A FEW WORDS ON THE ZOETROPE

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Yes, I realise that the zoetrope is not a magic lantern. But all those members of the MLS who are lanternists may be missing a trick here, because when the zoetrope was first introduced to the British public in 1867 it was often demonstrated at meetings of civic associations and even used for paid public entertainment. Across my three decades of membership in the Society, I do not recall any member demonstrating a zoetrope. A missed opportunity? Here are a few examples to give you all some encouragement.

A certain Mr Haddock of the Ancient House in Ipswich introduced the zoetrope as a new novelty amongst his "richly varied stock of books, fancy stationery, and photographs from all parts of the world" for the Christmas season in 1867. In a report on 'Preparations for Christmas in Ipswich', the *Ipswich Journal* hailed the zoetrope arriving in the city by suggesting: "We can hardly imagine a better digester than to listen to the shouts of gleeful laughter it is sure to evoke."[1] Describing the new instrument as a nine inch (22.9cm) deep metal cylinder of about 12 inches (30cm) diameter on a strong wooden base, the *Ipswich Journal* reported: "on looking through the apertures on the upper part the figures appear to be cutting all sorts of antics. One specially amusing scene is a number of men holding umbrellas. The rain is represented by pitchforks, points downward, and the whole of the men appear to be skedaddling when viewed from the holes in the cylinder, and, so cleverly is the optical delusion kept up, even that their legs may be seen to move with the peculiar careful movement that a man adopts when running on a wet pavement and anxious not to injure his garments by splashing." (Fig. 1) The *Ipswich Journal*'s conclusion was that the zoetrope has "a great future before it, and will produce almost endless amusement in consequence of the great number of combinations it will present." With such a fulsome and explicit recommendation, how did this device fall out of the repertoire of showpeople?

Still in the holiday season but now in Halifax, Mr Richard Horsfall demonstrated the zoetrope to the Halifax Literary and Philosophical Society at their annual *conversazione* on 7 January 1868, and the *Leeds Mercury* called it "an ingenious machine".[2] At the National Schools Bazaar in Bloxwich, which was raising funds for the erection of a new parsonage house, none other than the Rev. Davies himself "showed the wonders of the zoetrope" in the middle of the month, along with "other mechanical 'contrivances'."[3] For a dinner at the Crown Hotel in Worcester, where the choir of Holy Trinity Church had been invited by their incumbent, the Rev. T.L. Wheeler, junior: "A great feature in the evening's entertainment was the introduction by Mr. Wheeler of the zoetrope – or wheel of life [which] caused the greatest amusement."[4]

1. A portion of the 1867 Milton and Bradley zoetrope strip 'Raining Pitchforks'

2. An 1867 Milton Bradley zoetrope, 7¾ in. (19.7cm) high and 10 in. (25.4cm) diameter with a pasteboard drum on a wood base

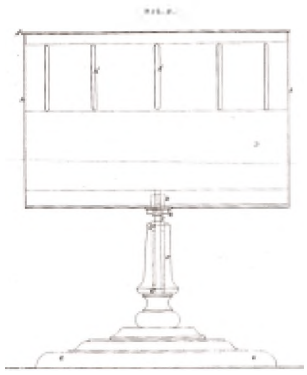
Not to be outdone, when the Rev. T.A. Smith at Tenbury invited the adult members of his choir to the vicarage just a week later for their annual evening: "Some pleasant games, agreeable conversation, and the exhibition of the 'Zoetrope', served to make the evening pass most pleasantly."[5]

Meanwhile, back in Ipswich, as January 1868 passed into February, three days of celebrations were underway for the opening of the new Town Hall, with a *conversazione* for 600 prominent towns-people invited by the Mayor on Monday, an elaborate ball on Tuesday, and the start of formal business in the new building on Wednesday. A huge investment of civic pride was on display, through a collection of some 125 paintings depicting local scenes or by resident artists, while elaborate displays in the Library and the Council Chamber exhibited fine Venetian glasswares, medals won at international competitions and historical civic documents. In the Council Chamber "the tables were well furnished with microscopes, stereoscopes, and two or three specimens of the amusing zoetrope".[6]

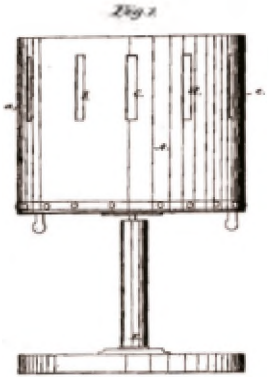
The zoetropes involved in the above accounts were predominantly those made by the Milton Bradley Company of Springfield, Massachusetts (Fig. 2). The modern zoetrope was first patented on 6 March 1867 by Henry Watson Hallett, who gave his address as No. 8, Southampton Buildings, Chancery Lane, Middlesex but also specified that he was a former resident of Springfield, Massachusetts and that his patent was "a communication from abroad by Milton Bradley" of that city (UK patent 629 of 1867) (Fig. 3). On the surface there seems to be an anomaly here, since most historical sources, including, for instance, the MLS's own *Dates and Sources*,[7] cite the modern inventor as William E. Lincoln of Providence, Rhode Island, who also assigned his patent to Milton Bradley Company, but whose patent for the same instrument was dated 23 April 1867, or seven weeks after Hallett's (US patent 64,117 of 1867) (Fig. 4). According to new research by Christine Veras, however, it is in fact the case that Lincoln filed his patent on 27 July 1866 and does have priority. In either case, however, zoetropes retailed in the UK were sold only by the London Stereoscopic and Photographic Company, who had acquired the rights to Hallett's patent on 9 March 1867 and who were the legal importers of the zoetropes manufactured by Milton Bradley in the US.

