

## Re: Mirage optical illusion?

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On May 25, 5:32 pm, AES <[sieg...@xxxxxxxxxxxx](mailto:sieg...@xxxxxxxxxxxx)> wrote:

Two identical shallow spherical bowls or saucers, about the size and shape of a headlight reflector, depth about 1/6 of diameter, polished mirrored on the interior; one has a central hole about 1/4 the OD of the dish in the middle of the bottom.

Put the one with the hole upside down on top of the other, facing each other, rims in contact; put a small object in the center of the bottom bowl. You see two virtual images of the object, one just outside (above) the plane of the hole in the upper bowl, the other just inside that plane.

What's the usual \_name\_ of this setup, or this illusion? (which is sold commercially --- at a pricey price! --- under trade name "Mirage" by Optigone, Inc.)

I don't know that this arrangement has a particular name. (I have one of these devices, though, and it is very interesting. Kids love it.)

The two mirrors are actually parabolic. The object placed in the center of the bottom mirror is at the focus of the upper parabola. Its light is collimated and directed at the lower mirror, which then forms a real image (Phil was right!) at its focus at the opening on the top mirror.

Its operation is described on the following page:

[http://www.optigone.com/3D\\_hologram.htm](http://www.optigone.com/3D_hologram.htm)

Additional images, seen further off-axis, are due to multiple bounces. They're not as well imaged, though.

Wade Kelman

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