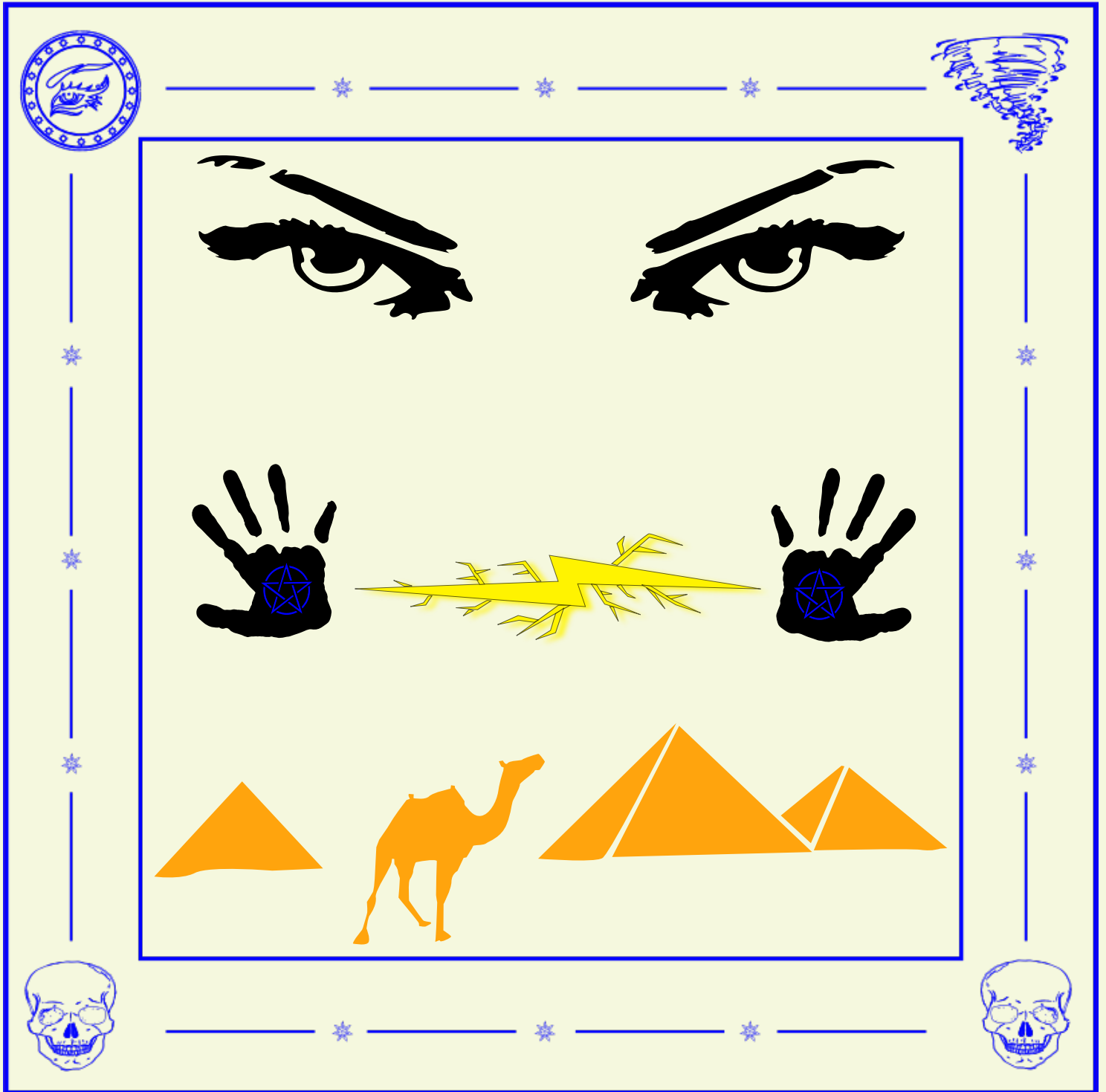


The Twelve Magicians of Osiris



A centuries old mystery reborn in a magic puzzle

The Twelve Magicians of Osiris by Howard Williams and Peter McOwan

This is a self-working magic trick. Remember just a few easy steps to create a magical vanish: a completed jigsaw is broken down into its individual parts before being reconstructed to show a mysteriously changed picture!

