THE TRUE INVENTOR OF THE MAGIC LANTERN

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THE FACTS ARE CLEAR: the earliest known references to the magic lantern appear in the correspondence of Christiaan Huygens (1629–95). All modern historians accept Huygens as the probable inventor of the magic lantern, pace Athanasius Kircher and his acolytes. Through his connections to most of the early reports of the lantern in the 17th century – including those of Pierre Petit (1664), Balthasar de Monconys (1663), Richard or John Reeve (1663–4) Robert Hooke (1668) and Thomas Rasmussen Walgensten (1665) – Huygens seems to have been at the centre of lantern activity throughout Europe. Nonetheless, I would like to offer some ideas about other possible inventors – offerings of sheer, if logical, speculation – because the story of Huygens as the inventor of the magic lantern, or even as its main progenitor and the focus of its spread across Europe, sits uneasily in the mind.

The awkwardness that Huygens felt for the lantern is the fragile part of the story. As is well known, Huygens resisted attempts by his father, then Dutch Ambassador to the French court, to get him to make a lantern he could use to amuse his colleagues in Paris. And he conveniently ‘forgot’ how to position the lenses when asked by Pierre Petit. Huygens was clearly not proud about this ‘invention’. The usual explanation quotes his letters to his brother, then secretary to his father, where he says of such optical trifles that ‘People are obliging enough to make it appear that they admire them, but afterwards they make fun of them and not without reason.’ The assumption is that Huygens, ‘ashamed’ to be associated with the lantern, thought it would damage his reputation as a scientist. But could this really be so?

Christiaan Huygens was a figure whose importance to 17th-century science is second only to that of Newton. When the lantern appeared in his notebooks and letters between 1658 and 1664, Huygens had already discovered one of Saturn’s moons, properly described the planet’s rings, commissioned his first pendulum clock, and published several mathematical works. In 1663 he was elected to the Royal Society in London, and in 1664 received his first grant from Louis XIV of France; he was a leading experimentalist, widely travelled, and in close touch with the best minds throughout Europe. Apart from the inherent contradiction of suggesting that information about the lantern spread from Huygens to Walgensten, Hooke, de Monconys, Reeve and others even though Huygens kept his knowledge secret, it seems far-fetched to assume that knowledge of the lantern would have inhibited Huygens’ scientific work in any way. But there are further considerations.

As the inventor of the magic lantern, Huygens should have been able to establish how it was first used. Especially in the earliest days, there were respectable uses for the lantern as well as superstitious and entertaining ones: surviving early slides have images of archbishops and heraldry, and scenes from the Bible. The lantern show that Johann Franz Griendel presented for Charles Patin in July 1672 included images of Roman gods, a stately palace, and a flight of birds painted ‘almost after the same manner as they are usually painted round about Orpheus’. Two students of Johann Conrad Coccejus suggested the preparation of slides on biblical history, geography, natural history and even mathematics in 1705. Why was Huygens so convinced that people would ‘make fun’ of the lantern?

One inference that can be drawn from Huygens’ embarrassment is that he was not the lantern’s inventor, that it had an existence before he took some notes about it and, possibly, refined its optical system. As a modern scientist, who advocated only mechanical solutions to unexplained phenomena and fought for a new experimental model of science whose results could be repeated, Huygens made notes on everything he saw and studied. What if someone had brought him a lantern, or he had seen a lantern show, perhaps with satirical or superstitious slides that influenced his view of the instrument, and he had then just made some notes on its construction, on how he might adapt it for a favourite image (the Dance of Death), and on how he might alter its optical arrangement? If this could have been so, we need to look at literature before 1659 to see if there is any evidence of the lantern before Huygens.

I want to propose a few other candidates for ‘the inventor of the lantern’, even without evidence prior to 1659, who could have shown Huygens such an instrument. I have no insights into the obscure ‘lanterns’ of Jean Prevost, Giovanni da Fontana, or others, and will not repeat the suggestion that Walgensten was the inventor, since his activity cannot be dated before 1664. Rather, I would like to introduce some new characters, in the hope of encouraging further research.

