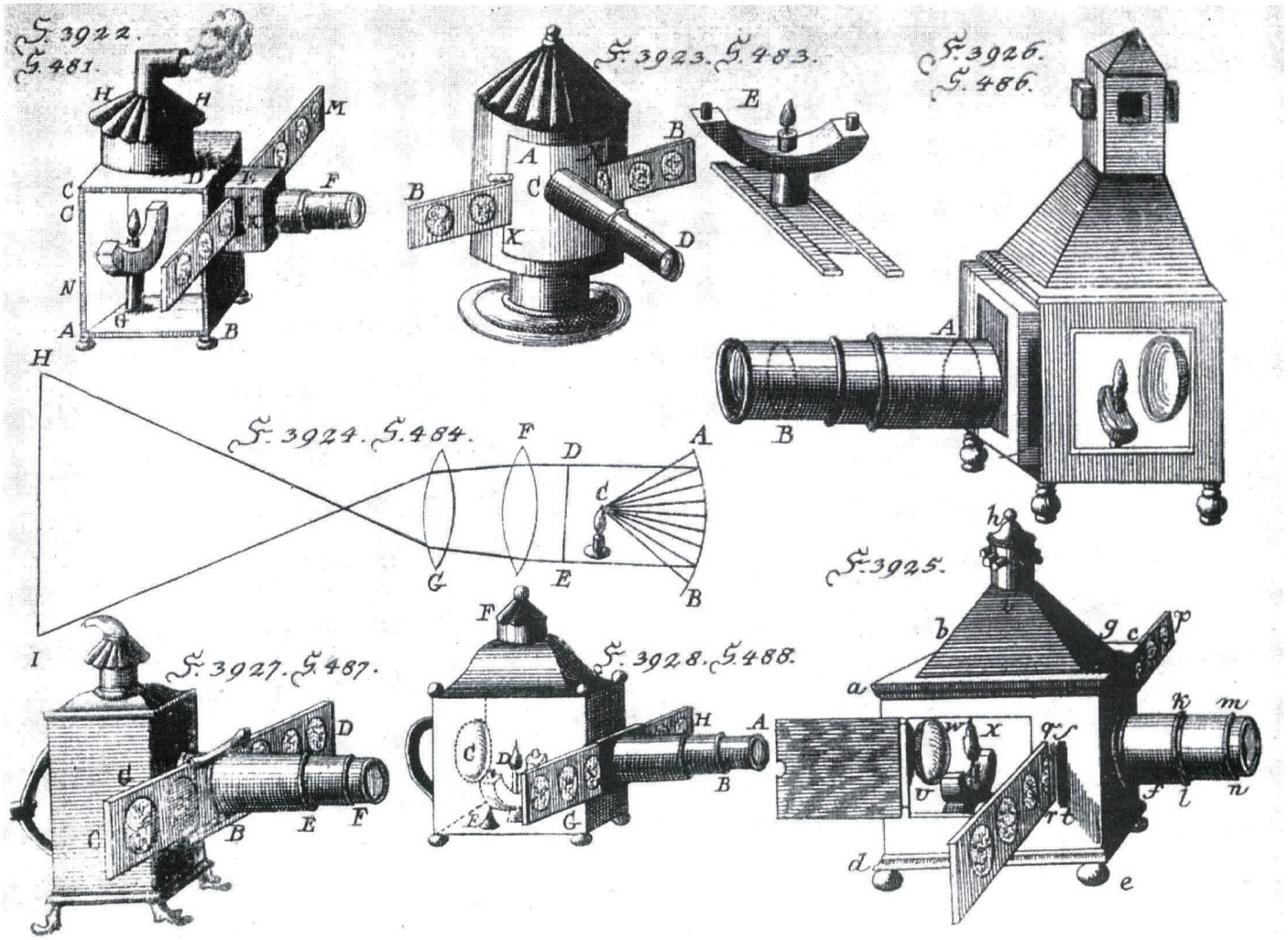
No. 3927 shows a magic lantern after Christian Friedrich Feiherr von Wolf, *Elementa mathesos universae*, published in Halle in 1713–15 (Hecht No. 50/3; Zglinicki cites a 1735 edition). Krünitz notes that the slides for this lantern were made of square glass, since it is easier to obtain, but that the frame for the slides had circular openings for projection with 'the glass painted with transparent watercolours only within a circle drawn on the square glass'. The illustration is very similar to No. 36 in *The Lantern Image*, from Wolf's 1747 edition, but has different guide letters and no cutaway section at the lamphouse.

