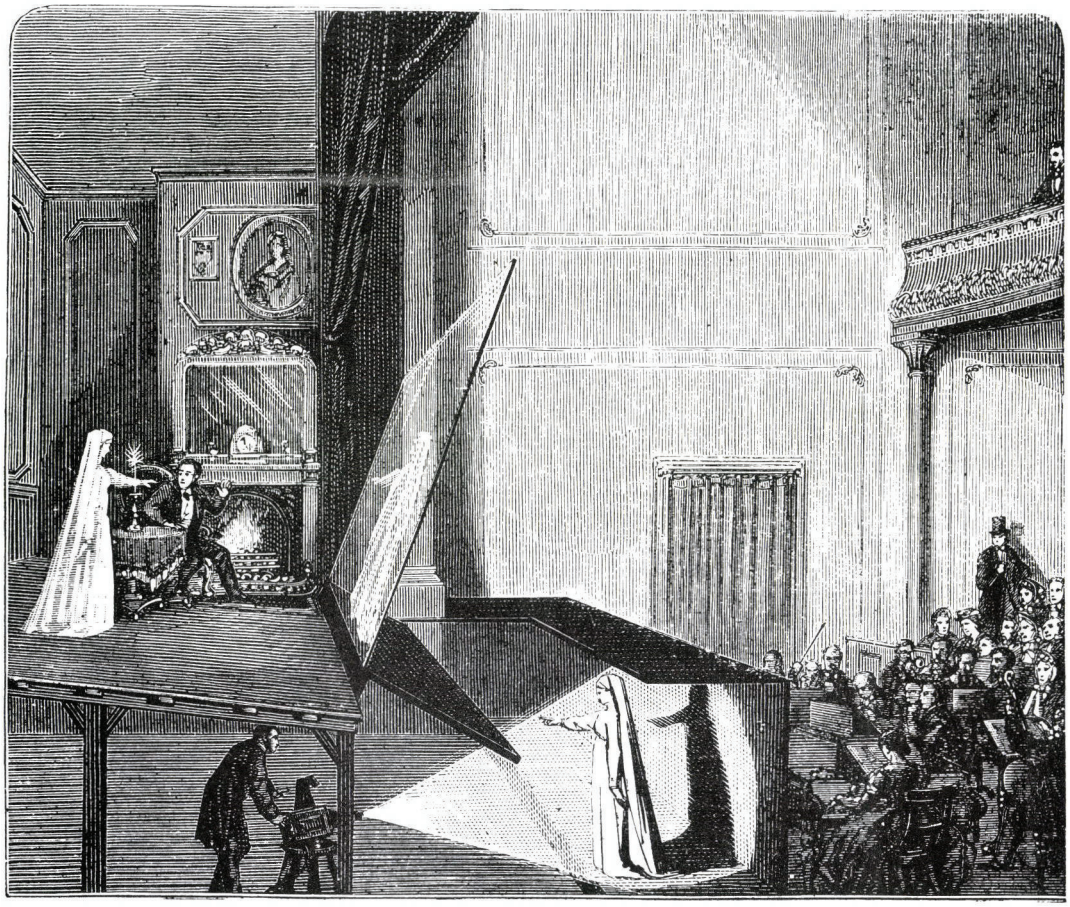
Lecture 4

STAGE MAGIC AND ILLUSIONS

HERMANN HECHT



PEPPER'S GHOST.

Before it occured to people to use projection and before the introduction of the mirror and glass ghost effects which I will describe in this article, two methods were usually used to make ghosts appear on the stage. In the first, the actor who portrayed the ghost rose gradually through a trap on one side of the stage, spoke his lines while making his way across the stage, and went down another trap on the other side. The second method was to use a muslin transparency which was painted with, say, a door, and while lit from in front by the footlights appeared as part of the solid painted stage scenery. The 'Ghost' was hidden behind the transparency and a strong spot was made to gradually light up the actor from the wings while the footlights were turned down so that the scenery disappeared and the ghost gradually came to life to speak his lines. He was made to vanish again by reversing the procedure. Although the actor could move his arms as much as he liked, he could not walk about beyond the confines of the transparency. Even so, the effect baffled the audience, who had easily caught on to the trap trick which, in any case, was more difficult to manage.

