



1. Friedrichstr. und Leipzigerstr. in Berlin (Helmut W Ide collection)



2. Porte St Martin in Paris (Helmut W Ide collection)



3. Parliament Square with Big Ben in London (Helmut W Ide collection)

SKLADANOWSKY'S STEREOSCOPIC PHOTOGRAPHS AND THEIR ORIGIN

Bill Barnes

In January 2016, Helmut Wälde gave a presentation of original anaglyphic slides by Max Skladanowsky (with special spectacles supplied) to the Magic Lantern Society. This included high-quality images of Germany and London from the first years of the twentieth century – three are reproduced here. Helmut comments: 'The most interesting anaglyphic slides show daily life scenes like Friedrichstr. und Leipzigerstr. in Berlin, Porte St Martin in Paris and Parliament Square with Big Ben in London (see Figs 1, 2 and 3). These slides are extremely rare. Until now the only known examples were to be found in the archive of Max Skladanowsky in the German "Bundesarchiv". Recently a source was found that mentions a demonstration of Max Skladanowsky's anaglyphic slides at a photographic exhibition in Leipzig in 1904¹. The same source also says that, at that time, the only surviving manufacturer of anaglyphic slides was Max Petzold in Chemnitz. It is likely therefore that the anaglyphic slides of Max Skladanowsky were manufactured by Petzold in Chemnitz. The earlier activities of Max Skladanowsky as a professional magic lanternist are already described in the Encyclopedia of the Magic Lantern (p. 281). Many of the magic lantern slides from his show have survived and can be seen online at the Bundesarchiv. The archive of Max Skladanowsky is reference number N 1435 and contains 591 documents in total. An English version is available.'

With stereoscopic or 3-D images becoming increasingly accessible through modern technology, it is worth looking again at their origin.

The first attempts at producing three-dimensional images reach back to the early nineteenth century with the invention in 1835 of the 'reflecting stereoscope' by eminent scientist Sir Charles Wheatstone (1802–75)². This was modified by Scottish physicist Sir David Brewster (1781–1868) in 1849³. The American Oliver Wendell Holmes then produced his simplified hand-held adjustable stereoscope of 1861, which was mass-produced in its thousands.

Max Skladanowsky took a different route. Instead of a pair of stereograms obtained by using an ordinary stereo-camera and viewed in a stereoscope, he achieved his three-dimensional pictures using two binocular cameras, one on top of the other, with blue and red filters. He printed the images over each other but slightly off centre – one red and one blue – forming a rather blurred image. However, when viewed through a pair of spectacles with corresponding colours, but reversed, the images combine to form a clear monochrome picture in relief.

This process had been invented by a Frenchman, Louis Ducos du Hauron (1837–1920) and named the 'anaglyph process'. He acknowledged his indebtedness to another Frenchman, J.C. D'Almeida, whose method consisted of two stereographs projected by two magic lanterns through a green and red filter respectively. The audience then viewed the screen through a green and red filter in which the colours were reversed.

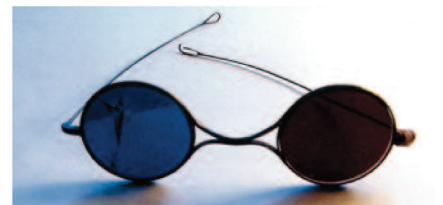
In fact, according to Helmut and Alison Gernsheim⁴ – two great collector-historians of photography – Ducos du Hauron's invention was much closer to that of the German, W. Rollman, but they do not state what this was.



Skladanowsky's Plastische Weltbilder comprising a portfolio of ten albums of anaglyphs of views across Germany, Paris, London and the Netherlands, using the process invented by Ducos du Hauron in 1871 (Barnes Collection)



The author beside Skladanowsky's cumbersome Bioskop at the Filmmuseum in Postdam, Germany



Pair of steel-framed spectacles for viewing anaglyphs c.1892 (Barnes Archive)



An early American example of a box of anaglyphs with pince-nez spectacles c.1875. Note 'patent applied for' (Barnes Archive)

The Christmas Magic Motion Picture Book and Pocket Kinematograph, Brown's patent 1908. A slight variation on usual anaglyphs with sliding green and red filter giving the illusion of motion (Barnes Archive)





Skladanowsky demonstrates his 'flick book' c.1897

Max Skladanowsky (1863–1939)⁵ was born and died in Berlin. He is principally remembered today as the inventor of the Bioscop (or Bioskop), an early movie projector. His father Carl was a magic lanternist and when Max left school he was apprenticed to a firm of magic lantern manufacturers. Later, with his brother Emil (1859–1945), he became an itinerant showman.

