

Optical Illusions & Visual Oddities Deck II

Explanation of the Cards

J.R. Block, PhD

Professor of Psychology, Emeritus
Hofstra University, Hempstead, NY

R. Ausbourne

Graphic Artist
SandlotScience.com

U.S. Games Systems, Inc.

179 Ludlow Street,
Stamford, CT 06902 USA
www.usgamesinc.com

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Explanations of the Cards

Kings: Bilingual Ambigrams.

The Kings in this deck fall generally under a term called Ambigrams. For the most part ambigrams are words which can be read the same way from two different perspectives, e.g., right-side up or upside down. The Kings here are by David Moser who is a translator living in Beijing. These are bilingual ambigrams which he calls “dual reading calligraphs.” If you can read Chinese you know the word immediately, although it may seem to be in an unusual typeface. If you cannot read Chinese if you turn the card as indicated below, you can read the word(s) in English.

KC: If you turn this card 90° counter clockwise you can read the word “America.”

KD: If you turn this card 90° counter clockwise you can read the word “way.”

KH: If you turn this card upside down you can read the word “map.”

KS: If you turn this card 90° clockwise you can read the words “Far East.” *All of the Kings are copyrighted by David Moser*

Queens: Depth Perception.

It is interesting that we can perceive depth when images are presented on a two dimensional surface such as a page of paper. Indeed, the retina of our eyes where light is received is a two dimensional surface. There are many cues for the perception of three dimensions to which the brain responds. Some of them require two eyes, but many require only one. The Queens in this deck present several examples.

QC: The first example is binocular. This figure presents two diamond shapes—one black and the other white. While you can't see it, each shows a slightly different angle of the diamonds. If you focus on the space between them and cross your eyes the two diamonds will fuse into a single, translucent, three-dimensional diamond.

QD: The lines on this figure have been drawn from a point of origin off of the card to your lower right. Turn the card so that the arrow is your point of origin and tip it away from you. Close one eye and look at the figure. The lines should appear to be standing straight out from the card.

QH: There is a tendency for us to assume that all of the blue figures are actually the same size and shape. Thus,

the circle at the bottom just seems to become more and more elliptical. Since the diameter becomes gradually smaller we think of it as being further in the distance. It is also true that images which are seen as higher in the visual field are assumed to be further away from us than ones which are lower in the field. © *R. Ausbourne*

Jacks: Color.

The presence of one color alongside another or shades of black and gray significantly alter our judgements of the brightness or intensity of a color.

JC: The blue in this figure is constant throughout the black and gray areas seem to change the blue color.

JD: The green in this figure is constant throughout, although the presence of white and black makes us see the color differently.

JH: If you try to cover the blue rectangles you can see that the gray figures on the left and right are identical.

JS: The blue background is actually continuous but the presence of the black diagonal lines makes the center seem to be a darker shade of blue.

Clubs: Ambiguous Figures.

Ambiguous figures are images in which one or more lines serve two different functions in the same illustration. Thus, a line could be the edge of one geometric figure as well as the line of a completely different, but possibly attached figure. Sometimes a curve could be the outline of a nose of a face in one illustration and a chin of a completely different face as well. Ambiguous figures are often called reversible figures because if the line is truly balanced for each figure it serves, you can see two figures in one illustration. The interesting thing is that you cannot focus on one of them without the other “popping” into your consciousness. You can never see them both at the same time!

AC: The first clown you see is the full-faced one looking directly at you. Then, there are two more facing left and right with red noses. However, there are four more facing inward. Two of them are fairly large, with broad smiles close to the mouth of the full-faced clown. But just above them there are two other faces with short lips that look almost like commas on either side of the full-faced clown. *(Fisher, 1968) © University of Illinois Press*

2C: If you focus on the top or bottom dot you seem to be

looking at the top or the bottom of a pizza box. The figure is equally good each way. © *R. Ausbourne*

3C: The face of the farmer can be seen if you turn the card 90° counter-clockwise. His eyes are represented by the small trees just to the left of the larger trees.

© *Keith Kay*

4C: The edges of the cubes (dice) represent the edges of “attached” dice. Since the lines are equally good for either cube your eyes tend to shift back and forth between them, seeing either one cube or three.

© *R. Ausbourne*

5C: Held one way this looks like a pointed finger. If you turn the card 90° clockwise you can see a seated cat.

© *Paul Agule*

6C: If you see the figure as facing to the left you see a woman’s face. If you see it facing right you see the face of a child. © *R. Ausbourne*

7C: In this figure if you look at the left side of the bearded face you can see a profile of a young man. The left side of the larger face shows the profile of a young woman and they appear to be kissing. © *Keith Kay*

8C: If you look at the small diamond shaped spot in the lower right hand corner you can either see it as the top of

a somewhat curved pyramid or the light at the end of a slightly curved tunnel. © *R. Ausbourne*

9C: If you look at this figure with the text at the bottom it appears to be a man with a moustache wearing a bow tie. However, if you turn it 90° clockwise you can see a sleeping dog with a bone to its left. The dog's face is almost in the center of the figure. © *Keith Kay*

10C: If you look at the curved vertical line with the flower at the top—that's what it is—a flower. However, if you shift your gaze to the “sun” figure it could be a man's profile. © *R. Ausbourne*

Diamonds: Figure Ground Illusions.

When we look at a figure, it is usually darker and smaller than its background and has more precisely defined form. However, sometimes these characteristics are evenly balanced. If this occurs, we may be able to see two different images—one in the figure and another in the background. Looking at one removes the other from our perception. In addition, sometimes a single image is made up of what often is background occasionally combined with “figure.”

AD: The artist, John Langdon, has managed to present

two words together. “Optical” appears in gray while “Illusion” can be seen in the landscape background.

© *John Langdon*

2D: Here Langdon has mixed figure and ground to generate the words “love” and “hate” together. © *John Langdon*

3D: Here Langdon has embedded the word “You” as the background for “Me” and thus, “Us.” © *John Langdon*

4D: In this example Langdon has embedded the author’s last name in his first. The name “Joyce” can be seen as the dark areas in the name “James.” © *John Langdon*

5D: If you look at the full image it is the profile of a penguin. However, in the lower left you can see the profile of Abraham Lincoln. © *R. Ausbourne*

6D: Here the confusion of figure and ground is such that profiles of fashion models can be seen in the elongated dark areas while there are nuns in white habits with dark faces in the white areas.

7D: The image shows two women dressed in 1900s style apparently talking to one another. However, their heads and the spaces underneath show a picture of Satin in the background.

8D: In this case, the image is a combination of the white

and dark areas. It is a steamship coming toward you. The tall vertical area on the left is the right side of the steamer's bow. The horizontal dark area at the bottom is the water. The dark irregular shape at the top right is smoke from the steamer's stack while the triangular white area at the lower right is the hull seen in perspective.

9D: The word is "watermellon." The letters are presented in white with the dark areas defining the spaces that the letters create. We are used to seeing letters as figures with the white space on a page as the background. Here it is largely reversed. © *R. Ausbourne*

10D: In this case, the figure is actually the white area. The dark area represents the shadow of a person's left hand with a partial thumb in the lowest right hand area.

© *Paul Agule*

Hearts: Impossible Figures.

It is possible to draw three dimensional figures which appear quite real but could not possibly be constructed. The Dutch artist, M.C. Escher specialized in such figures in his work. In the suit of Hearts we include ten examples of figures which look quite real but cannot exist.

AH: A solid hex nut could not possibly twist this way but it looks real enough to most people. © *R. Ausbourne*



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