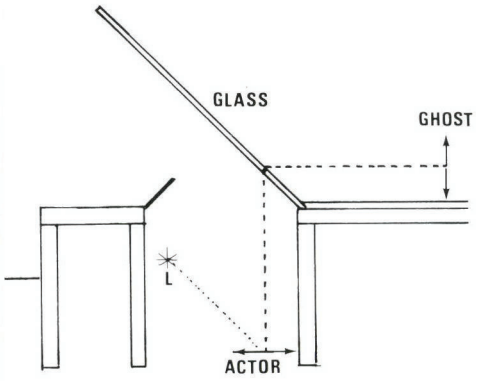
HENRI ROBIN

Although the interest in the Phantasmagoria exhibitions slowly faded away, the interest in ghosts and spirits was kept alive in stage melodrama and by magicians whose stock-in-trade was – and for that matter still is – to make things or people appear or disappear. The limelight opened a whole new range of optical effects for them and a new way of showing apparitions. From 1847 Henri Robin, a magician, staged his 'Living Phantasmagoria' in France and, instead of using lantern slides, he projected the images of living persons and made this a part of his magic shows. With the limelight, Robin could light his actors, hidden below the stage, and project their image with large concave mirrors on to a gauze transparency on stage. Robin had his own theatre in Paris, the Theatre Robin in the Boulevard du Temple, and also performed in England between 1850 and 1852, first in a room in Coventry Street and then at the Salle de Robin at no. 232 Piccadilly. There he became famous for the 'Medium of Inkerman' in which a living actor dressed up as an Indian – or rather his projected image – beat a drum. (There was of course no problem to produce the sound effects off stage). Robin's favourite bit of magic was to project his living ghosts, run a sword through them, fire bullets at them, and make actors come to life and vanish at will.

PEPPER'S GHOST

In many books on magic the authors claim that Robin was the inventor of the effect known as 'Pepper's Ghost', but this is not so. Nor did Pepper invent the trick for that matter: it was originated by Henry Dircks, a Civil Engineer. In October 1858 at the Leeds meeting of the British Association for the Advancement of Science, Dircks gave a lecture 'On an Apparatus for Exhibiting Optical Illusions'. A large pane of glass reaching from ceiling to floor and wall to wall divides a room into two equal areas about 9 feet square. The images of the actors in one area are reflected by the glass and, to the audience who are in an elevated gallery about 18 feet above it, appear to be part of the scene in the other area. By varying the light, effects described by Dircks as follows are achieved: 'The exhibition consists in thus associating a living or solid figure with a merely visionary one, and yet the illusion is so well sustained that the spectator distinguishes no visible difference between the several actors until the circumstances of the dramatic scene require the visionary figure to fade away, or pass through the furniture and walls of the apartment, or play any similar spectral part.'

Dircks made a model of his ghost theatre and this was displayed at the Royal Polytechnic Institution in Regent Street some time between 1859 and 1862. John Henry Pepper, who was first Manager and later Honorary Director of the Polytechnic, was famous for his dissolving view shows. (When giving a performance before Queen Victoria he explained, as he was lighting up his limelight lantern: 'The oxygen and the hydrogen will now have the honour of combining before your Majesty.') Pepper saw the possibilities in Dircks's invention which, as originally described, was wholly impracticable: to make it work would have demanded a purpose-built edifice, or the rebuilding of any existing theatre. Pepper's solution was simple, and is the method described in the patent taken out by Dircks and Pepper in February 1863. A sloped glass plate on the stage reflected the



