

Conjuring

Encyclopædia Britannica, Eleventh Edition, 1910–1911, vol. 6, pp. 943–950

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Conjuring, the art, sometimes called White or Natural Magic, and long associated with the profession of “magician,” consisting of performances of tricks and illusions, with or without apparatus. Historically this art has taken many forms, and has been mixed up with the use of what now are regarded as natural though obscure physical phenomena. The employment of purely manual dexterity without mechanical apparatus may be distinguished as *legerdemain*, *prestidigitation*, or *sleight of hand*.

Whether or not the book of Exodus makes the earliest historical reference to this form of natural “magic” when it records how the magicians of Egypt imitated certain miracles of Moses “by their enchantments,” it is known that the Egyptian hierophants, as well as the magicians of ancient Greece and Rome, were accustomed to astonish their dupes with optical illusions, visible representations of the divinities and subdivinities passing before the spectators in dark subterranean chambers. The principal optical illusion employed in these effects was the throwing of spectral images upon the smoke of burning incense by means of concave metal mirrors. But according to Hippolytus (*Ref. Om. Haer.* iv. 35), the desired effect was often produced in a simpler way, by causing the dupe to look into a cellar through a basin of water with a glass bottom standing under a sky-blue ceiling, or by figures on a dark wall drawn in inflammable material and suddenly ignited. The flashes of lightning and the rolling thunders which sometimes accompanied these manifestations were easy tricks, now familiar to everybody as the ignition of lycopodium and the shaking of a sheet of metal. The ancient methods described by Hippolytus (iv. 32) were very similar.

Judging from the accounts which history has handed down to us, the marvels performed by the thaumaturgists of antiquity were very skilfully produced, and must have required a considerable practical knowledge of the art. The Romans were in the habit of giving conjuring exhibitions, the most favourite feat being that of the “cups and balls,” the performers of which were called *acetabularii*, and the cups themselves *acetabula*. The balls used, however, instead of being the convenient light cork ones employed by modern conjurers, were simply round white pebbles which must have added greatly to the difficulty of performing the trick. The art survived the barbarism and ignorance of the middle ages; and the earliest professors of the modern school were Italians such as Jonas, Androletti and Antonio Carlotti. But towards the close of Elizabeth’s reign conjurers were classed with

“ruffians, blasphemers, thieves, vagabonds, Jews, Turks, heretics, pagans and sorcerers.”

The history of conjuring by mechanical effects and in inventions is full of curious detail. Spectral pictures or reflections of moving objects, similar to those of the camera or magic lantern, were described in the 14th and 16th centuries. Thus, in the *House of Fame*, bk. iii, Chaucer speaks of “appearances such as the subtil tregetours perform at feasts” — pictorial representations of hunting, falconry and knights jousting, with the persons and objects instantaneously disappearing; exhibitions of the same kind are mentioned by Sir John Mandeville, as seen by him at the court of “the Great Chan” in Asia; and in the middle of the 16th century Benvenuto Cellini saw phantasmagoric spectres projected upon smoke at a nocturnal exhibition in the Colosseum at Rome. The existence of a camera obscura at this latter date [page 944] is a fact; for the instrument is described by Baptista Porta, the Neapolitan philosopher, in his *Magia Naturalis* (1558). And the doubt how magic lantern effects could have been produced in the 14th century, when the lantern itself is alleged to have been invented by Athanasius Kircher in the middle of the 17th century, is set at rest by the fact that glass lenses were constructed at the earlier of these dates, — Roger Bacon, in his *Discovery of the Miracles of Art, Nature and Magic* (about 1260), writing of glass lenses and perspectives so well made as to give good telescopic and microscopic effects, and to be useful to old men and those who have weak eyes. Towards the end of the 18th century Comus, a French conjurer, included in his entertainment a figure which suddenly appeared and disappeared about three ft. above a table, — a trick explained by the circumstance that a concave mirror was among his properties; and a contemporary performer, Robert, exhibited the raising of the dead by the same agency. Early in the 19th century Phillipstal gave a sensation to his magic lantern entertainment by lowering unperceived between the audience and the stage a sheet of gauze upon which fell the vivid moving shadows of phantasmagoria.

A new era in optical tricks began in 1863 when John Nevil Maskelyne (b. 1839), of Cheltenham, invented a wood cabinet in which persons vanished and were made to reappear, although it was placed upon high feet, with no passage through which a person could pass from the cabinet to the stage floor, the scenes, or the ceiling; and this cabinet was examined and measured for concealed space, and watched round by persons from the audience during the whole of the transformations. The general principle was this: if a looking-glass be set upright in the corner of a room, bisecting the right angle formed by the walls, the side wall reflected will appear as if it were the back, and hence an object may be hidden behind the glass, yet the space seem to remain unoccupied. This principle, however, was so carried out that no sign of the existence of any mirror was discernible under the closest inspection. Two years later the same simple principle appeared in “The Cabinet of Proteus,” patented by Tobin and Pepper of the Polytechnic Institution, in which two mirrors were employed, meeting in the middle, where an upright pillar concealed their edges. In the

same year Stodare exhibited the illusion in an extended form, by placing the pair of mirrors in the centre of the stage, supported between the legs of a three-legged table having the apex towards the audience; and as the side walls of his stage were draped exactly like the back, reflection showed apparently clear space below the table top, where in reality a man in a sitting position was hidden behind the glasses and exhibited his head ("The Sphinx") above the table. The plane mirror illusion is so effective that it has been reproduced with modifications by various performers. In one case a living bust was shown through an aperture in a looking-glass sloping upward from the front towards the back of a curtained cabinet; in another a person stood half-hidden by a vertical mirror, and imitation limbs placed in front of it were sundered and removed; and in another case a large vertical mirror was pushed forward from a back corner of the stage at an angle of 45 degrees, to cover the entrance of a living "phantom," and then withdrawn. Maskelyne improved upon his original cabinet by taking out a shelf which, in conjunction with a mirror, could enclose a space, and thus left no apparent place in which a person could possibly be hidden. He introduced a further mystification by secretly conveying a person behind a curtain screen, notwithstanding that, during the whole time, the existence of a clear space under the stool upon which the screen is placed is proved by performers continually walking round. The principle of reflecting by means of transparent plate-glass the images of highly-illuminated objects placed in front, so that they appear as if among less brilliantly lighted objects behind the glass, was employed in the "ghost" illusions of Sylvester, of Dircks and Pepper, of Robin, and of some other inventors, — the transparent plate-glass being, in some cases, inclined forwards so as to reflect a lime-lighted object placed below the front of the stage, and in other arrangements set vertically at an angle so as to reflect the object from a lateral position.