CANDIDATE 1: JOHANN WIESEL (1583–1662)

A producer of fine optical instruments in Augsburg from about 1622 until his death, Johann Wiesel established an international clientele for his microscopes, telescopes, spectacles and other optical devices. He worked for the German Emperors Ferdinand II and III, plus noble patrons across Germany, Austria-Hungary, Sweden, Denmark and Italy, and probably built the first microscope with a field lens about 1650. Richard Reeve was specifically trying to surpass the quality of Wiesel’s lenses under the patronage of Sir Paul Neile in the late 1640s. Naile examined a Wiesel telescope bought by Benjamin Worsley in 1649, and Wiesel’s three-lens microscopes arrived in England in 1651; Reeve made the same improvement in his own instruments in 1652. Samuel Hartlib, Wiesel’s principal contact in England, circulated his list of instruments to (among others) John Pell, Johannes Helvius in Danzig, and Marin Mersenne in Paris. Most of the sales of Wiesel’s instruments in England and the Netherlands were handled by an agent in Amsterdam, Johann Moraeaen, who sold a Wiesel telescope to Huygens’ father in 1655. When Huygens and his brother became interested in grinding lenses in 1652, they examined a Wiesel telescope in the collection of James Edelheer in Antwerp, and Huygens obtained another Wiesel telescope and microscope in 1654, carefully measuring the focal length of the lenses and sketching their positions.

Although partial lists of Wiesel’s offerings in 1630, 1646 and 1650 survive, containing brief descriptions of seven or eight items, these do not mention anything that could be construed as a magic lantern; this first appears in a list of his son-in-law Daniel Depiere, from 1674. Depiere continued the production of Wiesel’s instruments after 1662 until his own death 20 years later. Depiere’s 1674 list was printed; it is the oldest surviving printed catalogue of a European instrument maker (see 2). Item 25 in this list is ‘An
his lantern in Germany, and Huygens was primarily linked with Paris and London. There is no known connection between Grienfeld and Huygens, but at the same time, in his important book Micrographia nova, Grienfeld mentions that he owns a microscope built by Robert Hooke. This indicates that (at least by 1687) he was aware of developments in the west of Europe and there may have been some exchange of instruments in either direction. More work needs to be done on Grienfeld’s monastic life in Würzburg, Munich, Salzburg and Kitzingen before 1670.

**CANDIDATES 4 TO ... ?**

Among the many other figures who might have seen or demonstrated the lantern before 1689 is Nicolas Claude Fabri de Pierses (1580–1637). Widely travelled and particularly interested in astronomy and optical instruments, this clerical lawyer from Aix-en-Provence was one of the first to see a demonstration of Cornelius Drebbel’s microscope, of which he wrote a long account in 1622. Pierses was a correspondent of Marin Mersenne and Ismael Boulliau in Paris, and of Samuel Hartlib and Henry Oldenburg in London (Hartlib was at the centre of a scientific information network that extended across northern Europe). Another candidate is Johann Moriaen (1591–1668). This instrument maker and assiduous correspondent of new information spent the early part of his career in Cologne, Nuremberg and elsewhere as a Reformed pastor before settling in Amsterdam and becoming an agent for south German instrument makers. Also part of Hartlib’s circle, Moriaen was in touch with John Dolland and Richard Reeve, knew Drebbel’s family from Cologne (before 1638), and befriended John Pell, René Descartes and others. The list of possible candidates without clear evidence of involvement with the lantern is endless. But one thing is certain: the account of the relationship of the lantern to Christian Huygens, the first person from whom we have any decisive evidence of its existence in a proper form, is an uneasy and awkward one. It would be worthwhile looking a little further, a little earlier, to see whether a more sensible account of the origins of the lantern is waiting to be found.


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**NOTES**

1. As a specialist in the invention of moving pictures in the 1890s, I am well aware of the dangers of putting speculation into print, and the time wasted by later historians in tracking down and discounting myths which seem to have eternal life. But bear with me, there is method in this madness.


5. Over 130 scenes copied from Kraus’s famous picture Bible were commissioned by Johann Conrad Beuthner in Augsburg in the 1740s.


7. Samuel Ulswerpe and Georgius Ericus Remmellinus, Phanenoptera terrampi magiae at statuum expersius dissertationes academica ... Praeside Johanne Conrado Crellingi (Tübingen, 1705), Kap. III, p. 59.

8. On Wiesel, see Inge Keil, Augustanus Opticus: Johann Wiesel (1583–1662) and 200 Jahre optisches Handwerk in Augsburg (Berlin: Akademie Verlag, 2000). This exceptional book contains much information on optical craftsmanship in southern Germany and its transfer across Europe; there is a brief English summary at pp. 371–88.