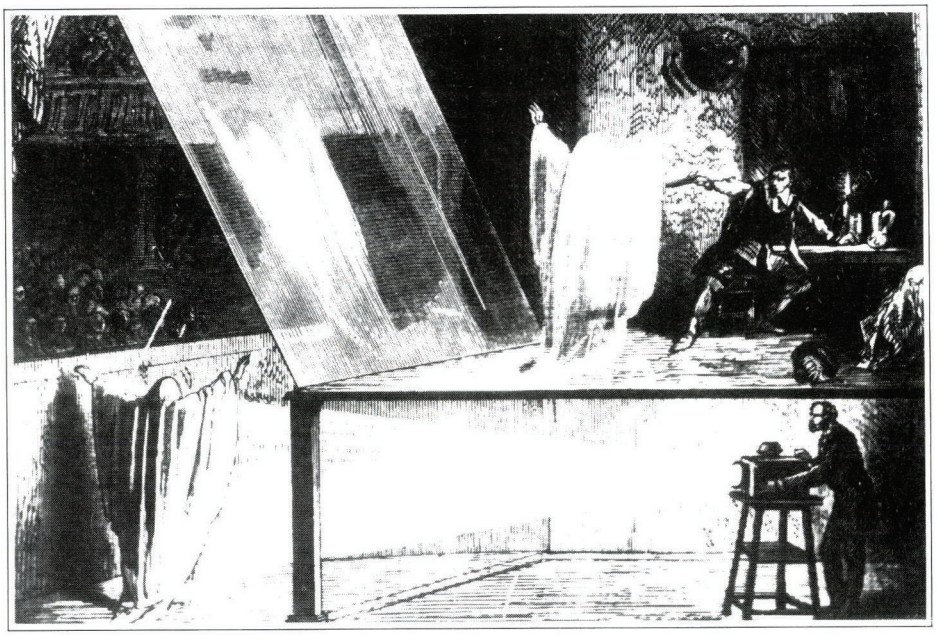
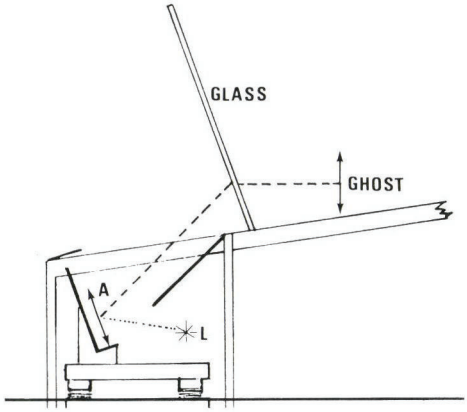


image of the actor dressed up as a ghost, who stood on a sloping support below the stage, strongly lit by a magic lantern. Behind the actor was a screen covered with black velvet so that nothing but his image was reflected. The audience did not see the glass; and as the action unfolded on the stage, the ghost appeared apparently as part of the scene. The glass plate was secured in a frame concealed by scenery, and could be raised or lowered by a rope during the performance. The arrangement was mounted on a platform on wheels, pushed by a stage-hand so that the ghost appeared to be moving across the stage. This was not easy as the stagehand had to follow the movements of the actor, whom he couldn't see. The lantern was also on wheels and could follow the actor's movements; the light could be cut off gradually or instantly to make the ghost fade in or out of the scene or to make him appear or disappear suddenly.

Certain refinements could be added: the support below the stage could be provided with a hole through which the ghost could rise to produce the appearance of rising from a grave, and the lantern could be fitted with coloured glasses to give any light effect – usually a sickly green – to the ghost.

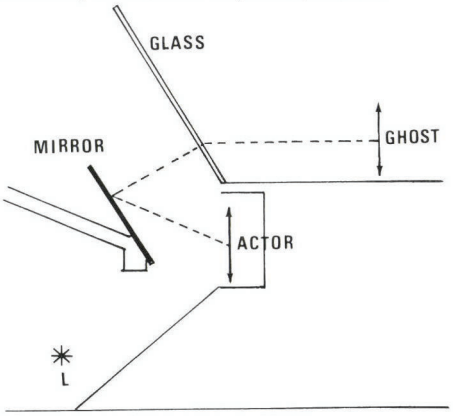
Prior to this version, much simpler and more primitive methods were used to produce the ghost. The actor literally lay on the floor and his image was reflected by the glass.



