

demonic witchcraft, not least in the invention of the printing press, which is sometimes attributed to Faust instead of Johannes Gutenberg. That is one reason why grimoires can be read as practical guidebooks, such as the 'how-to' *Kunstabchlein* of German tradition. As William Eamon showed in *Science and the Secrets of Nature* (Princeton University Press, 1994), these made a selling point of their promise of forbidden and hidden knowledge.

Davies reveals with relish just how banal this could make such 'secret' books. They might offer nothing more dangerous than cures for stomach ache and bad breath — although few

plumb the Pythonesque depths of an Icelandic book from the seventeenth century with its runic spell to "afflict your belly with very great farting". By the twentieth century, the history of magic becomes a dispiriting, yet curiously compelling tale of charlatans and quacks who invented comically grandiose sects and titles. Davies deflates these with the understatement: "The Hermetic Brotherhood of Luxor was a mail order organization founded in 1884 by Peter Davidson, a Scottish violinmaker." He stops short of mentioning the flirtation of today's celebrities with vulgarized Kaballah — the point is made.

Also left implicit is Davies's analogy between popular grimoires and the modern plague of 'how-to' titles offering success in wealth or love. One can readily see that they are part of the same tradition, promising exclusive access to empty secrets. Internet magic has not diminished the desire for printed grimoires: given their fetishistic status, it seems that possession is still nine-tenths of the lore. *Grimoires* makes clear the continuity of magical belief in popular culture. Science and technology do not expel it, but merely give it new forms. ■

**Philip Ball** is a writer based in London.

## The technology of illusion

### Interactivos? Lima '09: Magic and Technology

Escuelab, Lima, Peru. Sponsored by Medialab Prado.

Workshop held 13 April until 13 May 2009.

Magic is not limited to the tricks performed at children's parties. It can refer to anything that resists explanation, from cognitive illusions to high-tech wizardry. This broader sense of magic was in the air in Lima, Peru, earlier this spring, when engineers and artists converged to explore the intersection of magic and technology, with awe-inspiring results.

"It's nuts, it's very ambitious," said Julian Oliver, an artist from New Zealand who helped to organize the workshop for Medialab Prado, based in Madrid, Spain. "People bring the skeletons of ideas and build them in just two weeks."

The workshop began with a digital nod to the time-honoured manipulation of playing cards and coins. Using a suitcase that folds out to become a digital overhead projector, a Spanish magician doctored a live video feed of his tabletop tricks using a pair of wireless shoes.

Other artists endowed spectators with unearthly powers. One Brazilian artist gave visitors a 'magic wand' to change the outline of their shadows. A Mexican inventor used a hidden theremin, the musical instrument that responds to the body's electrical fields, to activate a magnet that causes a pair of ghostly silver spoons to flip over when someone approached. "We had to reject a project that involved a flame you could control with your hands by way of gas injections," said Oliver.

The conception of magic in Peru was not always the art of deception seen in the West. Instead of Houdini-style illusions, "there



Viewing your arm through this box of tricks (top) transformed it into the furry equivalent shown above.

is superstition and metaphysics" in Peru involving "rites, summoning and prognostication", said Oliver. *Abracadabra Pata*, a box in which visitors saw their own arms transformed into the legs of insects or lions, gave a taste of the spirit of witchcraft. A sense of the miraculous also pulsed through an installation that asked passers-by to synchronize their heartbeats to revive an image of a dead man projected onto the floor, in a sort of shamanistic healing-ritual-turned-video-game that took its inspiration from the Peruvian poet César Vallejo.

Magic could be defined as that which science has not yet made intelligible. But "even if science could explain everything, there would still be a place for magic," noted Kiko Mayorga, a Peruvian engineer and artist who co-founded the Escuelab centre that hosted the installations. This is because "magic is linked to surprise, and one's attention can never take in everything," he wrote.

Magic can comprise inventions that baffle us until we understand them. But this ignores a crucial fact: the best illusions rely not on advances in technology, but on permanent facts of psychology. "Magic, in the traditional sense, doesn't occur in the world, it occurs inside people," explains Oliver. "The magician merely helps people to trick themselves." ■

**Jaścha Hoffman** is a writer based in New York.

ESCUELAB LIMA