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CARPENTER AND WESTLEY – THEIR HISTORY AND ARTISTRY

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PHILIP CARPENTER WAS A BRILLIANT ENGINEER, a clever businessman and a true innovator. He brought mass-production to lantern slides, taking them out of the realm of magic and phantasmagoria and into the arena of education, commerce and mass entertainment. He was a Georgian who laid the basis for the Victorian lantern boom.

Carpenter is one of the pivotal figures in the history of the lantern, yet surprisingly little is known about him. This is partly due to his short life, since the Carpenter and Westley partnership that secured his reputation and generated what many regard as the best mass-produced lantern slides was created after his death.

The history of Carpenter and Westley starts with the discovery of transfer printing on pottery and glass. As with many major inventions, such as the lantern, it is not clear who first had the idea since many people began talking about it and experimenting in the early 1770s. Benjamin Franklin, who was in at the start of so many inventions, wrote candidly in a letter from London of 1773:

Speaking of inventions, I know not who pretends to that of copper-plate engraving for earthen ware, and I am not disposed to contest the honour with anybody ... but I have reason to apprehend that I might have given the hint on which that improvement was made; for more than twenty years since, I wrote Dr Mitchell from America proposing to him the printing of square tiles for ornamenting chimneys, from copper plates.¹

He was speaking of 1753 when an Irish engraver named John Brooks started transfer printing on pottery.

Brooks is now generally accepted as the inventor, but the direct line to Carpenter and Westley runs not from him but from the Liverpool firm of Sadler and Green who opened a manufactory in 1756 to carry out the first large-scale transfer printing on glass. They used black line drawings on transfers taken from copper plates on a huge scale. On six hours of a single day in 1756 they printed 1,200 earthenware tiles.²

Carpenter was born in Kidderminster on 18 November 1776, the son of George and Mary Carpenter. His sister, named Mary after her mother, was born twelve years later. In about 1808 he began an opticians business in Birmingham. His first mention in the Birmingham directories is 1812 when he was running as opticians in Inge Street and was mass-producing lenses, soon becoming the leading British supplier of achromatic lenses. By 1815 he was established in a house and manufactory in Bath

Row.³ In 1817 Sir David Brewster chose Carpenter as the official producer and retailer of his kaleidoscope, invented just a year before. Carpenter applied his engineering skill to simplifying the design, making it easier and cheaper to produce. His kaleidoscopes were stamped 'sole maker'.⁴

The kaleidoscope proved to be a massive success but Carpenter could not keep up with demand and in 1818 he agreed that Brewster could bring in other manufacturers. Brewster had, however, made an error in registering the patent and this provided an opening for astute businessmen to cream off the profits for themselves.

Brewster received little profit from his invention but Carpenter had learnt a valuable lesson in the merits of engineering for mass-production and the importance of protecting your market. He had made a large, short-term retail profit which allowed him to take a shop at 111 New Street, keeping Bath Street as his manufactory. It also gave him the resources to reinvest in new product development. Carpenter was ready to develop a new market. Within three years he had found it.

INVENTION OF COPPER PLATE SLIDERS

It is difficult to say when Carpenter produced the first copper plate sliders but it was probably in early 1821, when he also introduced the phantasmagoria lantern. The sliders started with a simple outline engraved on a copper plate. This was then inked with enamel, usually black or brick red. A wipe of the plate left the ink only in the lines of the etching. This was pressed gently onto a thin sheet of glue which lifted the ink from the plate to form a crude, sticky transfer which could be easily applied to a sheet of glass. It was made permanent by firing in a low-temperature kiln. The slider was then ready to be hand painted.

The slides were mounted in a 35cm-long wooden frame – with three or four glass roundels to each mount. They did not have cover glasses, being secured by a metal retaining spring. Carpenter presented this as a special feature that allowed pictures to be moved around to suit a particular presentation and meant that broken glasses could be easily replaced. Always the wily businessman, he did not mention that these features also made the sliders quick and cheap to produce. I have a feeling that this was his real reason for choosing a system that made the delicate painted surface of the sliders susceptible to casual damage.