All these effects are in accordance with two laws of reflection:

1) The reflected image is formed behind the glass at a distance equal to that of the object from the glass, and
2) The angle of incidence is equal to the angle of reflection.

In a later version a mirror ran the length of the stage and in turn reflected the image of the actor on to the glass. This allowed the actor not only to remain upright, but also to walk about, turn around, and undertake a certain amount of backward and forward movement. This was of course much more expensive to produce and was only used at the Royal Polytechnic.



Pepper held a private view of his 'Ghost' illusion at the Polytechnic on Christmas Eve 1862. Bulwer-Lytton's short novel of the supernatural, *A Strange Story*, had just been published and this was turned into the ghost play. The audience at the private view was so impressed that it was decided to produce the performance for the public. It ran at the Polytechnic for 15 months, though Pepper's claims that 250,000 spectators had seen it may only have been theatrical puffery.

The 'Ghost' was first used in the theatre proper on 6 April 1863 at the Britannia, Hoxton, in a play called *The Widow and the Orphans*. Pepper himself used the effect in Dickens' *The Haunted Man*, which ran for 15 months and is said to have earned him £12,000. The 'Ghost' was shown at the Adelphi in *The Haunted Man and the Ghost Bargain*, and received the seal of social approval when the effect was used in Byron's *Manfred* at Drury Lane. It was also shown at the Crystal Palace in Sydenham, at the Free Trade Hall in Manchester, and at the Merchants' Hall in Glasgow. The whole country went 'Ghost' mad: The Prince and Princess of Wales came to see it on 9 May 1863 and Pepper gave a Royal Command performance at Windsor for the Queen. The 'Ghost' shows enjoyed an immense vogue in the popular melodramas which toured the provincial fairs up until the early twentieth century. It was also produced in Paris at the Théâtre de Châtelet and in New York at Wallacks' Theatre.

Pepper and Dircks had enough sense to apply for a patent in February 1863; and Pepper was vigorous in pursuing other showmen who appropriated the effect. In Britain, the only country where the 'Ghost' was patented, it was firmly established that licences had to be taken out, with royalties to Pepper, if the illusion was staged.

Unfortunately, the enormous success of the illusion and its inevitable association with the name of Pepper to the exclusion of that of Dircks, ended in a bitter quarrel between the two men, both of whom claimed the invention for themselves.

OTHER GLASS-REFLECTION ILLUSIONS

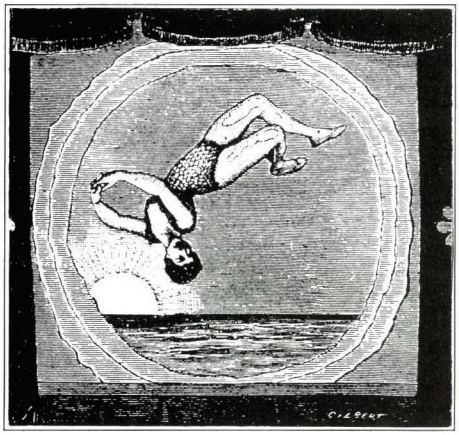
The 'Ghost' represented a very important landmark in the history of stage magic for it first established the considerable possibilities for the production of mirror and glass illusions. The 'Ghost' illusion, however, came to a sad end as everybody began to realise how the trick was done and small boys in the audience threw paper balls on to the stage to see them bounce off the invisible sheet of glass.