Among the acoustic wonders of antiquity were the speaking head of Orpheus, the golden virgins, whose voices resounded through the temple of Delphi, and the like. Hippolytus (iv. 4) explains the trick of the speaking head as practised in his day, the voice being really that of a concealed assistant who spoke through the flexible gullet of a crane. Towards the close of the 10th century Gerbert (Pope Silvester II.) constructed (says William of Malmesbury) a brazen head which answered questions; and similar inventions are ascribed to Roger Bacon, Albertus Magnus, and others. In the first half of the 17th century the philosopher Descartes made a speaking figure which he called his daughter Franchina; but the superstitious captain of a vessel had it thrown overboard. In the latter part of the same century Thomas Irson, an Englishman, exhibited at the court of Charles II. a wooden figure with a speaking-trumpet in its mouth; and questions whispered in its ear were answered through a pipe secretly communicating with an apartment wherein was a learned priest able to converse in various languages. Johann Beckmann, in his *History of Inventions* (about 1770, Eng. transl. by W. Johnston, 4th ed., 1846), relates his inspection of a speaking figure, in which the words really came through a tube from a confederate who held a card of signs by which he received

intelligence from the exhibitor. Somewhat later was shown in England the figure of an infant suspended by a ribbon, having a speaking-trumpet in its mouth, — an illusion in which two concave mirrors were employed, one of them concentrating the rays of sound into a focus within the head of the figure; and the mirror nearest the figure was hidden by a portion of the wall-paper which was perforated with pin-holes. In 1783 Giuseppe Pinetti de Wildalle, an Italian conjuror of great originality, exhibited among his many wonders a toy bird perched upon a bottle, which fluttered, blew out a candle, and warbled any melody proposed or improvised by the audience, — doing this also when removed from the bottle to a table, or when held in the performer's hand upon any part of the stage. The sounds were produced by a confederate who imitated song-birds after Rossignol's method by aid of the inner skin of an onion in the mouth; and speaking-trumpets directed the sounds to whatever position was occupied by the bird. About the year 1825 Charles, a Frenchman, exhibited a copper globe, carrying four speaking-trumpets, which was suspended in a light frame in the centre of a room. Whispers uttered near to this apparatus were heard by a confederate in an adjoining room by means of a tube passing through the frame and the floor, and answers issued from the trumpets in a loud tone. Subsequently appeared more than one illusion of a similar order, in which the talking and singing of a distant person issued from an isolated head or figure by aid of ear-trumpets secretly contained within parts in which, from their outside form, the presence of such instruments would not be suspected. It is probable that the automaton trumpeters of Friedrich Kaufmann and of Johann Nepomuk Mälzel were clever deceptions of the same kind. As described in the *Journal de Mode*, 1809, Mälzel's life-size figure had the musical instrument fixed in its mouth; the mechanism was wound up, and a set series of marches, army calls, and other compositions was performed, accompaniments being played by a real band. Mechanical counterparts of the human lips, tongue and breath, both in speech and in playing certain musical instruments, have, however, been constructed, as in Jacques de ffaucauson's celebrated automaton flute-player, which was completed in 1736; the same mechanician's tambourine and flageolet player, which was still more ingenious, as, the flageolet having only three holes, some of the notes were produced by half-stopping; Abbé Mical's heads which articulated syllables, and his automata playing upon instruments; Kempelen's and Kratzenstein's speaking-machines, in the latter part of the 18th century; the speaking-machines made by Fabermann of Vienna, closely imitating the human voice, with a fairly good pronunciation of various words; the automaton clarionet-player constructed by Van Oeckelen, a Dutchman, and exhibited in New York in 1860, which played airs from a barrel like that of a crank-organ, and could take the clarionet from its mouth and replace it, and [page 945] Maskelyne's two automata, "Fanfare" (1878) playing a cornet, and "Labial" (1879) playing a euphonium, both operated by mechanism inside the figures and supplied with wind from a bellows placed separately on the stage.

Lucian tells of the magician Alexander in the 2nd century that he received written questions enclosed in sealed envelopes, and a few days afterwards delivered written

responses in the same envelopes, with the seals apparently unbroken; and both he and Hippolytus explain several methods by which this could be effected. In this deception, we have the germ of “spirit-reading” and “spirit-writing,” which, introduced in 1840 by John Henry Anderson, “The Wizard of the North,” became common in the *répertoire* of modern conjurers, — embracing a variety of effects from an instantaneous substitution which allows the performer or his confederate to see what has been secretly written by the audience. The so-called “second-sight” trick depends upon a system of signalling between the exhibitor, who moves among the audience collecting questions to be answered and articles to be described, and the performer, who is blindfolded on the stage. As already stated, the speaking figure which Stock showed to Professor Beckmann, at Göttingen, about 1770, was instructed by a code of signals. In 1783 Pinetti had an automaton figure about 18 in. in height, named the Grand Sultan or Wise Little Turk, which answered questions as to chosen cards and many other things by striking upon a bell, intelligence being communicated to a confederate by an ingenious ordering of the words, syllables or vowels in the questions put. The teaching of Mesmer and the feats of clairvoyance suggested to Pinetti a more remarkable performance in 1785, when Signora Pinetti, sitting blindfold in a front box of a theatre, replied to questions and displayed her knowledge of articles in the possession of the audience. Half a century later this was developed with greater elaboration, and the system of telegraphing cloaked by intermixing signals on other methods, first by Robert-Houdin in 1846, then by Hermann in 1848, and by Anderson at a later period. Details of the system of indicating a very large number of answers by sleight and unperceived variations in the form of question are given by F. A. Gandon, *La seconde dévoillée* (Paris, 1849).

