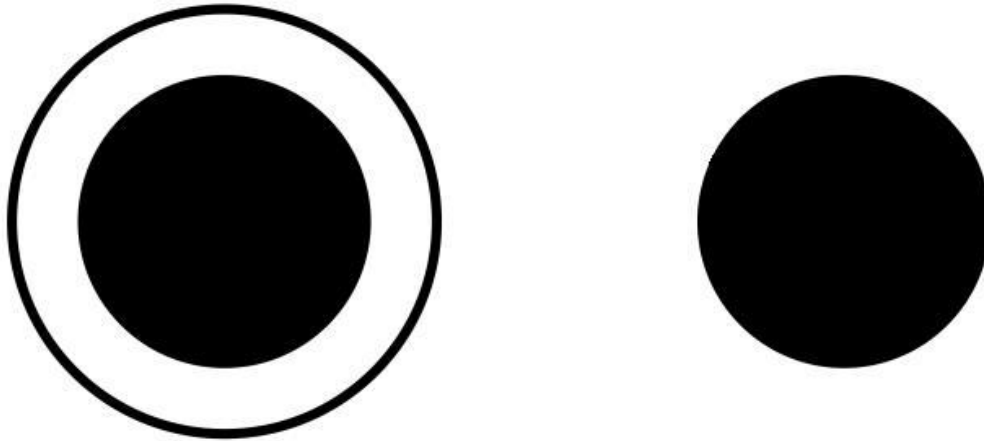


## Optical illusions

‘Optical’ has to do with seeing stuff, and ‘optical illusions’ are when our eyes play tricks on us. For example...



[Wikimedia Commons, the free media repository. Delboeuf illusion  
<https://commons.wikimedia.org/wiki/File:Delboeuf.jpg>]

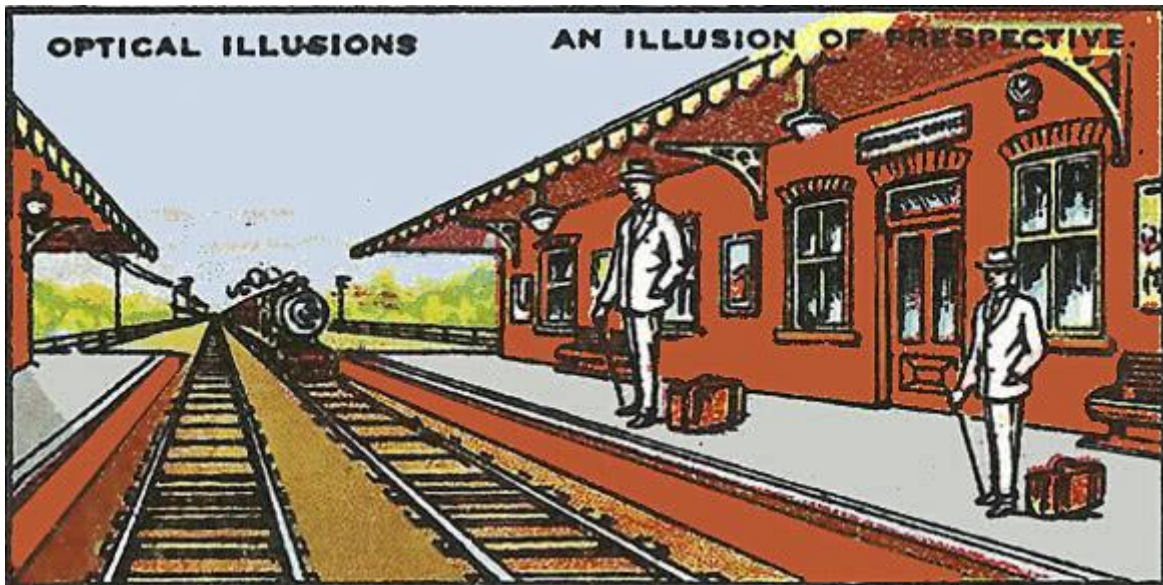
this is called the “Delboeuf illusion”.

So, which black spot looks bigger to you?

Most people say the black spot on the left looks a little bit bigger than the one on the right. But, if you measure them with a ruler, you will find they are the same size.