It is strange that it took so long for transfer printing on glass to be applied to lantern slides. All of the technology was well established – and had been for some 65 years – by the time Carpenter put it all together. The answer probably lies not in the technology but in the cultural history of the lantern. All the while it was seen as secret knowledge and a vehicle for ghosts and spectres it was not a suitable subject for mass-production. There was no market. In other words transfer printing and mass-production had to wait for lanternists to catch up.

It is interesting that the lantern that Carpenter designed to show the slides of the future was given a name (and a method of operation) that, even in 1821, was clearly associated with the lantern's past. Perhaps Carpenter was deliberately placing his innovation in historic context to make it easily recognisable. A modern example would be Facebook.

The lantern and sliders were a great success. Within a couple of years the original series of eighteen natural history sliders had been increased to 56 to cover the entire Linnaean system. Mindful of the cautionary lesson of Brewster, Carpenter did not rest on his laurels but looked for new ways to grow his market and tie his invention to his own business. This led to the creation of what is – arguably – the first commercial lantern reading, the 'Elements of Zoology – being a concise account of the animal kingdom according to the system of Linnaeus', the first edition of which was published in 1823. We know that the original eighteen-slide set of 1821 was accompanied by a 'description' but no copy of this is known to have survived and it may have been no more than a list. The 1823 introduction makes clear that Carpenter's intention is both education and marketing: 'the following pages ... were published partly to make them [the sliders] more known, and partly with the expectation that even without the assistance of the lantern, the book will prove useful as an introduction to the systematic study of natural history'.⁵

Later in 1823 part 2 of the reading was published as 'A Companion to the Magic Lantern'. This added sets on the Kings and Queens of England, astronomical diagrams, views and buildings, ancient and modern costume and a humorous series. These two volumes provide a catalogue of the original 'Carpenter only' copper plate sliders.

The growing renown of the business attracted a bright young

local apprentice called William Westley to join the business in 1824, when he was 17. He was the eldest of a large Birmingham family that was still growing when he joined the firm. The final tally was six brothers and five sisters, although it is unlikely that they all survived into adulthood, so he was probably motivated by a desire to support the family. Within a few years he had become foreman of the factory.

The huge success of the sliders also allowed Carpenter to expand in 1826 with the purchase of a shop in fashionable 24 Regent Street, London. He retained the Birmingham shop until 1830. In the same year that he moved to London he constructed the first solar microscope, which he exhibited as 'The Great Microcosm'.

At the height of his commercial success Carpenter died on 30 April 1833, aged only 56. His younger sister, Mary, who was clearly a formidable woman, continued the business without interruption, running it on her own for some two years. During this period the factory foreman, William Westley, made himself invaluable. In 1835, when she was 47 and he was 28, Mary graciously acknowledged the partnership that was obviously in existence by then and the firm became known as Carpenter and Westley.

HOW TO SPOT CARPENTER'S ORIGINAL SLIDERS

It is difficult to be certain about the identification of Carpenter slides produced before the Westley partnership began. They were supplied wholesale and Carpenter – ever the good businessman – was keen to maximise his market, so his name rarely appeared on them. Slides stamped 'Carpenter' can, however, be found, as Lester Smith recently described.⁶

The sliders are invariably marked 'copper plate sliders' – but then so are the early productions of the partnership. The earlier sliders use paper labels but Carpenter soon shifted to the cheaper method of stamping the title in the wood. I also suspect that the earliest sliders were painted black before Carpenter moved to the familiar red-stained pine that typifies them.

Figure 1 shows two totally different versions of the same slider – humorous no. 4. The one at the bottom is the pre-1835 Carpenter version, black painted, with no maker's stamp and four glasses. The one above is Carpenter and Westley, red stained with the maker's stamp and just three glasses.

Fig. 1





Fig. 2

Looking at the images on the two sliders (Fig. 2), those on the Carpenter pre-1835 version are much cruder and more basic – both in terms of the painting style and the humour. They hark back to phantasmagoria images. The three images from the later slider are much more ambitiously painted, with one dispensing with the black background altogether. These match the descriptions in a catalogue of 1850.