Fire tricks, such as walking on burning coals, breathing flame and smoke from a gall-nut filled with inflammable composition and wrapped in tow, or dipping the hands in boiling pitch, were known in early times, and are explained by Hippolytus (iv. 33). At the close of the 17th century Richardson astonished the English public by chewing ignited coals, pouring melted lead (really quicksilver) upon his tongue and swallowing melted glass. Strutt, in *Sports and Pastimes of the People of England*, relates how he saw Powel the fire-eater in 1762, broil a piece of beefsteak laid upon his tongue, — a piece of lighted charcoal being placed under his tongue which a spectator blew upon with a bellows till the meat was sufficiently done, This man also drank a melted mixture of pitch, brimstone, and lead out of an iron spoon, the stuff blazing furiously. These performers anointed their mouths and tongues with a protective composition.

Galen speaks of a person in the 2nd century who relighted a blown out candle by holding it against a wall or a stone which had been rubbed with sulphur and naphtha; and the instantaneous lighting of candles became a famous feat of later times. Baptista Porta gave directions for performing a trick entitled “many candles shall be lighted presently.” Thread is boiled in oil with brimstone and orpiment, and when dry bound to the wicks of candles;

and, one being lighted, the flame runs to them all. He says that on festival days they are wont to do this among the Turks. "Some call it Hermes his ointment." In 1783 Pinetti showed two figures sketched upon a wall, one of which put out a candle, and the other relighted the hot wick, when the candle was held to their mouths. By wafers he had applied a few grains of gunpowder to the mouth of the first, and a bit of phosphorus to that of the other. A striking trick of this conjuror was to extinguish two wax candles and simultaneously light two others at a distance of 3 ft., by firing a pistol. The candles were placed in a row, and the pistol fired from the end where the lighted candles were placed; the sudden blast of hot gas from the pistol blew out the flames and lighted the more distant candles, because in the wick of each was placed a millet grain of phosphorus. A more recent conjuror showed a pretty illusion by appearing to carry a flame invisibly between his hands from a lighted to an unlighted candle. What he did was to hold a piece of wire for a second or two in the flame of the first candle, and then touch with the heated wire a bit of phosphorus which had been inserted in the turpentine-wetted wick of the other. But in 1842, Ludwig Dobler, a German conjuror of much originality, surprised his audience by lighting two hundred candles instantaneously upon the firing of a pistol. This was the earliest application of electricity to stage illusions. The candles were so arranged that each wick, black from previous burning, stood a few inches in front of a fine nozzle gas-burner projecting horizontally from a gas-burner pipe of hydrogen gas, and the two hundred jets of gas passed through the same number of gaps in a conducting-wire. An electric current leaping in a spark through each jet of gas ignited all simultaneously, and the gas flames fired the candle wicks.

J. E. Robert-Houdin (1805–1871), who opened his "Temple of Magic" at Paris in 1845, originated the application of electromagnetism for secretly working or controlling mechanical apparatus in stage illusions. His *Soirées fantastiques* at Paris gave him such a reputation that the French government actually sent him to Algiers in order to show his superiority to the local marabouts; and he ranks as the founder of modern conjuring. He first exhibited in 1845 his light and heavy chest, which, when placed upon the broad plank or "rake" among the spectators, and exactly over a powerful electromagnet hidden under the cloth covering of the plank, was held fast at pleasure. In order to divert suspicion, Houdin showed a second experiment with the same box, suspending it by a rope which passed over a single small pulley attached to the ceiling; but any person in the audience who took hold of the rope to feel the sudden increase in the weight of the box was unaware that the rope, while appearing to pass simply over the pulley, really passed upward over a winding-barrel worked as required by an assistant. Remarkable ingenuity was displayed in concealing a small electromagnet in the handle of his glass bell, as well as in his drum, the electric current passing through wires hidden within the cord by which these articles were suspended. In one of Houdin's illusions — throwing eight half-crowns into a crystal cash-box previously set swinging — electricity was employed in a different manner. Top, bottom, sides and ends of an oblong casket were of transparent glass, held together at all the edges by a light metal

frame. The coins were concealed under an opaque design on the lid, and supported by a false lid of glass, which was tied by cotton thread to a piece of platinum wire. Upon connecting the electric circuit, the platinum, becoming red-hot, severed the thread, letting fall the glass flap, and dropping the coins into the box.

Down to the latter part of the 18th century no means of secretly communicating *ad libitum* motions to apparently isolated pieces of mechanism had superseded the clumsy device of packing a confederate into a box in legs draped to look like an unsophisticated table. Pinetti placed three horizontal levers close beside each other in the top of a thin table, covered by a cloth, these levers being actuated by wires passing through the legs and feet of the table and to the confederate behind a scene or partition. In the pedestal of each piece of apparatus which was to be operated upon when set loosely upon the table were three corresponding levers hidden by cloth; and, after being examined by the audience, the piece of mechanism was placed upon a table in such a position that the two sets of levers exactly coincided, one being superimposed upon the other. In one "effect" the confederate worked a small bellows in the base of a lamp, to blow out the flame; in another he let go a trigger, causing an arrow to fly by a spring from the bow of a doll sportsman; he actuated a double-bellows inside a bottle, which caused flowers and fruit to protrude from among the foliage of an [page 946] artificial shrub, by distending with air a number of small bladders shaped and painted to represent them; he opened or shut valves which allowed balls to issue out of various doors in a model house as directed by the audience; and he moved the tiny bellows in the body of a toy bird by which it blew out a candle. Other conjurors added more complicated pieces of apparatus, — one being a clock with small hand moving upon a glass disk as required by the audience. The glass disk carrying the numbers or letters was in reality two, the back one being isolated by ratchet teeth on its periphery hidden by the ring frame which supported it, and, though the pillar-pedestal was separated into three pieces and shown to the spectators, movable rods, worked by the table levers, were in each section duly covered by cloth faces. Another mechanical trick, popular with Torcini, Houdin, Philippe and Robin, and worked in a similar way, was a little harlequin figure which rose out of a box set upon the table, put his legs over the front of the box and sat on the edge, nodded his head, smoked a pipe, blew out a candle, and whistled a one-note obbligato to an orchestra. Robert-Houdin employed, instead of the table levers, vertical rods each arranged to rise and fall in a tube, according as it was drawn down by a spiral spring or pulled up by whip-cord which passed over a pulley at the top of the tube and so down the table leg to the hiding-place of the confederate. In his centre table he had ten of these "pistons," and the ten cords passing under the floor of the stage terminated at a keyboard. Various ingenious automata were actuated by this means of transmitting motion; but the most elaborate piece of mechanical apparatus constructed by Houdin was his orange tree. The oranges, with one exception, were real, stuck upon small spikes, and concealed by hemispherical screens which were covered with foliage; and the screens, when released by the upward pressure of a