The circle around the one on the left makes it look a little bit bigger.

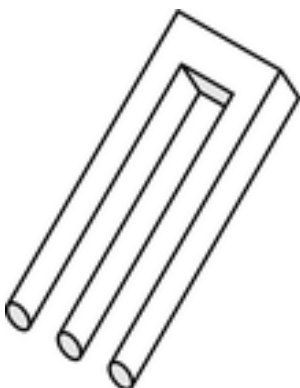
[That is why Saxby never puts umbrellas up, even when it’s raining. Sure, when it’s raining and he is walking down the street with his umbrella closed in his hand, people look at him – but, at least they don’t think he’s fatter than he is!]



[Generously – public domain, courtesy of Images at WPclipart  
[https://www.wpclipart.com/signs\\_symbol/optical\\_illusions/index.html](https://www.wpclipart.com/signs_symbol/optical_illusions/index.html)]

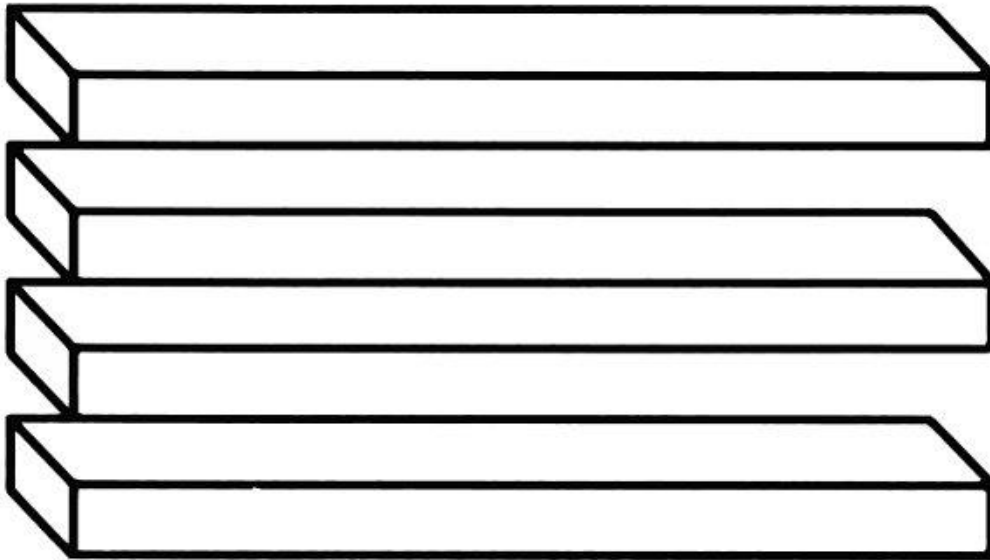
This is one of the most amazing optical illusions we have ever seen. The man halfway down the platform looks like a giant – much bigger than the man closest to us. But, if you measure these men with a ruler, they are exactly the same size!! The man halfway down the platform IS bigger because he is taller than the door behind him – but when you measure him, he is not.

Things that are further away do look smaller – so, this building gets smaller – the man halfway down should be drawn smaller, but to trick us, he has been drawn the same size as the man close to us.



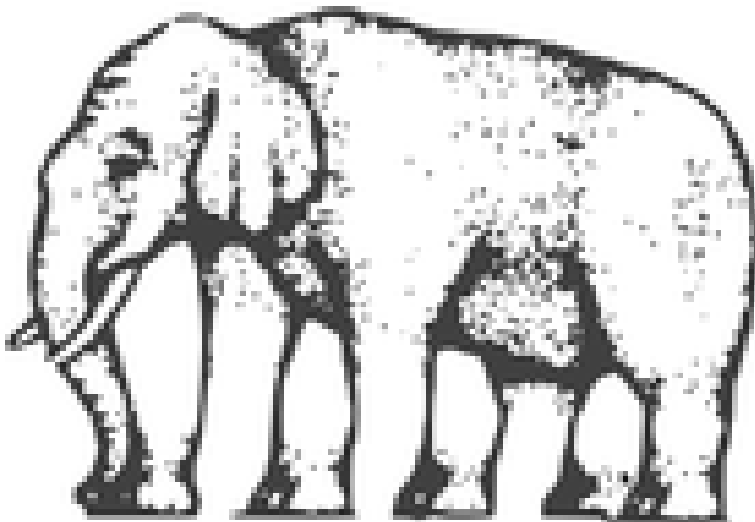
[Generously – public domain, courtesy of Images at WPclipart  
[https://www.wpclipart.com/signs\\_symbol/optical\\_illusions/index.html](https://www.wpclipart.com/signs_symbol/optical_illusions/index.html)]

