

The Magic Lantern

THE NOAKES 'QUAD': FOUND AT LAST!

Richard Crangle

THE STORY SO FAR

At the first MLS Convention I attended in the early 1990s, I found myself admiring a fine triunial lantern, which looked to me like the absolute pinnacle of what could be achieved with brass, mahogany and multiple lenses. However older and wiser members set me straight, telling fantastic tales of another lantern which surpassed this, a grand machine with no fewer than *four* lenses. It was called 'the Noakesoscope', after its maker D.W. Noakes (Fig. 1), purveyor of lanterns and slides and giver of shows at high-class locations like the Royal Albert Hall and the Crystal Palace. Unfortunately – rather like the unicorn, whose magical status this rare beast seemed to share – that glorious lantern had now vanished into the mists of time. Nobody knew where it was and, in the absence of any tangible evidence that it still existed, to a newcomer like me it began to seem like something dreamed up after too much toasted cheese and dissolving views.

Nonetheless there was a lot of interest among MLS members, and some older ones even claimed to have seen the device in action. Over the years many individuals followed up various lines of research and in time I did a bit of digging myself.¹ Several articles appeared in the Society's Journal,² and evidence began to emerge of the beast's public appearances: at the National Film Theatre and Lyric Theatre Hammersmith in 1961; in a National Portrait Gallery exhibition in 1974; but then nothing further.

The subject came up occasionally at Society meetings – as recently as last autumn, Aileen Butler raised the question of where it might be (*TML* 29, p. 16). My research in 2018 had led me to two conclusions: the lantern and its slides definitely still existed in 1994, in the care of someone who knew and understood them; and they probably still did exist. I even thought I might have worked out who owned it but was unable to establish contact and had to let the quest lie dormant once again.

THE BEAST EMERGES

It therefore came as a wonderful surprise – but perhaps not so surprising at all – when in January news began to circulate that 'an interesting magic lantern' (Hugo Marsh's wonderfully downplayed description) was coming to sale at Special Auction Services (SAS) in Newbury, UK. When that news then turned into an invitation to view the item and give our opinions, Martin Gilbert, Lester Smith and I leapt at the opportunity, and spent a fascinating day in early February inspecting, photographing, puzzling over design features and sorting slides.



1. David William Noakes (1859-1934) – a portrait in later life, when he was President of the British Hay Traders' Association



2. The Noakes Quad lantern, right profile, with the lens extension tubes in place and the body tilted back to the full extent

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3. Noakes's lecture slides in their carrying boxes (photo: Martin Gilbert) and detail of slide from England Bisected by Steam Launch

The lantern itself (Fig. 2) is in its original wooden carrying case, with additional boxes for lenses, illuminants and slides. For transport and storage the enormous brass lens tubes are removed and carried separately; even so the lantern in its case is too large for a single person to move any distance.

Two groups of slides accompany the lantern. The first group comprises around 700 wood-framed slides (Fig. 3), in sets corresponding to the lectures Noakes gave in the 1890s: *England Bisected by Steam Launch*; *The Victorian Era*; *Tamesis*; *Rambles in Normandy and Brittany*, among others. There are some dissolve sequences, including *The*



4. Details of slides from the dissolve sequence *The Lodge*

Lodge (Fig. 4) and *Channel Packet Leaving Dover* that were mentioned in 1950s accounts by the poet John Betjeman and others. Apart from a few mechanical and other effect slides, these are all 3¼ inch square glass slides mounted in 7 x 4 inch wooden frames. They are now stored in large cardboard boxes with a few in the (probably original) wooden carrying boxes seen in photos of the lantern in use in 1961. These were D.W. Noakes's own lecturing slides – many are his own hand-coloured photographs but augmented by commercial slides from other well-known makers.

The second group comprises possibly 5,000 or so 3¼ inch slides, mainly photographic 'views' but including some transfer slides (Primus, Theobald, etc.) of fairy tales and other entertainment subjects. These are housed in the typical long wooden storage boxes with hinged lids, with between 50 and 100 slides per box arranged in subjects and sets. They could have been collected at a later date but the subjects and the way they are organised suggest the hire stock of a commercial supplier, quite possibly at least a remnant of the Noakes hire stock.