piston, made half a turn, and disclosed the fruit. The flowers were hidden behind foliage until raised above the leaves by the action of another piston. Near the top of the tree an artificial orange opened into four portions; while two butterflies attached to two light arms of brass rose up behind the tree, appeared on each side by the spreading of the arms, and drew out of the opened orange a handkerchief which had been borrowed and vanished away.

Many of the illusions regarded as the original inventions of eminent conjurors have been really improvements of older tricks. *Hocus Pocus Junior, The Anatomy of Legerdemain* (4th ed., 1654) gives an explanatory cut of a method of drawing different liquors out of a single tap in a barrel, the barrel being divided into compartments, each having an air-hole at the top, by means of which the liquid in any of the compartments was withheld or permitted to flow. Robert-Houdin applied the principle to a wine-bottle held in his hand from which he could pour four different liquids regulated by the unstopping of any of the four tiny air-holes which were covered by his fingers. A large number of very small liqueur glasses being provided on trays, and containing drops of certain flavoring essences, enabled him to supply imitations of various wines and liquors, according to the glasses into which he poured syrup from the bottle; while by a skillful substitution of a full bottle for an emptied one, or by secretly refilling in the act of wiping the bottle with a cloth, he produced the impression that the bottle was "inexhaustible" In 1835 was first exhibited in England a trick which a Brahman had been seen to perform at Madras several years before. Ching Lau Lauro sat cross-legged upon nothing, — one of his hands only just touching some beads hung upon a genuine hollow bamboo which was set upright in a hole on the top of a wooden stool. The placing of the performer in position was done behind a screen; and the explanation of the mysterious suspension is that he passed through the bamboo a strong iron bar, to which he connected a support which, concealed by the beads, his hand and his dress, upheld his body. In 1849 Robert-Houdin reproduced the idea under the title of ethereal suspension, — professedly rendering his son's body devoid of weight by administering vapour of ether to his nose, and then, in sight of the audience, laying him in a horizontal position in the air with one elbow resting upon a staff resembling a long walking-stick. The support was a jointed iron frame under the boy's dress, with cushions and belts passing round and under the body. Subsequently the trick was improved upon by Sylvester—the suspended person being shown in several changes of position, while the sole supporting upright was finally removed. For the latter deception the steel upright was made with polished angular faces, apex towards the spectators, and acted in a dim light on the same principle as the mirrors of a Sphinx table. Before lowering the light, the reflector bar is covered by the wood staff set up before it.

The mysterious vanishing or appearing of a person under a large extinguisher upon the top of a table, and without the use of mirrors, was first performed by Comus, a French conjuror very expert in the cups-and-balls sleight-of-hand, who, appearing in London in

1789, announced that he would convey his wife under a cup in the same manner as he would balls. The feat was accomplished by means of a trap in a box table. Early in the 19th century Chalons, a Swiss conjuror, transformed a bird into a young lady, on the same principle. In 1836 Sutton varied the feat by causing the vanished body to reappear under the crust of a great pie. Houdin “vanished” a person standing upon a table top which was shown to be only a few inches thick; but there was a false top which was let down like the side of a bellows, this distension being hidden by a table-cloth hanging sufficiently low for the purpose, and the person, when covered by the extinguisher, entered the table through a trap-door opening upwards. Robin, in 1851, added to the wonder of the trick by vanishing two persons in succession, without any possibility of either escaping from the table, — the two persons really packing themselves into a space which, without clever arrangement and practice, could not hold more than one. The sword-and-basket trick was common in India many years ago. In one form it consisted in inverting an empty basket over a child upon the ground; after the child had secreted himself between the basket-bottom and a belt concealed by a curtain painted to look like the actual wicker bottom, a sword was thrust through both sides of the basket, the child screaming, and squeezing upon the sword and upon the ground a blood-coloured liquid from a sponge. When the performer upset the basket, the child could not be seen; but another child similarly costumed suddenly appeared among the spectators, having been up to that time supported by a pair of stirrups under the cloak of a confederate among the bystanders. In another form an oblong basket is used large at the bottom and tapering to the top, with the lid occupying only the central portion of the top, and the child is so disposed round the basket that the sword plunged downward avoids him, and the performer can step inside and stamp upon the bottom to prove that the basket is empty. In 1865 Stodare introduced the trick into England, but in a new manner. Upon light trestles he placed a large oblong basket; and after a lady attired in a profuse muslin dress had composed herself and her abundance of skirt within, and the lid had been shut and the sword plunged through the sides, the basket was tilted towards the audience to show that it was empty, and the lady reappeared in a gallery of the hall. The basket was formed with an outer shell to turn down, leaving the lady with her dress packed together lying upon the basket bottom and behind what had formed a false front side, — the principle being the same as in the clown’s box, which, when containing a man, is rolled over to display the inside empty. The reappearing lady was a double, or twin sister.