This is a very simple, and puzzling optical illusion. Cover the right side of the figure and there are 3 ends of 3 sticks. But, cover the right side of the figure and there are only 2 sticks.



[Creativity 103.com. Creative Commons Attribution 3.0 License. Many thanks  
<https://creativity103.com/collections/Graphic/slides/opticalill.html>]

Here is the same sort of problem. How many shelves do you see?  
Cover up the right side of the picture and you will count the ends of 4  
shelves. But, cover the left and you will see only 3 shelves.



[Generously – public domain, courtesy of Images at WPclipart  
[https://www.wpclipart.com/signs\\_symbol/optical\\_illusions/index.html](https://www.wpclipart.com/signs_symbol/optical_illusions/index.html)]

How many legs does this elephant have? You tell us, because every  
time we count them, we get a different answer!

Show your parents  
Chapter 10

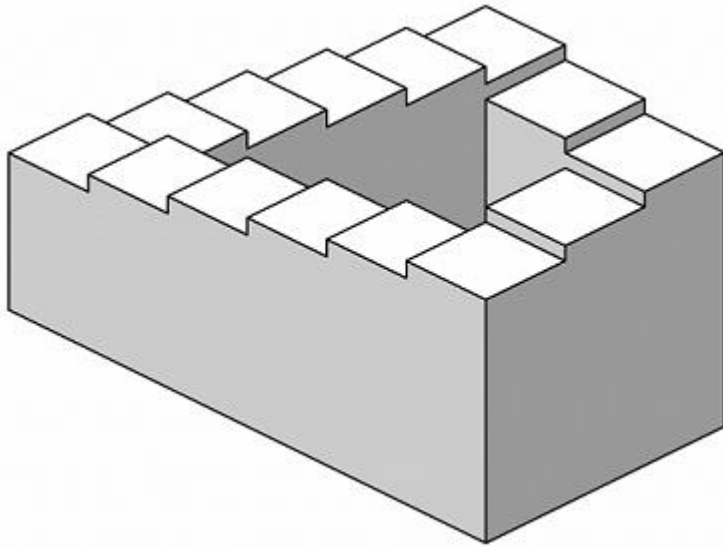


[Sehtestbilder.de; created by Martin Missfeldt. 'May be used for free'  
<https://www.sehtestbilder.de/sehtest-kostenlose-bilder-nutzungsbedingungen.php>]

This attractive young woman ages when she stands on her head.



Can you see her as an old lady?



Penrose stairs. Public domain – made available by Wikipedia  
[[https://commons.wikimedia.org/wiki/File:Impossible\\_staircase.svg](https://commons.wikimedia.org/wiki/File:Impossible_staircase.svg)]

This is a very famous optical illusion. Imagine you are standing on this wall and you start walking down. Follow where you will go with your eyes. You keep going down, down, down – then you realise you are going around in a circle. If you are going around in a circle you must go up as well as down. But, in this figure, you just keep going down. This is impossible – your eyes are being tricked. Pretty good.



[Painted by Vegmálun GÍH. Image: You Tube]

Optical illusions have been used to make pedestrian crossings safer. The stripes are painted on the road to look like they are blocks of wood or concrete. The shadows are also optical illusions [of course].



[925 Bethlehem Pike, Colmar.