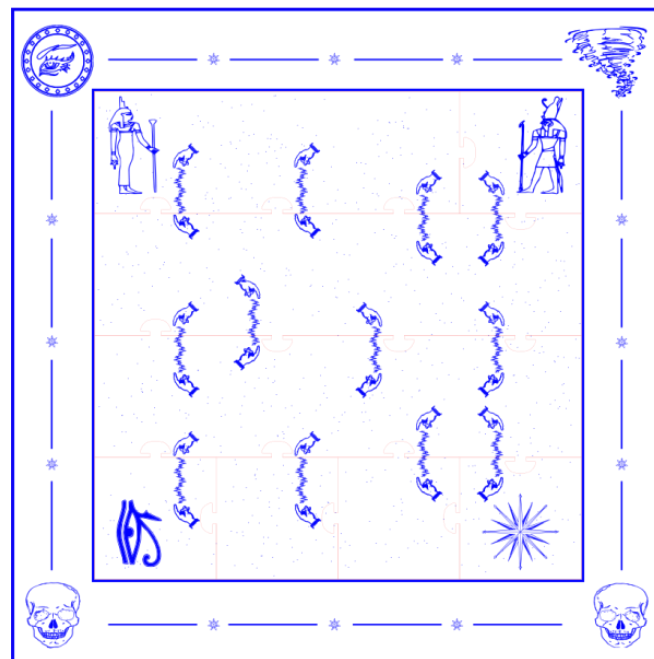
The effect

While showing a completed jigsaw, you tell a story about a power struggle in ancient Egypt and a prophecy made by the Oracle. The jigsaw shows 12 pairs of hands with 12 spells.

You then deconstruct the jigsaw and take the pieces out of the frame. As you continue the story, you mix up the individual parts in front of the spectator. You then reassemble them. After all parts are put back together and the jigsaw is complete once again, something amazing has happened! There are still twelve pairs of hands, but amazingly only ten spells! Two pairs of hands are empty. The Oracle's prophecy has come true.

The method

Construct the initial state of the puzzle inside the frame, showing twelve spells, as below:

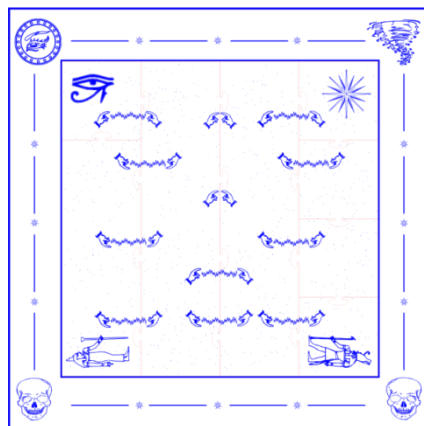


“Long ago, Osiris and Nephthys ruled over all of Egypt. Spells cast by their twelve magicians protected them from attackers who wished to usurp them. A powerful Oracle prophesied a great storm during which the evil Horus would break two of the spells and depose them. “

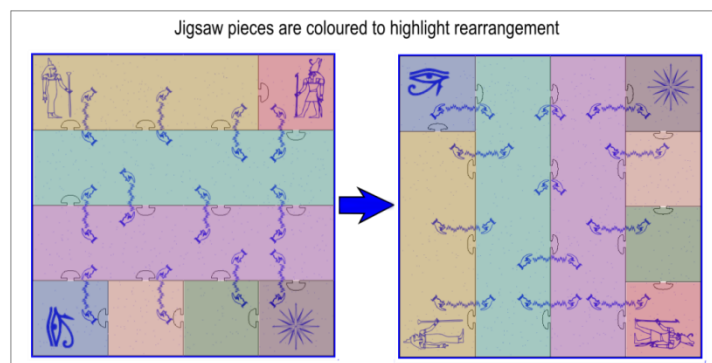
Point out Nephthys (top left), Osiris (top right), Horus (bottom left) and the weather rose (bottom right) on the jigsaw pieces. Count the twelve spells by pointing at them. Using the hole on the back of the frame remove the pieces and mix them up for the spectator.

“One day, a great sandstorm swept the land. Horus was nowhere to be found.” (say this whilst deconstructing the jigsaw)

Reconstruct the pieces, as shown below:



A good way to remember where the pieces go is to place Nephthys and Osiris next to the skull symbols on the frame, lying on their backs to signify that they have died. Place the Eye of Horus next to the Circle Eye in the top left of the frame, and the weather rose next to the sandstorm icon. Finally, bring the empty hands together in the middle of the puzzle. This leaves just two square pieces to place down; match a longer section of a spell with a shorter one for each of these pieces. All remaining spells should be the same length.



“After the storm, Nephthys and Osiris were discovered, buried in the sands, lifeless. Two of the spells had been extinguished.”

Point out Nephthys and Osiris, lying dead. Count the ten spells for the spectator.

“Horus took the throne and ruled.”

Point to the Eye of Horus.