Among the most meritorious and celebrated mechanical illusions have been automaton figures secretly influenced in their movements by concealed operators. In the 17th century M. Raisin, organist of Troyes, took to the French court a harpsichord which played airs as directed by the audience; but, upon opening the instrument, Louis XIV. discovered a youthful performer inside. In 1769 Baron Kempelen, of Pressburg, in Hungary, completed his chess-player, which for a long time remained the puzzle of Europe. It was an illusion, — the merit consisting in the devices by which the confederate player was hidden in the

cabinet and the body of the figure, while the interior [page 947] was opened in successive instalments to the scrutiny of the spectators. The first player was a Polish patriot, Worowsky, who had lost both legs in a campaign; as he was furnished with artificial limbs when in public, his appearance, together with the fact that no dwarf or child travelled in Kempelen's company, dispelled the suspicion that any person could be employed inside the machine. This automaton, which made more than one tour to the capitals and courts of Europe, and was owned for a short time by Napoleon I., was exhibited by Mälzel after the death of Kempelen in 1819, and ultimately perished in a fire at Philadelphia in 1854. A revival of the trick appeared soon afterwards in Hooper's "Ajeeb," shown at the Sydenham Crystal Palace and elsewhere. A chess-playing figure, "Mephisto," designed by Gumpel, was also exhibited. No space existed for the accommodation of a living player within; but, as there was no attempt at isolating the apparatus from mechanical communication through the carpet or the floor, there was nothing to preclude the moving arm and gripping finger and thumb of the figure from being worked by any convenient connexion of threads, wires, rods and levers. In 1875 Maskelyne and Cooke produced at the Egyptian Hall, in London, an automaton whist-player, "Psycho," which, from the manner in which it was placed upon the stage, appeared to be perfectly isolated from any mechanical communication from without; there was no room within for the concealment of a living player by aid of any optical or other illusion, and yet the free motions of both arms, especially of the right arm and hand in finding any card, taking hold of it, and raising it or lowering it to any position and at any speed as demanded by the audience, indicated that the actions were directed from without. The arm had all the complicated movements necessary for chess or draught playing; and "Psycho" calculated any sum up to a total of 99,000,000. A still more original automaton was Maskelyne's figure "Zoe," constructed in 1877, which wrote and drew pictures at dictation of the audience. "Zoe," a nearly life-size but very light doll, sat loose upon a cushioned skeleton-stand, of which the solid feet of the plinth rested upon a thick plate of clear glass laid upon the floorcloth or carpet of the stage. "Psycho," a smaller oriental figure, sitting cross-legged on a box, was supported by a single glass cylinder of clear glass, which, as originally exhibited, stood upon the carpet of the stage, but was afterwards set loose upon a small stool, having solid wood feet.

That a mysterious and apparently elaborate mechanical movement may, after all, possess the utmost simplicity is illustrated by the familiar conjuring trick known as "rising cards." Four cards having been chosen by the audience and returned to the pack, this is placed end upwards in a glass goblet, or in a thin case not deep enough to hide the pack, upon the top of a decanter or upon a stick. At command, the cards rise, one at a time, out of the pack; one rises part of the way and sinks back again; one rises quickly or slowly as directed; one comes out feet first, and, on being put back, rises head upwards like the others; and one dances in time to music, and finally jumps out of the pack. At the conclusion there remain only the goblet or the case and the cards, subject to the minutest examination of any one from the

audience, without a trace of moving mechanism visible. This was one of the chief *jeux* of Louis Christian Comte, the French conjuror and ventriloquist, at the end of the 18th century, and in varied forms has been popular to the present day. Probably it was suggested by the earlier device of the golden head dancing in a glass tumbler, which is described in *The Conjuror Unmasked* (1790). Several crown pieces were put in the glass, a small gilded head above them, and a plate or other flat cover laid upon the mouth of the glass; yet the head thus isolated jumped inside the glass so as to count numbers and answer questions. The secret communicator of motion was a fine silk thread attached to the head and passing through a tiny notch cut in the lip of the glass, and so to a confederate who pulls it. In the case of the rising cards the whole of the movements are effected by arranging a single silk thread in the previously prepared pack, passing over some cards and under others, and led behind the decanter or other support to the stage and thence to the confederate. As this infinitely simple mechanical agent is drawn altogether out of the pack after the last card has risen, literally no trace remains of any means of communicating motion to the cards.

Oriental ingenuity, which furnished the original idea of the ethereal suspension trick, contributed to the Chinese rings introduced into England in 1834; also the Chinese feat of producing a bowl of water with gold-fish out of a shawl, first seen in England in 1845, and the Indian rope-tying and sack feats upon which the American brothers Davenport founded a distinct order of performances in 1859. Their quick escape from rope bonds in which they were tied by representatives of the audience, the instantaneous removal of their coats in a dark séance, leaving themselves still bound, and their various other so-called “phenomena” were exposed and imitated by Maskelyne, who, in 1860, greatly surpassed any feats which they had accomplished. He proceeded to exhibit himself floating in the air, to show “materialized spirit forms,” and to present a succession of wonders of the spirit mediums in novel performances. One of Maskelyne’s cleverest inventions was the box which he constructed in 1860; it closely fitted when he packed himself in a cramped position within; it was enclosed in a canvas wrapper, corded with any length and complicated meshing of rope, and the knot sealed, yet his escape was effected in seven seconds. Taking more time, he performed the converse of these operations except the sealing. Provided with the wrapper and the open box, himself standing outside, he drew a curtain before him to conceal the *modus operandi*, and in a few minutes was found in the box, which, though so small as to permit no limb to be moved more than a few inches, he nevertheless wrapped and corded as exactly as if he had operated from the outside.