Just as exciting for a researcher are a number of photographs, negatives and papers. Some of these are very revealing: a view of Noakes's workshop (Fig. 5), including the quadruple lantern proudly on display, is packed with detail, and another of a Noakes display at a photographic exhibition shows a triunial among other lanterns and photographic items. There are also programmes for 'Noakesoscope' showings from the 1960s to 1980s, press cuttings relating to the Noakeses and the quadruple lantern, and odd papers covering things like D.W. Noakes's year (1921-22) as President of the British Hay Traders' Association.



5. Noakes's workshop, with *Quad lantern as built*. The figure on the right may be D.W. Noakes himself (the emulsion on the negative is distorted) and the device on the bench top at left is a film projector, suggesting a date after 1896 (digital positive from glass negative)

TECHNICAL DESCRIPTION

All references to 'right' and 'left' here refer to the sides when viewing the lantern from the back, i.e. when looking 'forward' towards its lenses.

- The lantern body is a single wooden structure (i.e. not a triunial with a demountable 'single' or two stacked biunials), but is no taller than the average triunial: 35 inches (1 inch = 2.54 cm) including the baseplate, plus 2 inches for the detachable domed top and maybe another 6 inches for the absent chimney cowl. The body is 10 inches long and 9¼ inches wide, attached to its baseplate (23 by 11 inches) by two hinges along its back edge – this allows it to be tilted to elevate the lenses by around 10 degrees, secured by rotary clamps at the front corners (Fig. 6).³
- There are four hinged access doors (6½ by 5¾ inches) on the right side, aligned with the illuminant chambers inside, and four dummy doors (moulded wooden panels screwed onto the body, complete with fake catches and inspection windows) in matching positions on the left side. The interior of the body is lined with tin sheet spaced from the wood.
- The original chimney cowl is missing (and also not visible in a 1940s photo, Fig. 9). The chimney hole in the lantern top has been blanked off with a metal sheet to prevent light escaping upwards. There is a clue as to where the cowl went (probably for repair) among the accompanying paperwork and in the 'workshop' photo it appears to have been a standard Noakes pattern.
- There are three sets of objective lenses (6, 8 and 10 inch focal length) and a set of lens extension tubes. These allow configurations for projection in spaces ranging from a small parlour (Gordon Noakes used the lantern in his home) up to the Albert Hall (around a 130 ft [40 m] 'throw' giving an image width of 40 ft [12 m]). There are also, unusually, five extra sets of condenser lenses of varying convexity and focal length, which could be swapped in and out of the cylindrical condenser mounts within the lantern body to give further variations. In other words this was the travelling set-up of a highly professional, indeed perfectionist, lanternist who knew exactly how to achieve the best effect in different situations.



6. Rotary clamp at right front corner of lantern body, guiding it during tilting and securing it in its elevated position



7. Rear view of the lantern, showing modern electric cabling and switches. The four horizontal brass bars include clamps for the illuminant mountings and thumb-wheel lateral adjusters, which have no obvious current usage but may be recycled components from the original limelight fittings.

- It was originally illuminated by limelight: screw holes in the back of the lantern correspond to the mountings of a dissolving gas tap and pipe fastenings, as seen in the 'workshop' photo. However there are references in accompanying press cuttings to electric arc illumination, so it was modified at some stage (perhaps by Gordon Noakes). The current lamp fittings, which are fed by post-1970s cables arranged neatly on the back of the lantern (Fig. 7), are bayonet mountings for large 500-watt projector bulbs. These are mounted on horizontal bars with thumbscrews for lateral adjustment relative to the lantern body, which

probably relate to the electric arcs

rather than being original (they are not visible in the 'workshop' photo).

- Perhaps surprisingly there are no lifting handles (the triennial in the Cinémathèque française does have these). Moving the heavy lantern is an awkward operation requiring two people, who either have to lift from under the baseplate (risking squashed fingers) or grip the lens tubes and the cut-outs in the lantern back, neither of which are very convenient or secure.

The lantern was a 'workhorse' rather than a 'show pony' – compared to some triennials there is no ostentatious decoration, beyond the typical wooden beading, shaped chimney and brass fittings contrasting with the mahogany body. This may reflect its being built for Noakes's own use, rather than in the hope of attracting commercial orders. It shows signs of considerable use: some of the metal surfaces are rubbed and worn, and the wooden body has localised charring.