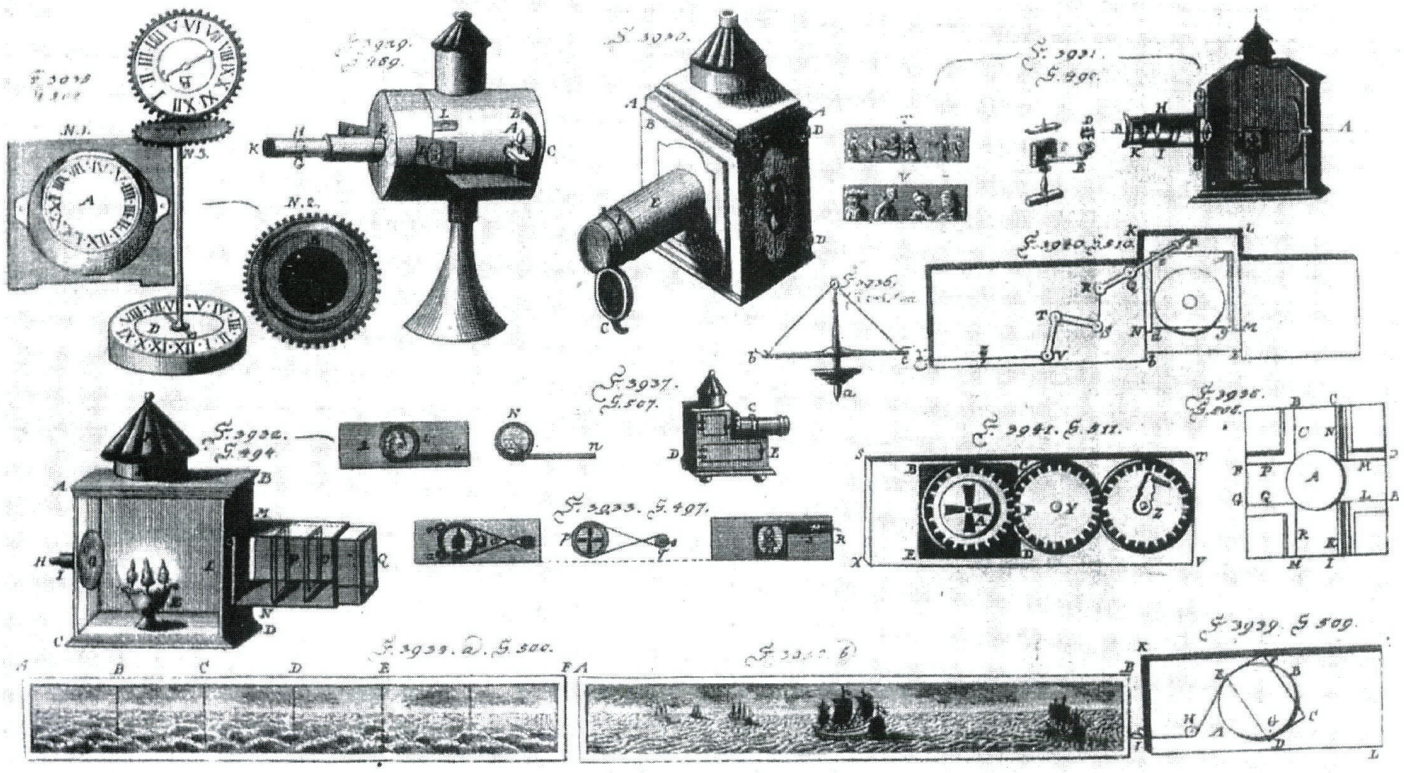
No. 3928 shows a magic lantern made of tin, after Nicolas Bion, *Mathematische Werkschule*, published in Nuremberg in 1726 (Hecht No. 5413). Here, Krünitz explains the shape of the crescent-shaped oil lamp (similar to Nos. 3922 and 3933, above), saying that with this shape the light rays reflected from the concave mirror (at 'C') are not blocked on their passage back to the lens. This oil lamp also has two small tubes on either end (unlike those above) which bring air to the flame, making it burn more brightly. This lantern is very similar to No. 29 in *The Lantern Image* Supplement.