Modern conjuring has given rise to many interesting developments, but none perhaps attracted a larger share of public attention than the legal battle in the last years of the century over this box-trick. The case had a special interest in England, from the fact that it was the only one in which a trick had ever occupied the attention of the House of Lords. The litigation arose in this way. Mr Maskelyne had been in the habit of offering a considerable

reward to any one who could produce a correct imitation of his box-trick. The offer was a direct challenge to imitators, and was intended to show—as nothing else could have done—that the tricks sold and exhibited as “correct imitations” were not what they professed to be. Two amateur mechanics, having made or procured a box externally resembling Mr Maskelyne’s, gave a private performance before a few friends, and then claimed the reward. Mr Maskelyne refused to pay, his contention being that hundreds of people had already escaped from locked and corded boxes resembling his in appearance. Indeed, it was for that very reason that he had been compelled to make the offer. The claimants then brought an action to recover £500—the amount offered. Mr Maskelyne produced his box in court, and challenged the plaintiffs to expose the secret, contending that they could not possibly imitate correctly a trick of which they did not know the secret. Their point, however, was that they had nothing to do with the secret, and that a box-trick was not a trick-box. The jury, being unable to decide whether a mechanical trick is a piece of mechanism or the effect it produces, could not agree, and were discharged. In a second trial, the jury, after much deliberation, found for the plaintiffs. Mr Maskelyne appealed against the verdict. His appeal occupied the court for three days, and was dismissed. Finally he carried the case to the House of Lords, and lost it. The majority of the law lords, while fully admitting that the secret had never been discovered, were of opinion that the trick had been correctly “imitated.” To people dealing with mechanical devices this decision is bound to appear not a little curious. A mechanical trick is a mechanical invention, and when we have two absolutely different inventions, although they may produce more or less similar results, one is by no means an *imitation* of the other—to say nothing of a “correct imitation.” Applied to inventions generally, such a ruling would produce disastrous results.

To those interested in magic, however, one effect of the [page 948] litigation was to intensify the mystery surrounding the original box-trick. The whole matter has been publicly thrashed out. It has been learned that the trick, generally, consists of a movable panel fastened by a secret catch. Provided that the rope be not too severely knotted over that panel, the performer can escape; but otherwise failure is inevitable. Further, it is known that the original trick has never failed, even under the most severe tests, whereas the imitations have failed repeatedly. There can only be one reason for this — a great difference in the mechanical principles employed.

Like most forms of refined entertainment the conjuror’s magic appears to have kept well abreast of the times. Certainly, at no period of the world’s history has it ever been so popular as at present. As a natural consequence, so many skilled exponents of the art have never before existed. Yet there is one respect in which at the present day conjuring shows no advance upon the records of earlier times. The one great peculiarity in connexion with magic, at every period, has been the limited number of those who prove themselves capable of originating magical effects. This peculiarity has never been more thoroughly emphasized

than at present. Since the days of Robert-Houdin, only two men have attained any remarkable degree of prominence — Mr Maskelyne and M. Buatier de Kolta. There are many who, as entertainers, are entitled to rank with the highest, but to those two only can prominence be justly given as originators. The only logical conclusion to be drawn is that to invent original illusions is a matter of no ordinary difficulty, and, indeed, all who have attempted work of that kind will admit that such is the case. When, however, an original principle has been invented, it may be utilized in producing many and apparently quite distinct effects. As an example of this, Maskelyne's "Cleopatra's Needle," invented in 1879, may be mentioned. The trick consisted of a piece of mechanism representing an exceedingly light model of the famous obelisk. So light was it, in fact, that it could easily be lifted with one hand. Upon an isolated stand, previously examined by the audience, a sheet of ordinary brown paper was laid, and on this the "needle" was placed. Thus during the performance communication with the obelisk was obviously impossible. Yet from within it human beings emerged in a most startling manner. The secret consisted in the fact that the "needle" was capable of being lifted by invisible means, and from the outset contained two or three persons concealed within it. Notwithstanding the fact that this illusion was one of Mr Maskelyne's simplest devices, it puzzled even experts for a considerable time. When at last the secret leaked out, the principle was seized upon with avidity and utilized in a variety of ways — for example, by M. Buatier de Kolta in his beautiful illusion, "The Cocoon," first produced at the Egyptian Hall, London, in 1887. In this case de Kolta had the advantage of Mr Maskelyne's assistance in perfecting the mechanical details. De Kolta's smaller tricks have for years supplied the whole army of ordinary conjurors with novelties. In 1886, at the Eden Theatre, Paris, he introduced his famous illusion known as "The Vanishing Lady." This mystery, performed as he alone could perform it, was one of the most effective tricks ever exhibited. Hundreds of "imitations" were, of course, produced; but, like the imitations of Mr Maskelyne's box, they sink into insignificance when compared with the original; and in this case, unfortunately for the originator, the reputation of the original was speedily ruined by clumsy exponents, who only succeeded in exposing the principle. The effect produced by de Kolta was as follows: — Taking from his pocket what appeared to be an ordinary newspaper, folded, he opened it out and laid it upon the stage. Then a chair was shown, front and back, to the audience, and placed upon the paper. Madame de Kolta, in ordinary evening dress, then took her seat upon the chair, and a large piece of black silk was thrown over her, enveloping her from head to foot. Then de Kolta would shout, "I'll throw you in the air!" — or words to that effect — and to all appearance he grasped her round the waist, lifted her above his head, and she vanished, covering and all, at his finger-tips.

Among the illusions depending for their effect upon sudden disappearance, perhaps the most inexplicable was that produced by Mr Maskelyne in 1891 under the appropriate title of "Oh!" — that being an expression frequently used by spectators upon witnessing the startling effect. In the illusion the performer whose disappearance was to be effected seated

himself upon a raised couch, above which a kind of canopy was supported upon brass rods. From the canopy depended curtains capable of being raised or lowered. The right hand of the performer was strapped to one end of this couch, and the left hand was secured by means of a strap attached to one end of a stout cord. The other end of the cord, having been passed through a hole in the framework of the canopy, was securely held by a member of the audience. The curtains were then lowered to within 18 in. of the ground, and through an aperture in the front curtain the performer's right hand was passed. This hand, again, was held by a second member of the audience. Finally a sheet of iron was placed beneath the couch, to prevent any possibility of the performer's escape being effected through a trap in the stage. Thus, with the performer's right hand in full view, his left drawn upwards by the cord attached to it, and a clear space below the couch, escape seemed impossible; yet, upon the word "Go!" the right hand disappeared, the cord became slack in the hands of the holder, the curtains were instantly raised, and the performer had vanished.