ODDITIES – AND A DATE

Rather surprisingly, the four lenses are not aligned along the vertical centreline of the lantern body, being one inch closer to the right side than to the left. There is no obvious practical explanation for this. The same arrangement is replicated inside the body, where the metal lining includes an additional spacing chamber at the left side, running through all four compartments (Fig. 8).

Both sides carry engraved brass plates reading 'NOAKES' PATENT.' No patent for a four-lens lantern is known and it is unlikely that such an 'invention' would have been patentable anyway, being just an extension of the principles well-known in the 'prior art' of biennial and triennial lanterns. If the four-lens configuration had been patented, we might expect it to have been made commercially: patents require the invention to find commercial success to recoup the initial and ongoing fees. The 'Noakes Patent' designation must refer to one or more detailed design refinements, probably the same ones claimed by similar plates on Noakes's triennials.⁴

The right side also has a brass maker's plate at the top, reading:

D.W. NOAKES
 "PLEYDELL"
 HUMBER ROAD
 WESTCOMBE PARK S.E.

That is the address recorded for Noakes in the 1901 Census, and is probably the house at Westcombe Park mentioned as "lately purchased" in an 1897 *OMLJ* interview, where he lived until around 1924.⁵ The plate could, of course, have been added later, though it is overlaid by other fittings and looks original. If it was attached during construction, the lantern can have been made no earlier than 1896.

There is other circumstantial evidence on dating. Noakes published a small booklet listing lectures he offered, giving the same post-1896 Humber Road address and including the remark that "I have constructed a Quadruple projection apparatus (the only one existing)."⁶ The booklet quotes glowing press reviews, including one praising a "very fine lantern, which was manipulated with practised skill" – however the original 1893 newspaper source of that quote used the wording "very fine patent triple lantern."⁷ In other words the Quad was not in use in 1893. Yet it definitely was in use by 1901 when (the earliest press reference found so far) a lecture by Pastor Charles Spurgeon was supported by "Mr D.W. Noakes with his Quadruple Dioramic Lantern."⁸

A (VERY) SHORT HISTORY OF THE NOAKES QUAD

The slightly awkward name 'Noakesoscope' was apparently coined by John Betjeman on seeing the lantern in 1956. D.W. Noakes himself called it 'a Quadruple projection apparatus,' and within the Noakes and Harold families it seems to have been known as the 'quadruple projector' or 'quad lantern'. It might be more accurate to refer to it as the 'Noakes Quadruple' or 'Noakes Quad' from here on.

I suggest that the lantern was built in or soon after 1897, for D.W. Noakes's own use in his lecturing engagements. That date, paradoxically, coincided with his retirement as an optical manufacturer: the 1897 *OMLJ* account says that was because he took on more work for the family's hay merchant business after his father's retirement. In 1897 Noakes was planning to set up a "miniature workshop" at his new home, "so that when any idea pertaining to lanterns occurs to him he will be able to practically carry it out in a manner worthy of a lantern enthusiast."⁹ It's tempting to see the Quad lantern as just such a personal project, perhaps realising a long-nurtured dream.

Noakes's son Gordon (Fig. 9) joined his father in his lecturing activities, eventually succeeding him in his role as 'official lanternist' at the Royal Albert Hall and taking over ownership of the Quad. Gordon continued as a lanternist as a sideline to his main business as a 'general and electrical engineer' with a shop in London Street, Greenwich,



8. Lantern body (top removed) seen from above, showing offset of lenses (closer to right side than left), corresponding internal spacing chamber, modern projector bulb and cardboard storage packing, and slight charring of the rear wall of the lamphouse



9. Gordon Wycliffe Noakes (1885-1958) with the Quad lantern at home in Southend-on-Sea: a retouched press photograph published in the Southend Pictorial in January 1948



10. Alfred Harold (1903-81) and his wife Eliza (née Hayes, 1904-81). Photo possibly by Gordon Noakes in the early 1930s (digital positive from glass negative)

spectacular lantern might have fitted into that sensibility. But there was little contemporary celebration of the Quad – for example the 1897 OMLJ interview does not mention it, when surely it would have been worth a line or two as the highpoint of Noakes’s achievements. But then, if it was made in or after 1897, Noakes was no longer a commercial lantern maker, and there would have been no need to advertise widely a personal project for its maker’s own use.