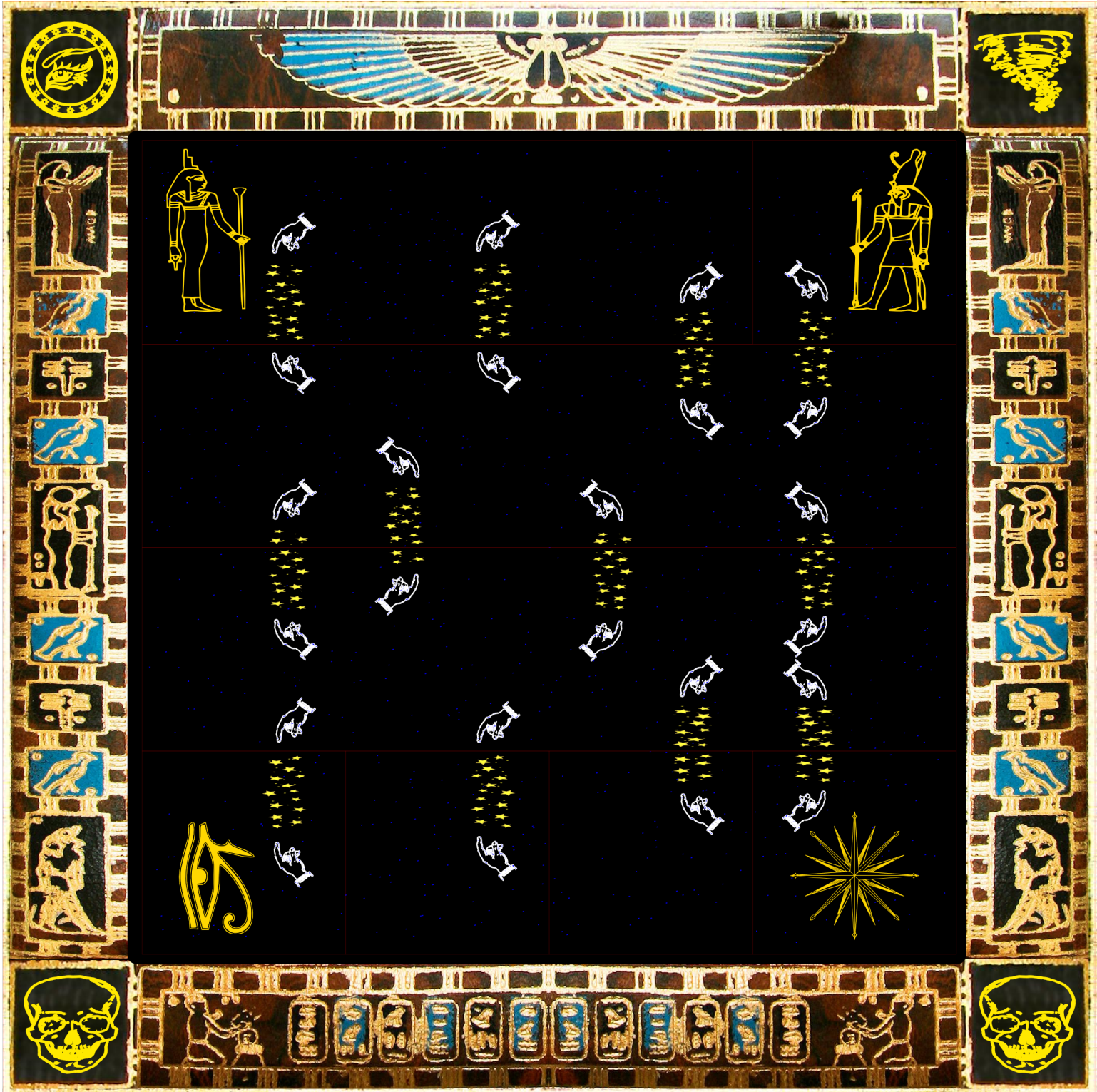
“But how had he removed the two spells?”

Leave the puzzle for a few seconds for the spectator to ponder the impossibility.

The science behind the trick

The trick is based on an old method called the DeLand paradox, later elaborated by Mel Stover, which relies on each of the remaining spells getting a little longer; these techniques are described in Martin Gardner’s *Mathematics Magic and Mystery* (Dover Publications). Instead of designing the trick by hand we used a computer program. We researched in our laboratory how much longer each spell could be before people would notice the difference between the two jigsaws. We also did experiments to work out how many pieces to use, and how many spells would be just right for a convincing effect. To our knowledge this is the first use of artificial intelligence techniques in the creation of a new magical effect.

Cut along the red lines to make the pieces and the frame!



Design your own magic jigsaw puzzle!

1. Draw repeating designs, roughly rectangular in shape, on top of the 12 dotted lines.
2. Decorate the remaining whitespaces with anything you like.
3. Cut along the red lines to make a frame, and eight separate pieces.
4. Rearrange the pieces to make two of your designs disappear (leaving only 10!)