AN EARLY SLIDER THAT CAN BE PRECISELY DATED

Fig. 3 shows the final slider – no. 9 – in the series 'Portraits of the kings and queens of England', which first appears in Carpenter's part 2 catalogue of 1823 and was part of the firm's outlet for the next 40 years or so. In the 1850 catalogue the four images are George III, George IV, William IV and Victoria.

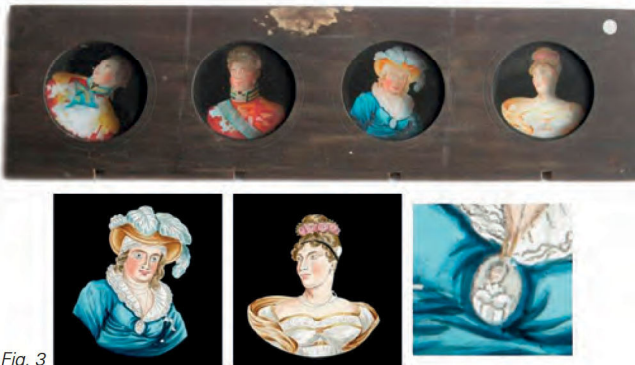


Fig. 3

This slide contains the two Georges but the final two images are very different. There is no William, so this slider must pre-date his accession in 1830. The first woman is Caroline of Brunswick, the consort of George IV, and the mother of his only legitimate heir, who was estranged and living in Europe under threat of divorce until she returned when he became king in 1820. She became the widely respected head of a reform movement opposed to the unpopular George but died in 1821, just weeks after being refused entry to the coronation. The second, younger, woman, must be Princess Charlotte, her only daughter, who died in childbirth in 1817, aged 21, sparking off a Diana-like bout of national mourning. If we look closely the slide depicts Caroline of Brunswick wearing a miniature of her late daughter.

So what does this all mean for the date of the slide? It must pre-date the accession of William in 1830 since he does not appear, so it is therefore a pre-1835 Carpenter production. It is just possible that the slide was produced in memoriam of both the mother and her daughter, but this would still make it a production of the early 1820s since by the latter part of the decade it had become obvious that Victoria was the only heir and she would therefore have merited her own portrait. More than that, however, it is doubtful that Carpenter would have made the overtly political statement of including the Queen after she had been excluded from the coronation in July 1821. In which case the slider must date from the first part of 1821, which means it dates from the year that the sliders and the phantasmagoria lantern were first produced. In other words, it is one of the very first copper plate sliders ever produced.

THE BUSINESS CONTINUES TO EXPAND

Westley's energy, coupled with Mary Carpenter's business acumen and artistic sensibility, made them a formidable team and they focused on growing the business and expanding the range of slides. In just fifteen years they were able to produce a major new catalogue containing all of the old copper plate slider ranges, many updated, plus a set of fourteen botanical illustrations, another of twelve scripture subjects and new high-quality single images of either 2½ or 3 inches diameter, some described as 'circular paintings for dissolving views'. The catalogue boasts that they 'cannot be surpassed in execution'.⁷

An individual superior view cost between 12s and 20s, compared to 5s for the standard copper plate sliders. This was a huge amount of money – the average weekly wage of an agricultural labourer in 1850 was just over 9s and a butler earned about double that. In other words, a single slide equated to two weeks wages for a labourer or one week for the most highly paid of those in service.

There were dissolving view sets, slipper slides, a huge range of 80 'superior views in the Holy Land, Palestine etc', 20 'superior portraits of eminent persons', views to illustrate the phenomena of nature, lever slides and long movable sliders. There were more than 50 different patterns of Carpenter and Westley's trade mark Chromatropes, which they called 'artificial fireworks'. The catalogue describes them as 'singularly curious, the effect being very similar to that of the kaleidoscope'.⁸

This is a vast expansion in the range and quality of the firm's output in just fifteen years. All of their effort was obviously going into the slides since the phantasmagoria lantern had been little changed over this period. The loss of Philip Carpenter was therefore felt chiefly in the abrupt end of the firm's innovations, not its business acumen. Mary and William focused on artistry, not novelty.