Perhaps the Quad had ‘arrived too late to the party’. If its construction was ‘in or after’ 1897, the Quad would have been built at a time when all the investment money and most of the technical effort in the optical area was going into improving cinematographs, and few if any spectacular lanterns were being developed. Without restarting the ‘death of the lantern’ fallacies that used to hover around the equally problematic ‘birth of the cinema’, at the turn of the 20th century elaborate dissolving-view entertainments, which would have been the Quad’s main *raison d’être*, were no longer an expanding market.

Perhaps it was also a question of ease of use, or lack of it, compared to whatever advantage four lenses would give. cursory examination of Noakes’s lecture slides does not reveal many obvious four-stage dissolve sequences (*The Lodge* is one exception) – probably because the slides predated the Quad lantern and were originally used with a triunial. There must have been some sequences that would benefit from the extra lens (or else why build it?) but it would add another level of difficulty to an already tricky process.

Relatively few lanternists – generally only those with well-established skills and experience, not to mention finances – operated even a triunial. It must have been a challenge to juggle four images, almost certainly requiring two operators collaborating

apparently until the late 1940s or early 1950s. He retired to Southend-on-Sea, Essex, and continued to use the Quad for small domestic shows to visitors, including the 1956 visit from Betjeman.

Between 1956 and Gordon’s death in 1958 the Quad was given to Alfred Harold (Fig. 10), a long-time friend of the Noakes family who also (according to David Francis) acted as Gordon’s projection assistant at the Royal Albert Hall. The Harolds and Noakeses were close friends over many years, living at the same address in south-east London in the mid-1930s.¹⁰ Alfred’s son John stayed with the Noakeses in Southend as a child and later referred to Gordon’s wife Florence as ‘Auntie Noakes.’

Alfred Harold used the Quad (by then described as the ‘Noakesoscope’ in publicity) to give the public shows of 1961, assisted by John, and allowed its exhibition at the National Portrait Gallery in 1974. On or before Alfred’s death in 1981 the Quad passed to John (Fig. 11), who worked as a projectionist and sound recordist for Kodak for many years. He continued to use the lantern and slides occasionally for ‘Victorian evenings’ and other charity shows in the counties around his home in Chesham, well into the 1980s (Fig. 12). He also began to research the history of the lantern and the Noakes family.

The lantern was put into storage in the mid-1990s, when John retired and the family moved to Cornwall: the lamps and lenses were removed and boxed, and the lamp chambers were packed with newspaper (dated 1995). The lantern and slides were clearly stored carefully: though a little dusty in places, everything is in good condition, with little damage to the slides and no signs of damp or pest problems.

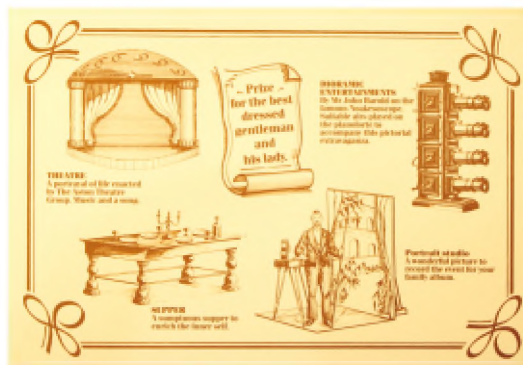
WHY ONLY ONE?

The most obvious question about the Noakes Quad is: if it genuinely was the only four-lens lantern ever made (there still seems to be no evidence of another), *why?* D.W. Noakes was a successful commercial lantern builder with a reputation for quality and a penchant for publicity – did *nobody* else want their own ‘extra special’ lantern?¹¹

Perhaps Noakes wanted to keep such a special design to himself. As a lanternist he was not shy of big spectacular occasions and a big



11. John Harold using the Noakes Quad lantern at a performance in the 1980s (Harold family collection)



12. Programme for charity ‘Victorian Evening’ featuring ‘Mr John Harold on the famous Noakesoscope,’ Aston, Hertfordshire, 13 April 1985

very closely. Without such a team (for example, a father and son) perhaps the added complexity would have just seemed too much trouble to consider.