THE THREE-HEADED WOMAN ILLUSION

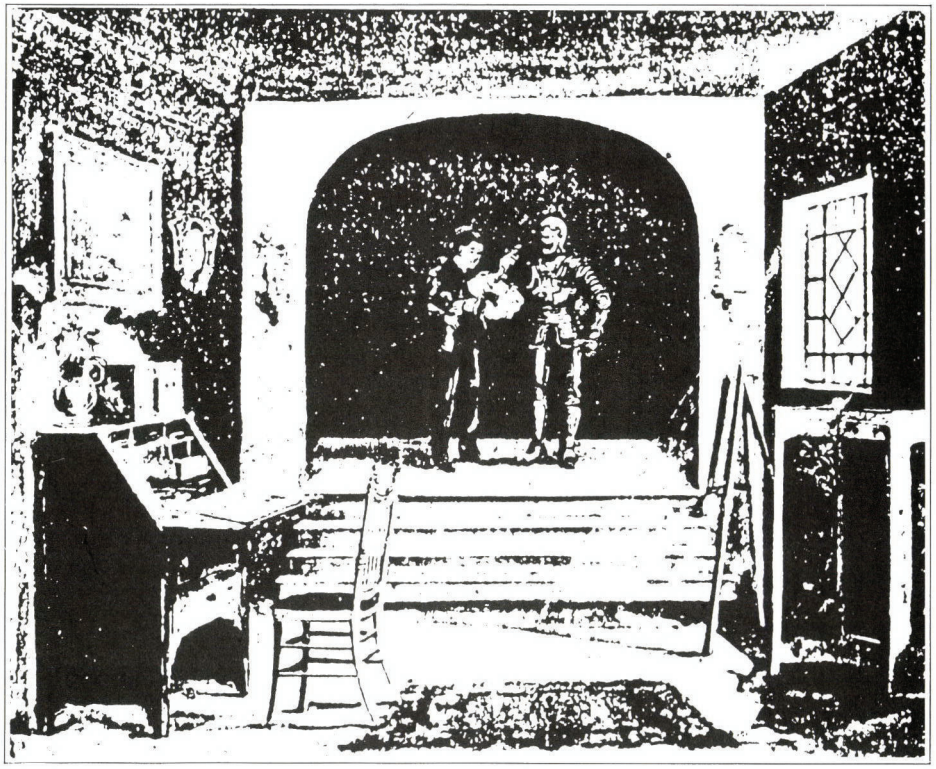
This is yet another variation on Pepper's 'Ghost' – although how they managed to get three ladies into one dress with one bosom remains a mystery.

AMPHITRITE

Another glass-reflection show, which gave Victorian gentlemen an opportunity to see at close range more of the female body than they had ever seen before, was the 'Amphitrite' illusion. When the curtain rose on a very small stage, a lady in what for those days was a very scanty costume, rose from the waves without any visible support. She would turn round and round in space, gracefully moving her legs and arms. At the close of the exhibition, she would plunge beneath the sea.