Max had an inventive turn of mind and worked closely with his brother Emil, much like Auguste and Louis Lumière. He devised a form of cinematic camera and projector, and succeeded in showing moving pictures. On 1 November 1895 in the Wintergarten, Berlin, he gave the first moving picture show in Europe to a paying audience – several weeks before the Lumière brothers projected theirs at the Grand Café in Paris on 28 December.

However, the Bioscop was a clumsy and complex machine so proved rather a 'one day wonder', quickly eclipsed by simpler and more efficient devices elsewhere. Max did produce two other novelties, neither of which were original inventions – although he claimed otherwise. The 'Skladanowsky Flick Book' and his 'Plastische Weltbilder' had both been devised long before. The first had been invented as early as 1868 by John Barnes Linnett, a printer, using drawings,⁶ and then by the American Mutoscope and Biograph Company adapting short sequences of frames from their own movies – as Skladanowsky did with his own. The Plastische Weltbilder was none other than the anaglyph process invented by Ducos du Hauron and patented 15 September 1871.

Skladanowsky travelled throughout Germany and paid visits to London, Paris and the Netherlands, photographing all the sights with his binocular cameras. He printed the results as anaglyphs and presented them for sale in a series of numbered folio-sized paperback albums. Each photograph was captioned in three languages – German, English and French – and each selection was supplied with its own card spectacles with red and blue gelatin or celluloid lenses for viewing – very similar in fact to those being used today for 3-D films or television. Customers could also purchase a collection of about ten of these albums in a special portfolio edition (an example is in the Barnes Archive).

Anaglyphs have enjoyed sporadic bursts of popularity over the past 150 years. They have appeared in any number of different formats and variations⁷ – as books, packaged sets, booklets of risqué subjects, nude pin-ups, magazine features and articles, postcards and so on. As recently as 25 August 2010 the *Berliner Zeitung* newspaper published two of their sections using anaglyphs, each copy supplied with its own pair of card spectacles with red and blue plastic lenses. This must be a 'first'!

Although anaglyphs had been projected as lantern slides by Skladanowsky and others, they have also been used for cinematograph films. Examples include a trial showing of short films during Christmas 1922 at the Rivoli Theatre, New York ('Plastigrams'),⁸ Metro-Goldwyn-Mayer's series of short films in 1935 ('Metroscopics') and the first feature length 3-D film *The Wax Museum* in 1953. In all cases the audience used a special pair of spectacles.

Sadly neither Louis Ducos du Hauron nor his heirs benefited from his amazing and long-lasting invention. His name and patent do not appear on any surviving examples,

of which there are many, including over a dozen different examples in the Barnes Archive.

A sorry state of affairs for one who has brought wealth to some and entertainment to countless thousands. So bravo Monsieur Ducos du Hauron – we here salute you!



Card spectacles for viewing MGM's 'Metroscopics', issued to each member of the audience. Subjects for these short films were chosen to demonstrate three-dimensional effects, such as an insect on a stick proffered to the audience (Barnes Archive)



Gift album of anaglyphs issued by the Children's Newspaper with additional views appearing weekly, February 1935 (Barnes Archive)



Anaglyphs issued as souvenirs of the Olympic Games in Berlin, 1936 (Barnes Archive)

3-D movie viewers 1952. Life photograph by J.R. Eyeman, published by Time Inc. Fotofolio, Box 661, Sta. New York 10013



NOTES

1. Photographische Industrie, 1904, p. 998–9.
2. Sir Charles Wheatstone, *Philosophical Transactions of the Royal Society*, June 1838.
3. Sir David Brewster, *The Stereoscope: Its history, theory and construction*, London 1856.
4. Helmut and Alison Gernsheim, *The History of Photography*, Oxford University Press, 1955, p. 259.
5. Sources on the life and work of Skladanowsky: Joachim Castan, *Max Skladanowsky*, Füsslin, Stuttgart, 1995; Skladanowsky, *Plastische Weltbilder*, Deutscher Verlag, ND, c.1900; Professor Dr Alberd North, *Max Skladanowsky*, Deutsche Kinemathek, Berlin, 1976.
6. Henry V. Hopwood, *Living Pictures*, The Optician and Photographic Trades Review, London, 1899, Ch. 2, pp. 35–6.
7. Stephen Herbert, *Theodore Brown's Magic Pictures*, The Projection Box, London, 1997.
8. Richard Koszarski, *Hollywood on the Hudson*, Rutgers University Press, New Jersey, 2008, pp. 77–8.