Author's note

For a lantern researcher, even one who can't profess much knowledge about hardware or the operational side of lanterns, it's been an absolute privilege to have the chance to 'meet' and inspect the Noakes-Harold lantern, and I must express my sincere thanks to Hugo Marsh of SAS, Martin Gilbert, Lester Smith, Lisa Harold and Yvonne Mashen (née Harold), for this once-in-a-career opportunity. Everyone with an interest in such things also owes great respect and gratitude to Alfred and John Harold for preserving the Quad and its slides with such care, ensuring the survival and future of this unique piece of projection heritage.

Except where credited otherwise all photos are by the author, by kind permission of SAS and the Harold family.

NOTES AND REFERENCES

1. To name a few, in alphabetical order: Tony Brown, David Francis, Peter Gillies, John Kennedy Melling, David Robinson, Lester Smith and Mike Smith
2. See David Robinson, 'John Betjeman visits Mr Noakes', *New Magic Lantern Journal (NMLJ)*, vol.8, no.3, December 1998, p.1; John Kennedy Melling, 'The Noakes family and the 'Noakesoscope'', *NMLJ*, vol.10, no.1, autumn 2005, pp.3-6; Mike Smith, 'On the trail of the Noakesoscope', *NMLJ*, vol.10, no.6, autumn 2010, p.107; and Jeremy Brooker, 'Prominent Magic Lanternists: David Francis – Part 1', *TML* 4, September 2015, pp.12-13. All are available via the MLS website, www.magiclantern.org.uk/publications.
3. The tilting feature and other design elements are also seen in other Noakes lanterns, for example a triennial now in the Cinémathèque française – see [www.cinematheque.fr/fr/catalogues/appareils/andsearchfor/AP-04-2457\(1/3\)](http://www.cinematheque.fr/fr/catalogues/appareils/andsearchfor/AP-04-2457(1/3)).
4. D.W. Noakes took out two patents: 'Improvements in Magic Lanterns and Limelight Apparatus', BP 6,154 of 6 May 1886 (accepted 5 April 1887); and 'Improvements in the Method of Mounting Photographic and other Lenses', BP 12,343 of 3 August 1889 (accepted 19 October 1889). Both described detailed design improvements such as limelight jet adjusters, gas dissolver taps and masking plates for the lantern slide stages. Many thanks to Meron Kassa of the British Library for her generous help in finding these.
5. Noakes's address history in the standard genealogical records is quite complicated. His father (also David) lived at several of the same addresses; there were home addresses as well as business premises; and the Noakes family appear to have owned several properties at the same time, possibly for commercial rental. The earliest date for Humber Road is 1897 or very late 1896, though the first definite evidence for Noakes's residence at 'Pleydell' (number 81) is the 1899 Electoral Roll.
6. *Syllabus of Dioramic Lectures given by Mr D.W. Noakes*, D.W. Noakes, London, late 1890s, p.2. A copy is in the papers accompanying the Quad lantern.
7. 'Saturday Nights for the People', *Beckenham Journal*, 4 February 1893, p.6. The lecture given on that occasion was *Tamesis, or River Work and Play*.
8. *Kentish Independent*, 29 November 1901, p.1 col.b. Spurgeon's lecture *Street Characters and Cries* was given at East Greenwich Baptist Church on Thursday 5 December 1901.
9. 'Prominent men in the lantern world: no. III – Mr D.W. Noakes', *OMLJ*, vol.8, no.92, January 1897, pp.3-4 (here page 4)
10. London Electoral Register, Ladywell Ward, 1931-39. Alfred and Eliza Harold were at 86 Brookbank Road, Lewisham, London SE, throughout those years. In 1932 Gordon and Florence Noakes were next door at number 84; in 1933-34 both families were at 86; by 1935 the Noakeses had moved away.
11. There is an intriguing reference in a 1909 interview with the leading British lanternist C.W. Locke ('Lantern Rays', *Kinematograph and Lantern Weekly*, 1 July 1909, pp.357-359). Locke observes that "Excellent results are obtainable with a good triple lantern, but I should myself prefer a quadruple projector. Without egotism, I think I may say there are to-day few operators who really could control the latter properly. [...] To thoroughly master the manipulation of a triple lantern requires years of practice and constant study and experiment, but a clever operator can in time utilise a quadruple lantern with additional interest to the audience." Locke was a partner in Noakes's lantern business from 1887 until 1895, and left on apparently friendly terms: my interpretation would be that Locke had used (or assisted with) the Noakes lantern, rather than that he had his own Quad, but...