In 1886 M. Buatier de Kolta, in conjunction with Mr Maskelyne, presented at the Egyptian Hall, London, a series of illusionary effects upon an entirely novel principle, to which they gave the name of "Black Magic." The main idea was based upon the fact — obvious when once it is pointed out — that visible form cannot exist in the absence of shadow or varying tint. In other words, we can only distinguish forms when they exhibit either variations in colour or shade. Absolute uniformity must, necessarily, mean invisibility. To bring about this uniformity, the entire stage was draped in black velvet, giving it the appearance of a dark and immensely deep cavern. There were no lights within it, though from the front it was brilliantly illuminated. Upon the stage, thus prepared, the most startling appearances and disappearances took place, within a few feet of the footlights. The illusions were produced by the simple method of covering anything to be concealed by screens of black velvet. These could be brought almost to the front of the stage, and yet would remain invisible; thus, in an instant, persons or articles would appear, apparently from space, or would disappear into it. The principle involved in the production of these illusions was adopted subsequently by many conjurors, and has served to produce an almost endless variety of effects.

The production of innumerable blossoms from a sheet of paper was undoubtedly the prettiest of M. Buatier de Kolta's smaller tricks. A small sheet of cartridge-paper is twisted into a cone, which is shown to be empty, but immediately artificial blossoms begin to pour out of it, until quite a bushel of them are piled up. Unfortunately for the inventor, the first time he introduced the trick at the Eden Theatre, Paris, one or two of the "blossoms" were carried by a draught of air into the auditorium. These were at once sold to a manufacturer of conjuring appliances, and within a few days de Kolta's "Spring Blossoms" were upon the market.

Another startling trick, by the same inventor, is "The Flying Cage." A live bird is

imprisoned within a small cage, held between the performer's hands, when suddenly, by a quick movement of the arms, both bird and cage vanish. The cage simply collapses, and is drawn by a string up the coat-sleeve, the unfortunate bird being sometimes maimed, if not killed outright. The Society for the Prevention of Cruelty to Animals once took action in the matter, and sought to prevent the performance of the trick at one of the London music-halls; but the conjuror in this case invited the officials to witness a private demonstration, and was clever enough to convince them that there was no cruelty. Conjuring with animals has a great charm for young folk, and happily it is very seldom that a trick involves any cruelty whatever. The animals, as a rule, quickly [page 949] become accustomed to the business, and appear thoroughly to understand what is required of them.

In recent years the mystery known as "Second Sight" has been vastly improved. The old system, invented by Pinetti in 1785, and brought to great perfection by Robert-Houdin, has almost disappeared. It consisted of an elaborate code of signals, given by means of subtle variations in the questions put to the supposed clairvoyant; the form in which the question was put conveying the appropriate answer. Now it is customary to avoid speech altogether. The information is conveyed by means of gesture or slight sounds at varying intervals. This business requires an enormous amount of practice, and an abnormal memory on the part of those who become expert.

But there are certain tricks of this class which require little or no skill and a very small amount of practice. These are generally introduced by impostors who claim or tacitly suggest the possession of supernatural powers. The following is a very familiar example of the kind of trick employed by such persons. The performers are usually a man and a woman. The man first appears, and informs the audience that he will shortly introduce a lady possessing extraordinary powers. Not only can she read the thoughts of any person whose mind is en rapport with hers, but also she can foretell the future, trace missing friends, discover lost property, &c. In order to display the lady's capabilities, he requests that any members of the audience who have questions they would like answered will write them secretly. For convenience in writing, slips of papers, pencils and squares of thick milliard are passed round, the milliard squares being for use as writing-desks. The writers are particularly cautioned to allow no one to see what is written, but to fold up the papers and retain them in their own possession. Further, the writers are instructed that, when the clairvoyant appears, the thoughts of each must be kept intently fixed upon what he has written. The pencils and milliards are then collected, and the preparations being so far complete, other portions of the entertainment are proceeded with. Finally, as the last item in the program, the clairvoyant is introduced. A handkerchief, upon which some liquid has been poured, is held over the lady's nose and mouth, and apparently she falls into a trance. Then she proceeds to describe the appearance of certain of the writers, the position they occupy in the room, and the nature of the questions they have written, giving to those

questions more or less plausible answers. The trick never fails to produce the most profound astonishment, and by its means several persons have made rapid strides to fortune. But the whole business is an impudent imposture. Therefore it cannot be too often or too thoroughly exposed. It is accomplished as follows. Some of the millions passed round for convenience in writing are built up of a number of thickness, fastened together at the edges only. Beneath the outer layer a sheet of carbon paper is concealed, so that the pressure of the pencil causes a reproduction in duplicate to be impressed upon an inner layer of cardboard. These prepared pads are handed round by attendants, who note the dress and appearance of the persons by whom the questions are written. That information together with the prepared pads, is subsequently conveyed to the clairvoyant. She requires a certain amount of time in order to memorize the questions and the description of the writers; consequently she is not introduced to the audience until, say, an hour has elapsed. Of course, it would not be discreet to have all the millboards prepared. Many of them, perhaps the majority, are really what they appear to be; but, needless to say, the questions written upon these are never answered. It is carefully pointed out beforehand that the clairvoyant can only read the questions of those whose minds are in sympathy with hers. That statement, naturally, serves to account for her inability to read or answer questions written by those who have used the plain millboards.