<https://www.solnicklawyers.com/optical-illusions-drivers-slow-down/>]

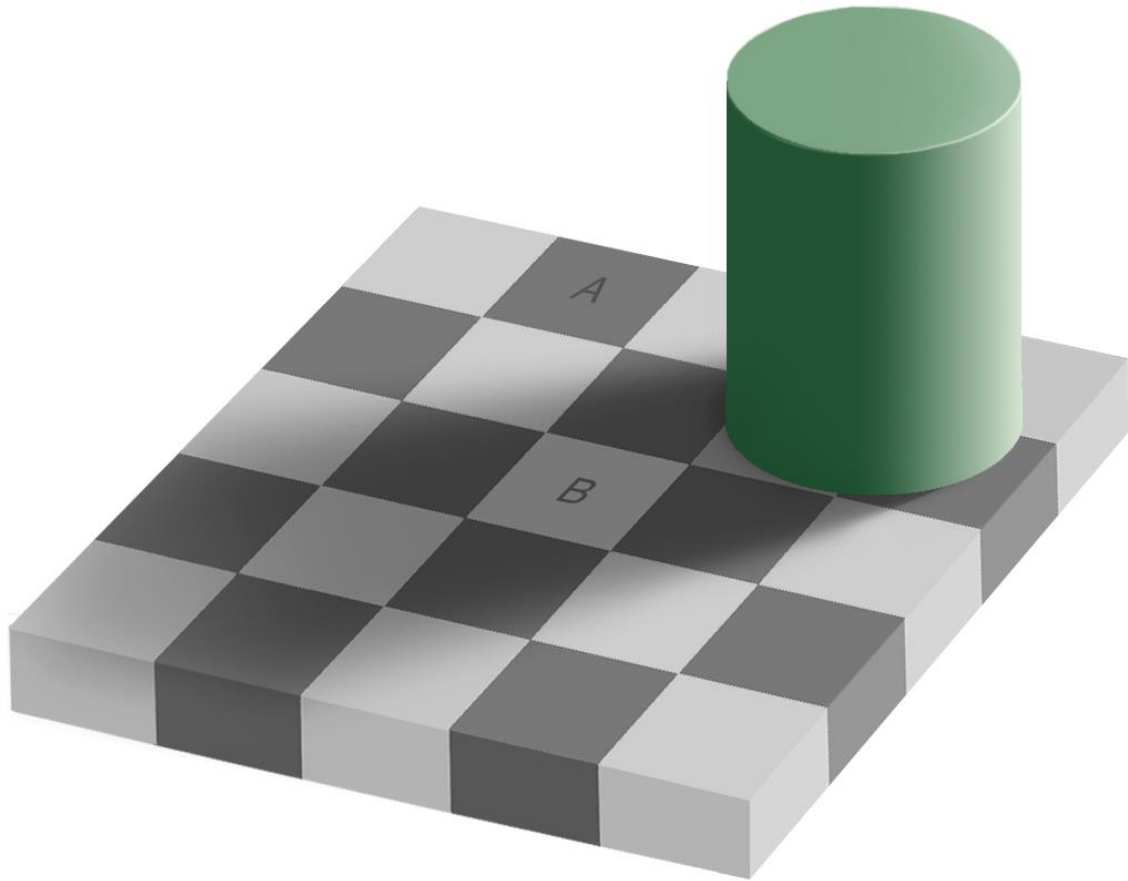
Montgomery County, Philadelphia [USA] has also used optical illusions to cut down road accidents – here they have painted big balls on the highway – to encourage people to slow down.



[Public domain. By Ashley Smith. Many thanks]

<https://www.flickr.com/photos/71550027@N07/6495053813/>]

This is a very interesting illusion – on the left you can see a lion. On the right the lion is turned upside down and you see a mouse.



[File created by Adrian Pingstone based on the original by Edward H. Adelson  
[https://en.wikipedia.org/wiki/File:Grey\\_square\\_optical\\_illusion.PNG](https://en.wikipedia.org/wiki/File:Grey_square_optical_illusion.PNG)  
- “The copyright holder allows anyone to use this for any purpose”]

We believe this is one of the best optical illusions ever created. It is called the checkershadow illusion.

The colour of square A is exactly the same colour of square B. We find this impossible to believe.

The only way to prove it to yourself is to make two small holes in two pieces of paper, so you can just see the A, and a little bit of colour around it, and the B, and a little bit of the colour around it – so you can compare those little bits of colour.

As amazing as it sounds, you will find these bits of colour are the same.

They seem very different – that is because of clever changes in the colour of the background – to make a GREAT optical illusion.