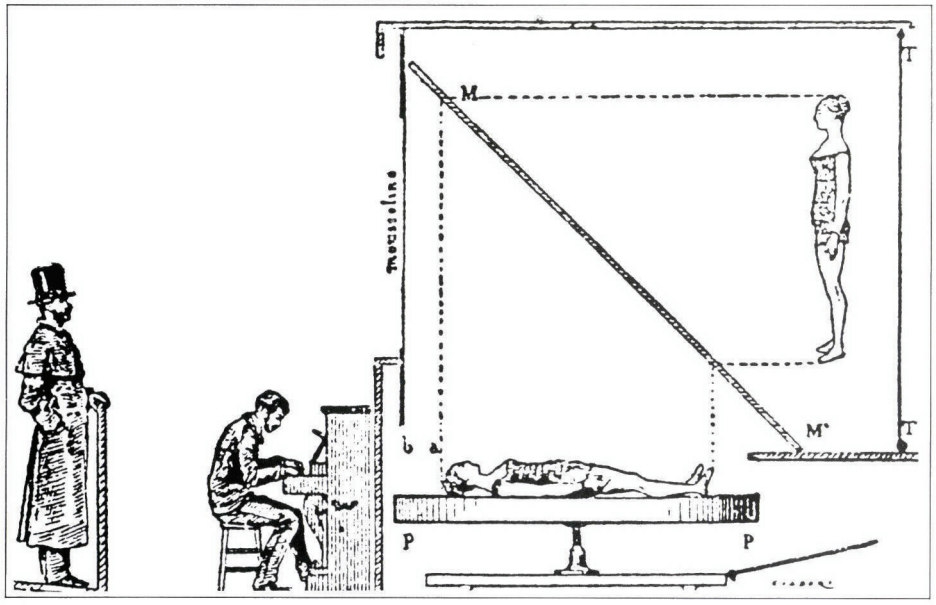
This was achieved by positioning a glass at an angle and placing the actress on a turntable on rails. As the table revolved, her image would turn in all directions and appear on stage, as in the 'Ghost', in three dimensions. To make her rise and dive, the turntable was simply turned forward or backward. The man playing the piano and the piano itself were necessary parts of the trick – to hide the turntable and to cover any noise made below stage.

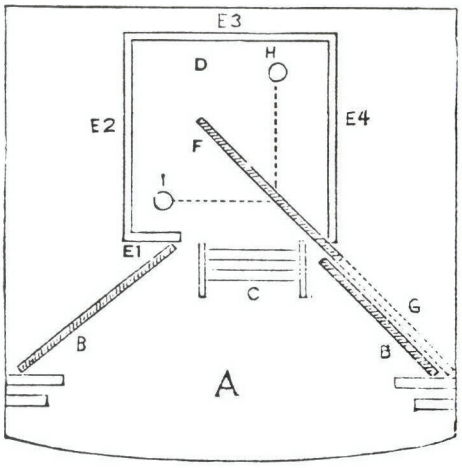


MIRROR ILLUSIONS

One of the most perfect illusions which evolved from the 'Ghost' was invented by Pepper, together with James John Walker, in 1879. They called it 'Metempsychosis' and it was used by them in a sketch called 'The Artist's Dream', again at the Polytechnic. The artist's life-size lay-figure appeared to come to life and revert back again, to be dismantled and carried off. It was produced by George Buckland; and the actor who played the lay-figure was the property man at the Polytechnic, Mr Walter Lightfoot. In America it was shown by the magician Kellar, who gave it the title 'The Blue Room', which took the following form:

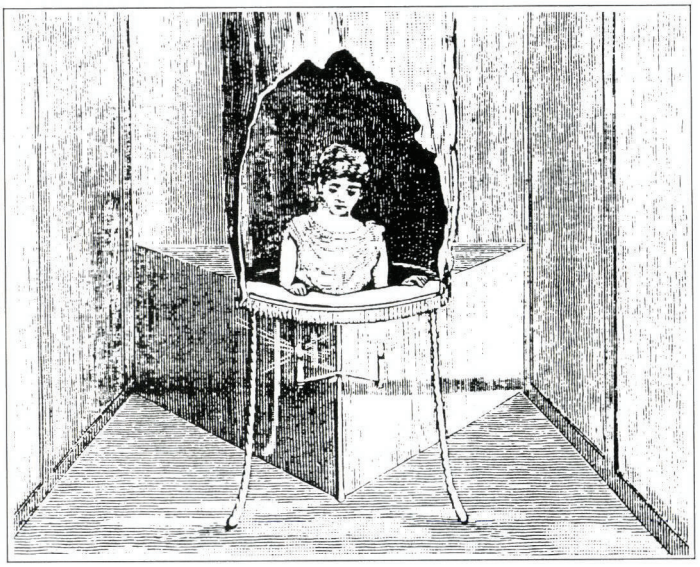
The scene is set, as in the original, in an artist's studio. A servant takes a suit of armour apart and dusts and cleans it. He re-assembles it, whereupon it suddenly comes to life and chases him round the room. It returns to the platform just as the artist comes on stage. In order to prove that the servant is mistaken, the artist takes the suit of amour apart and throws the pieces on the floor.