The 1850 census provides a snapshot of 24 Regent Street, the centre of this business empire. Mary Carpenter, aged 63, is the head of the household, described as a 'mistress optician'. She is living with Sarah, her unmarried 61-year-old sister. William Westley, also unmarried, is 44 and described as an 'optician master'. His 30-year-old brother James is his assistant and Frederick, the youngest brother, is a 16-year-old apprentice. There are two female servants and three very superior lodgers – a Magistrate, a Major General and a Lieutenant Colonel.

THE IMAGES

So where did Carpenter and Westley find the images for their slides? This is a huge subject of enquiry so I will take just a few examples – one of the most common copper plate slider images and two of the superior slides of the Holy Land that typified the mature products of the 1840s to 1860s.

Figs 4a and 4b show two versions of the original Carpenter rhino image from Mammalia slider 6, which are taken from two different black-painted sliders. The loss of most of the painting from the first slide has allowed the original copper plate outline to show through. The crudity of this image is odd since much better representations were produced a lot earlier than the 1820s.

I have searched without success for a source for this strange image of a rhino with his chunky armour plating and what appears to be a camouflage pattern. It is tempting

Fig. 4a

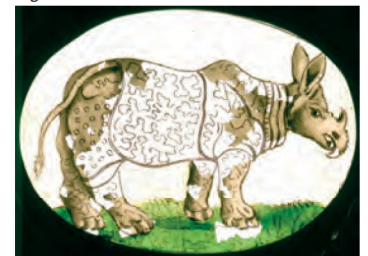


Fig. 4b



to believe that the source might be Clara, who toured Europe for seventeen years and died in London in 1758. Her image was widely circulated and there would have been plenty still around in 1820. Yet none of the drawings of Clara provide a good fit for this strange beast.

The image is probably just a crude interpretation of the famous



Fig. 5

Durer etching of 1515 (Fig. 5), even if the details don't match very well. The 'feel' is similar and maybe the original outline was just very badly done – put out in a rush to issue the sliders in 1821 on the basis of the image most readily available. I suspect therefore that these crudely drawn rhinos can be dated to between 1821 and 1823. This is because the introduction to part 2 of the late 1823 catalogue mentions that 'in the natural history set [by which he means sliders 1 to 18], several of the figures which were not well drawn have been re-engraved'.

So the copper plate outline of the rhino was re-engraved in 1823 because it became obvious that the image was unrealistic and dated. This would explain why the elephants on the same slider do not appear to have changed much between the different versions but the rhino has been totally updated to the anthropomorphic images in Figs 6a and 6b. The likeness is much more realistic and I like the way that the rhino is clearly having a

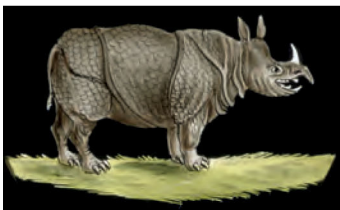


Fig. 6a



Fig. 6b

good laugh. Different artists bring out this broad laughter to a greater or lesser degree.

Figs 6a and 6b illustrate the major differences that can exist within the same copper plate outline. In the first the outline is dominant, giving the rhino a 'scaly' appearance, whereas the overpainting is heavy in the second, which produces a very different effect. The grass is treated in a more detailed manner, the painting is thicker and the colours are brighter and more intense. The first has been produced by a less talented artist who has coloured in the outline with a wash, whereas the second is by an accomplished hand who has done more to shape and shade the image.

The source of this laughing rhino is also difficult to find. The closest I can come is this image from a children's book. Again the fit is not exact (mainly because the mouth is not open) but there are strong similarities.

THE IMAGES OF THE HOLY LAND

The 1850 catalogue supplies a biblical reference for each of the 80 slides of the Holy Land and these are often written in ink on the slide. It includes a note that the illustrations are 'principally copied' from the book *Landscape Illustrations of the Bible* by

the Rev Thomas Hartwell Horne.⁹ This was published in 1836, although the catalogue misprints this as 1846. The 'superior sliders' can therefore be dated to around 1840, although they continued to be the backbone of Carpenter and Westley's output for several decades after that.