The Lantern Image, illustration 65:

No. 3929 shows a magic lantern after Johann Christian Sturm, *Collegium Experimentale sive Curiosum*, published in Nuremberg in 1676. This lantern is also reproduced in *The Lantern Image*, No.11, where Krünitz is mentioned, as is John Barnes's comment that this was the 'first published image of a magic lantern in practical form'. Sturm reported that 'at a distance of 12 steps' the lantern would 'entirely fill a wall more than 10 feet high'.

63.





65.

No. 3930 shows another magic lantern from Denecke in 1757, as No. 3922 above. This lantern already has a lens cover, and Denecke reported that 'The picture which this lantern gives, in its ordinary distance from the wall, is about as big as a middle-sized wagon wheel.'

No. 3931 shows a section through a magic lantern after L'Abbé Jean Antoine Nollet, *Die kunst, physikalissche Versuche anzustellen und Beschreibung aller Instrumente*, published in Leipzig in 1771 (Hecht No. 80; originally *Leçons de Physique Experimentale*, Paris 1743–48, see Hecht Nos. 66 and 72). This is most of the upper half of the plate from Nollet reproduced in *The Lantern Image*, No. 44; Krünitz commented that the panoramic slides 'lasted longer if they were first painted with transparent melting stuff, and then fired again. Normally, one is content to paint these sweet figures with very bright colours mixed with varnish.' (Unfortunately, I have at hand no source for a more exact rendering of the German word 'schmeltzwerk' than 'melting stuff'.

No. 3932 shows a magic lantern after Johann Christian Wiegleb, *Unterricht in der naturlichen Magie*, published in Berlin and Stettin in 1779 (Hecht No. 90). The oil lamp has three wicks placed so that they are just as high as the middle-point of the concave mirror, which is movable. Wiegleb noted that 'One can create with this optical apparatus a n even greater impression and more advantage, if one prepares the figures for it so that they can be given different natural movements and they appear to be living. This can be done, for example, if one uses several glasses which can be moved one in front of the other.' No. 3933 shows Wiegleb's single-pulley slide of a windmill, with the building on the left and the sails in the centre; the right slide is an early type of single-pivot lever slide, as is the slide to the upper left of the illustration. No. 3934 shows Wiegleb's use of multiple glasses, in a panoramic slide of ships at sea, with a second slide for the motion of the waves.

No. 3935 shows an odd rotating triangular attachment to the magic lantern to allow it to display the hours of the day on the wall, for which Krünitz gives more than a whole page of description, ending with the advice that if the smoke from the lamp becomes a problem, the lantern may be put in the next room and a hole made in the wall for the lens.

The Lantern Image, illustration 64:

No. 3942 shows the instrument used for ghost projections, where the lantern is placed inside a large case and the image appears in the smoke above a brazier on top of the case, which also serves to camouflage any smoke arising from the lamp in the lantern. The mirror was movable, causing the ghosts to dance in the smoke. This was the type of apparatus used by Georg Schröpfer in the 1770s.

No. 3943 shows another type of ghost projection with the apparatus used by Christlieb Benedikt Funk. The lantern is straightforward and was probably placed in an adjacent room; here we see only the very top of the elaborate coffin that Krünitz reproduces in his illustration. This impressive coffin held the smoke-producing brazier, and the smoke escaped through a longitudinal slot at the top of the coffin's elaborately carved case. In still air, this produced a wide 'screen' for Funk's projections, as illustrated here.

64.