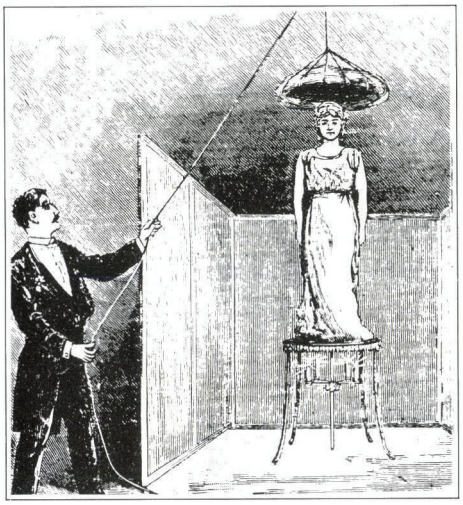


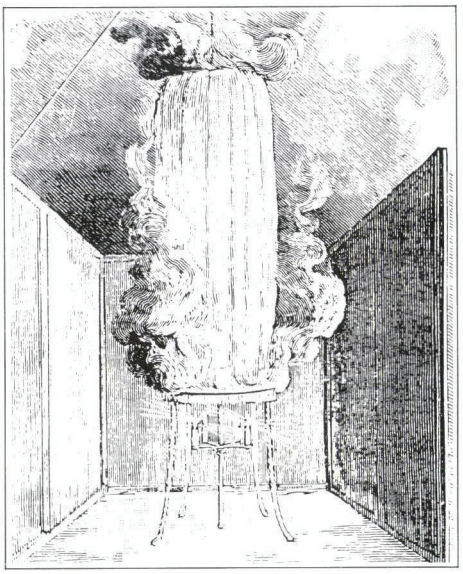


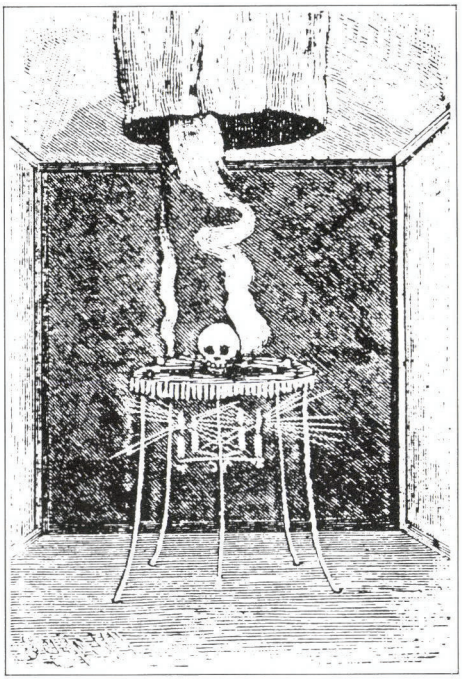
The diagram shows how the trick was done. Two flats close in the scene from the front wings to the steps. (F) is a large mirror extending from floor to ceiling and capable of being wheeled back and forth. To avoid the hard line of the edge of the mirror as it is wheeled back, the inventors hit on the ingenious idea of etching graduated vertical lines in the silver back of the mirror so it becomes very gradually transparent. When the mirror is withdrawn the spectator sees through to the back wall (E3) and the dummy suit of armour (H) and when the mirror is wheeled forward, the armour and back wall disappear. The side walls (E1) and (E2) are reflected to look like the back wall and another dummy suit of armour (at I) appears to occupy exactly the same position as the first one. An actor then takes the place of the first dummy and the mirror is drawn back. The rest is obvious: the dummy armour could change to the actor and back again as often as required. This method was used in many stage illusions such as a living man appearing in an empty chair, a man changing into a woman and back again and so on. The neatest and least expensive was to change a bowl of oranges into marmalade; and to give a pot of marmalade to members of the audience each time it happens.