The illustrations were engraved by Edward Francis Finden (1791–1857) and William Finden (1757–1852). In 1832/33 their publisher commissioned a series of 37 well-known artists – most of whom had not been to the Holy Land – to produce sketches on which the etchings could be based. The book's learned text by the Rev Horne assumes a good knowledge of the Bible. Its starting point is that the reality of the landscape will reinforce and illuminate the essential truth of the referenced text. Carpenter and Westley clearly expected the slides to have the same effect. They were not travel pictures, they were sermons.

Figs 7a and 7b show the etching of Mount Lebanon and the corresponding slide. The artist for the original image was J.M.W. Turner, working from a sketch by Sir Charles Barry, the future architect of the House of Commons.¹⁰ The slide artist has followed the original engraving as closely as possible whilst adapting it to a circular format.

Fig. 7a

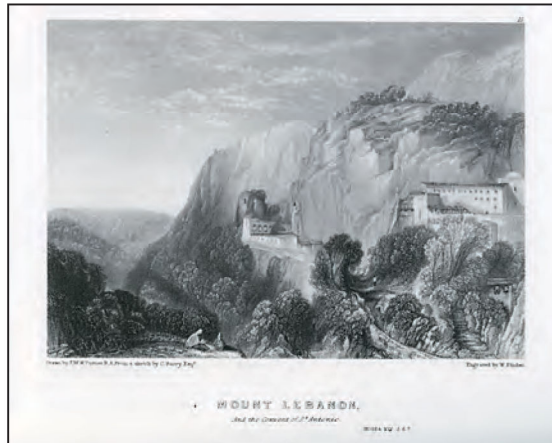


Fig. 7b



Fig. 8 shows the slide of 'Sardis, one of the Seven Churches', which is also directly based on an etching from Horne's book.¹¹ The original, rather dull, on-the-spot sketch for this slide is a picture by a Mr Maude which is in the British Museum. The Findens gave it to Thomas Clarkson Stanfield RA (1793–1867) and asked him to jazz it up. Stanfield, who also painted dioramas and panoramas, knew exactly what to do. He added lightning and a rider thrown from his horse by the thunderclap¹².

This was the version that Finden engraved and that Carpenter and Westley used. As well as linking the view to a prophecy of the end of the world it also made the image more saleable. Art, dioramas, engraving, lantern slides and the Victorian taste for morality and melodrama all come together in this one image.

Fig. 8



THE ARTISTS

Whilst there is plenty of information about how the images were sourced, I have found little about how the individual slides were painted. It seems that whilst slide tinting was undertaken in

factory conditions by the big producers later in the century, as well as being a low-skilled cottage industry, the earlier slides and the 'superior' products from the middle of the century were coloured by real artists working at home.

It is frustrating that we chiefly know about the few 'big names' at the very top of the market who signed their slides and received all of the credit, whilst knowing almost nothing about the huge number of highly skilled artists who produced the vast majority of the slides that have survived. I have, however, managed to uncover the names of a few of Carpenter and Westley's actual slide painters.

First, Joseph Harris, who lived in Tonbridge. In the 1881 census, aged 67, he was clearly so proud of his history that he made the census enumerator take up two lines for his occupation (something not normally done), which is given as 'optical slide painter for messrs Carpenter and Westley'. Joseph started as a painter of Tonbridge ware. He lived with his brother and father, both of whom were artists. By 1851 his brother had started painting slides and by 1861 Joseph was doing so as well. He never married and died in 1886, aged 73.

Second, James Chaplain, whose father was also a slide painter. Edwin, James's younger brother, was a japanner as well as a slide painter for the rival Birmingham optician Robert Field.

Third, Stanley Henry Baker, a slide painter and lanternist with Carpenter and Westley until the late 1860s. He attended the Birmingham School of Design and went on to become a major landscape painter and President of the Sutton Coldfield School of Arts. Westley supported his ambitions by buying paintings from him in 1869. Henry Baker, his son, was also a slide painter. Zillah Scott, who has researched the Bakers, has discovered that their diaries refer to painting scenes of the Holy Land, so it may be their hands behind the slides illustrated earlier in this article.¹³

A number of common factors emerge from these painters which give an insight into Carpenter's large network of slide painters:

- They were highly skilled artists, not craftsmen;
- They usually had another artistic string to their bow, since slide painting was rarely enough on its own;
- They worked from home, which enabled the firm to keep its fixed costs low;
- They demonstrated considerable personal loyalty to the firm;
- Slide painting tended to run in families, with the skill passed on from father to son.