In connexion with this trick a further imposture is carried out by inviting strangers to send, by post, any questions they wish to have answered. Such an invitation appears to be quite straightforward and genuine, but those who are sufficiently credulous or sufficiently curious to respond to it lend themselves to the perpetration of an ingenious fraud. In reply to any such communication, the writer is informed that it is necessary for him to attend one of the public performances, and endeavour to bring his mind into harmony with that of the clairvoyant. Enclosed is a complimentary ticket entitling him to attend any performance he pleases. The procedure, then, is simply this. Each ticket bears a private mark, and a corresponding mark is put upon the letter written by the person to whom it is sent. When any marked ticket is presented, the attendant notes the dress and appearance of the visitor and the seat he occupies. That information is given to the clairvoyant, together with the ticket. She refers to the letter bearing the mark corresponding to the ticket, and ascertains what that particular visitor wishes to know. Thus to the public he appears to read and answer a question which has not been written down, but merely thought of by a total stranger. There are numerous methods of obtaining information by means similar to those already described. Sufficient, however, has been said to show that such devices are of the simplest, and require nothing more than a callous effrontery to carry them into effect. Of course, all kinds of mischances are bound to occur. But, when one is supposed to be dealing with undiscovered laws of nature, it does not require much ingenuity to wriggle out of any situation, however difficult.

Modern magic calls to its aid all the appliances of modern science — electricity, magnetism, optics and mechanics; but the most successful adepts in the art look down upon all such aids and rely upon address and sleight of hand alone. The prestidigitator's motto is "The quickness of the hand deceives the eye"; but this very phrase, which is always in a performer's mouth, is in itself one of the innocent frauds which the conjuror employs as part and parcel of his exhibition. The truth is that it is not so much upon the quickness with which a feat is performed as upon the adroitness with which the time and means of performing it are concealed that its success depends. The right opportunity for executing the required movement is technically called a *temps*. This is defined to be any act or movement which distracts the attention of the audience while something is being "vanished" or "produced." Experiment will readily convince any one that it is absolutely impossible to move the hand so quickly as to abstract or replace any object without being perceived, so long as the eyes of the audience are upon the performer. But it is very easy to do so unnoticed, provided the audience are looking another way at the time; and the faculty of thus diverting their attention is at once the most difficult and the most necessary accomplishment for a conjuror to acquire. It does not suffice to point, or ask them to look in another direction, because they will obviously suspect the truth and look with all the more persistence. The great requisite is to "have a good eye" — in French conjuring parlance *avoir de l'oeil*; an earnest, convinced look of the performer in a particular direction will carry every one's glances with it, while a furtive glance at the hand which is performing some function that should be kept secret will ruin all.

The motto prefixed by Robert-Houdin to his chapter on the "Art of Conjuring" is — "to succeed as a conjuror, three things are essential: first, dexterity; second, dexterity; and third, dexterity"; and this is not a mere trick of language, for tripe dexterity is required, not only to train the hand to the needful adroitness, but to acquire the requisite command of eye and tongue. Unfortunately this dexterity may be applied not only to conjuring but to cheating, particularly in the case of card-shapers. It takes various forms: (1) marking the cards; (2) abstracting certain cards during the game for clandestine use; (3) previously concealing cards about the person; (4) packing the cards; (5) substituting marked or prepared packs; (6) confederacy; (7) false shuffles. All these methods are thoroughly exposed in Robert-Houdin's work *Les Tricheries des Grecs*. The successful card-shaper must have qualities which, if applied in a legitimate direction, would ensure distinction in almost any profession.

In the case of purely dexterical tricks, little advance has been made. Recently some new sleights were introduced from [page 950] America. These consist in an amplification of the method of concealing coins and cards at the back of the fingers. The principle has received the incongruous title of "back-palming." By means of this method both back and front of the hand alternately can be shown empty, while, notwithstanding its apparent emptiness, the hand nevertheless conceals a coin or card. The first and fourth fingers are caused to act as

pivots, upon which the concealed articles are turned from front to back, and vice versa, the turning being performed by the second and third fingers. The movement is very rapid, and is accomplished in the act of turning over the hand to show the two sides alternately. The sleight requires an enormous amount of practice. It has been brought to the highest state of perfection by Herr Valadon.

In all ages a very popular magical effect has been the apparent floating of a person in empty space. An endless variety of ingenious apparatus has been invented for the purpose of producing such effects, and the present article would be incomplete without some reference to one or two of the more modern examples. A very pretty illusion of this kind is that originally produced under the title of "Astarte." A lady is brought forward, and after making her bow to the audience she retires to the back of the stage, the whole of which is draped with black velvet and kept in deep shadow. There she is caused to rise in the air, to move from side to side, to advance and retire, and to revolve in all directions. The secret consists in an iron lever, covered with velvet to match the background, and therefore invisible to the audience. This lever is passed through an opening in the back curtain and attached to a socket upon the metal girdle worn by the performer. The girdle consists of two rings, one inside the other, the inner one being capable of turning about its axis. By means of this main lever and a spindle passing through it and gearing into the inner ring of the girdle, the various movements are produced. A hoop is passed over the performer with a view to demonstrate her complete isolation, but the audience is not allowed to examine it. It has a spring joint which allows it to pass the supporting lever. Among illusions of this class there is probably none that will bear comparison with the "levitation" mystery produced by Mr Maskelyne. A performer, in a recumbent position, is caused to rise several feet from the stage, and to remain suspended in space while an intensely brilliant light is thrown upon him, illuminating the entire surroundings. Persons walk completely round him, and a solid steel hoop, examined by the audience, is passed over him, backwards and forwards, to prove the absence of any tangible connexion.

The secrets of conjuring were for a long time jealously guarded by its professors, but in 1793 a work appeared in Paris, by M. Decremps, entitled *Testament de Jérôme Sharpe, professeur de physique amusante*, which gives a very fair account of the methods then in vogue. In 1858 a still more important and accurate book was published — *Sorcellerie ancienne et moderne expliquée*, by J. N. Pousin; and in 1868 J. E. Robert-Houdin issued his *Secrets de la prestidigitation et de la magie*, which is a masterly exposition of the entire art and mystery of conjuring. The last-mentioned book was translated into English by Professor Louis Hoffman, the author of *Modern Magic*. See also Hoffman, *More Magic*, and *Later Magic*; Edwin Sachs, *Sleight of Hand*, and J. N. Maskelyne, *Sharps and Flats*. (J. A. Cl. [John Algernon Clarke]; G. Fa. [G. Faur]; J. N. M. [John Nevil Maskelyne])

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