In France, Stenegry introduced the mirror illusion and called it 'The Fabulous apparition of Galatea', in an adaptation of the ancient Greek story where the statue of the beautiful Galatea comes to life in answer to the prayer of the sculptor Pygmalion. By the look of the illustrations Stenegry must have embroidered the story and introduced another transformation of the lady into a skeleton. Once you know how, it's easy – there is really no need to call it 'The Secret of the Gods'!









THE TALKING HEAD ILLUSION

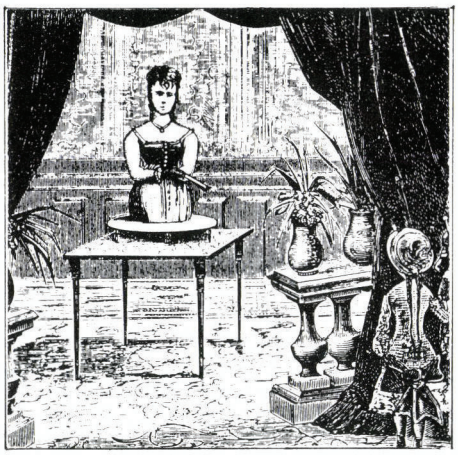
A trick which I remember seeing as a boy and which gave me nightmares for weeks, but which probably resulted in my writing this article, was 'The Talking Head' illusion. This was probably the most common of all the optical illusions which in their various forms were shown at fair grounds and circuses for many years – and for all I know probably still are.

Again, it was Pepper, this time together with Thomas Tobin, who originated the illusion and patented it. It was the first shown at the Royal Polytechnic Institution in 1865 as 'The Cabinet of Proteus' and later that year by a Colonel Stodare at the Egyptian Hall in Piccadilly and called 'The Sphinx'. By placing a pair of mirrors in the centre of the stage, supported between the legs of a three-legged table, with the apex towards the audience, the side walls of the stage, which looked exactly like the back wall, were reflected to the audience and an apparently clear space was shown below the table top. An actor sat behind the mirrors and exhibited his head ('The Sphinx') above the table. The show was given a Royal Command performance and created a sensation as the fake sphinx in the shape of a fake Egyptian actor, speaking with a fake Egyptian accent, held an animated conversation with the magician.

A tame version of the same illusion involves the talking head of a girl. The illustration is almost self-explanatory. The apparatus consists only of a mirror fixed to the side legs of a square table and this hides the body of the actress. The mirror not only reflects the floor covering, but also the front leg of the table and the illusion of a fourth leg.

THE LIVING HALF WOMAN

The 'Living Half Woman' was a slightly more difficult, and certainly more expensive, illusion and a variation on the talking head version. The top half of the lady is apparently suported on a cushion placed on a circular platform which is also supported by three very slender legs, on top of a table. After she has shown that she is alive, she gives a short song recital and politely converses with the magician. The trick is to connect the side legs of the table with the middle leg by mirrors, as in 'The Spinx' illusion. The mirrors not only reflect the floor pattern, but also two isolated table legs located each side and hidden behind the scenery. These legs produce the fourth leg of the table, depending on where you stood in the audience. The lady can comfortably stand up and push her upper half through the hole in the table. To make her appear to float in the air, the little platform, like the table, has mirrors at 45 degrees to reflect the pattern at the top of the table.



A more sophisticated version of this was produced during the 1891/92 season by the magician Powell in New York at the Eden Musée (where, incidentally, the first moving pictures in America were shown). The illustrations explain exactly what happens and how the trick was produced.

The imitations and versions of the 'Living Half Woman', 'The Sphinx', and 'Amphitrite' illusions were legion. A poster from Barnum and Bailey's circus shows many of them, each and every one based on the simple mirror or glass-reflection principles I have described.