These unrecognised and highly talented artists were the key to the massive growth of the lantern before photography and they provide a rich seam for future research.

THE END OF CARPENTER AND WESTLEY

It is always more difficult to plot the demise of a business than its rise as the records are poorer and the attention paid to them much less. Declining firms are less likely to produce informative catalogues and most gradually peter out almost unnoticed.

Mary Carpenter was still head of the household at 24 Regent Street in the 1871 census. She was 83 and the business appeared to be thriving, with two servants and two of William's nephews as apprentices – one of which, Westley Horton, had clearly been named in tribute to his successful uncle. There was also still a military lodger – a colonel this time.

Mary died in 1877, aged 90, and by the 1881 census William is 74 and the head of the firm. He has remained unmarried and his widowed brother John has joined the household, which now includes two of his nieces and two nephews. The distinguished military lodgers have gone and the household has the feel of a family business that is beginning to look in on itself as it is challenged by larger, more enterprising competitors.

William died aged 79 on 22 January 1887 and it seems likely that lantern slide production ceased at or just before this time. I have never located a Carpenter and Westley slide with subject matter that can be confidently dated to post-1887 and it appears that William Westley's network of artists died with him. The business continued as opticians, no doubt taking many years to sell off their remaining stock of lanterns and slides. It apparently passed to a William Manning, whose nephew, Eric Manning Stokes, is shown as one of Westley's assistants in the 1881 census. Eric inherited the business in his turn and it was his daughter, Ella Margaret Stokes, who was the last representative of Carpenter and Westley when it was sold to a major chain of opticians in 1940.¹⁴

There is a great deal more to be discovered about Carpenter and Westley. I have only been able to scratch the surface. Philip Carpenter's inventiveness and drive created a business that lasted some 100 years. The quality of the slides has spoken for itself for nearly 200 years. They are a living legacy.

NOTES

1. Letter from Benjamin Franklin to Peter Perez Burdett, 3 November 1773, quoted in 'Did Benjamin Franklin invent transferware?' by Wendy W. Erich, *Burlington Magazine*, CLII, July 2010.
2. www.stokemuseums.org.uk 'A brief history of tile making'.
3. 'Philip Carpenter 1776-1833' by John Barnes, *New MLJ* Vol 3, No 2 (December 1984) p8.
4. 'The Perfectionist Projectionist' by Stuart Talbot, *Bulletin of the Scientific Instrument Society* No 88, 2006. Reprinted in *New MLJ* Vol 10, No 3 (Autumn 2007) p49.
5. 'Elements of Zoology – being a concise account of the animal kingdom according to the system of Linnaeus', London, 1823. Quoted in 'The Pieces Fit' by David Henry, *New MLJ*, Vol 3, No 1 (February 1984) p8.
6. 'The Slipping Slides of Carpenter and Westley' by Lester Smith, *MLS Newsletter* 110, *New MLJ* Vol 11 No 3 (December 2012) p18.
7. 'A Companion to the improved Phantasmagoria Lantern, containing a list of the subjects; to which is added a description of the lantern and copper-plate sliders, with the method of exhibiting the dissolving views' London 1850.
8. *Ibid* page 46.
9. *Landscape Illustrations of the Bible, consisting of views of the most remarkable places mentioned in the Old and New Testaments from original sketches taken on the spot* by the Rev Thomas Hartwell Horne, published in two volumes, London 1836.
10. *Ibid* Vol 1 plate 3.
11. *Ibid* Vol 2.
12. Victoria and Albert Museum collections online: www.collections.vam.ac.uk/item/O152282.
13. 'Glass to Canvas, the career of S H Baker' by Zillah Scott, unpublished article.
14. I am indebted to Joanna Campling, a direct descendant of William Westley, for much of the information about the later family history and for helping me to piece together the last years of the firm. Ella Margaret Stokes was Joanna's great aunt.