Retailers were not shy about their new item: "This instrument has afforded infinite amusement to all who have witnessed it in operation, and the entertainment derivable from it is unlimited", said James Stevens of 21 Iron Gate in Derby.[8] Meanwhile on the Oxford High Street an advertisement for the shop of Spiers & Son quoted *The Times* in claiming the zoetrope was "equally astonishing to young and old".[9] What better recommendations could any MLS member wish to have as encouragement for incorporating the zoetrope into their lantern shows?

Naturally the more ambitious showpeople in the Society may seek out an entertainment even more challenging and exciting for their



3. Henry Watson Hallett, United Kingdom patent 629 of 6 March 1867, 'An Improved Mode of and Means for Producing Optical Illusions', figure 2



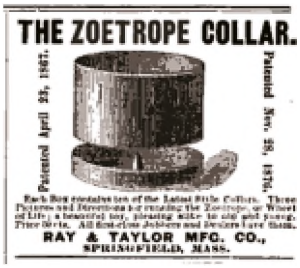
4. William E. Lincoln, United States patent 64,117, 'Toy'. Issued 23 April 1867. Figure 1

audiences, and perhaps one where an admission fee is appropriate. For those so inclined, there is always the 'Giant Zoetrope', something not suitable for home use. Two machines, of quite different designs, are known, one in Frankfurt and the other in London. The Frankfurt machine was 18 ft (5.4m) in diameter and ran as a public show at an unknown location sometime before 1857. According to *Populäres Handbuch der Physik*,[10] the popularising physics handbook of W.F.A. Zimmermann, an inner cylinder holding the images rotated within a slightly larger cylinder (so no light could pass between them) with oval or rectangular openings; spectators were seated about two feet away from the drums at one of 30 viewing portals around its circumference. Each of these viewing portals was shrouded with black cloth to block any stray light and permitted a spectator to see only their own image frame. Adjacent lamps illuminated the passing images on the interior of the revolving drum and Zimmermann reported that, if skilfully painted, the images "appear to have life and movement of such a high calibre that one is inclined to believe in magic". His text goes on to complain that he "had sought to understand the operation of the apparatus in vain", at which point we might complain as well that he described none of the imagery presented in the zoetrope, nor its precise location in Frankfurt am Main.

The London Giant Zoetrope is physically better described, even if its actual images are equally absent. The machine was about 17½ ft (5.4m) in diameter, given its known circumference of 56 ft (16.8m), and it was installed on the stage of the Concert Hall at Crystal Palace in south London for the holiday season of 1867-68. Heavy enough to need rotation by a Hugon gas engine – itself an advertised novelty of the presentation since the Hugon engine was only the second internal combustion engine to go into commercial production – the giant zoetrope could be seen by as many as 350 spectators at a time in the concert hall. *The Standard* reported that performances were given at 12 noon, 2pm, 3pm, and 5.45pm daily, "with different figures and postures".[11] It also reported that: "It is impossible to describe the fun and amusement produced by this magical dance of life-sized figures."[12] The exhibition of the Giant Zoetrope was accompanied by a lecturer "in the lighter Polytechnic style"[13] and the shows were given "by special arrangement with the London Stereoscopic Company, who are the sole licensees under the patent"[14] – an intriguing comment indicating that the patent was considered applicable to the idea and the illusion rather than simply for the production of the toy instrument itself, although Hallett's patent specifically says his cylinder is "constructed of any suitable size and material". Attendance for the shows was impossible to record, as the Crystal Palace charged 1s. admission to all of its events for the day as well as selling season tickets which allowed multiple visits. On 6 January 1868, when the *Daily News* wrote about the Giant Zoetrope, attendance at Crystal Palace included 1,013 daily admissions and 3,583 holders of season tickets, giving a total of 4,596 patrons.

The Crystal Palace in 1867 was just beginning to offer special events booked as holiday attractions, a new idea in their schedule that may have been only a year or two old when they offered the Giant Zoetrope for the holiday season, since the attraction could be installed in their Concert Hall only during the holiday pause in their regular concert series. So the zoetrope opened to the public on Saturday 28 December 1867 and had its last performances on Thursday 23 January 1868 so it could be "removed tomorrow (Friday) morning to prepare for the Saturday concert".[15] And that was the end of the Giant Zoetrope at Crystal Palace.

I have one last piece of advice to Members contemplating exhibiting a zoetrope (of any size) in their lantern shows. As you dig out the antique Victorian costumes that amplify the effect of your presentations, you will certainly want to add to your attire the "zoetrope collar" advertised by another company in Springfield, Massachusetts, which offered ten bright white celluloid collars in a circular box that also could be turned into a zoetrope (Fig. 5). Instructions were included.



5. Advertisement for the zoetrope collar

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16. Advertisement from Ray & Taylor Mfg Co., Springfield, Massachusetts, in *American Agriculturalist*, February 1868, p. 78