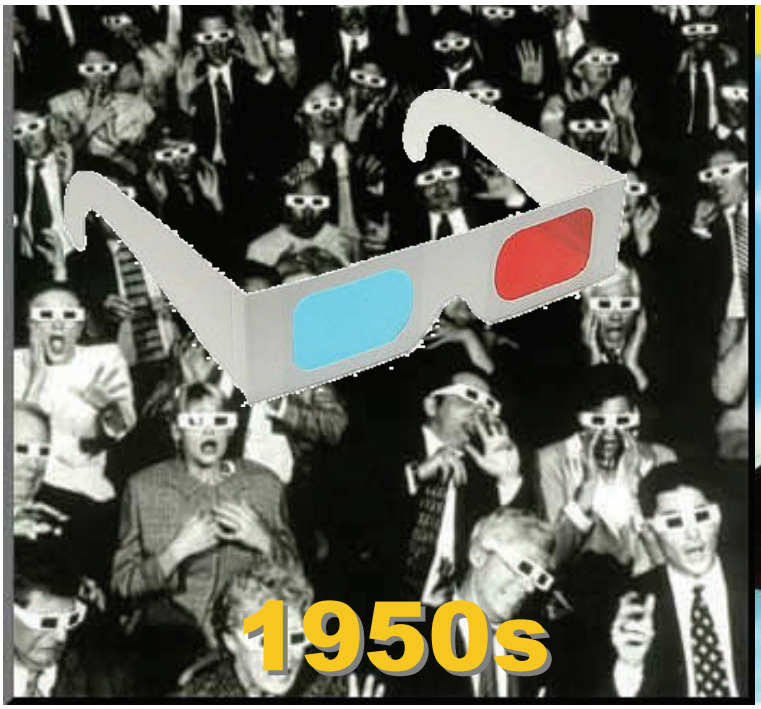
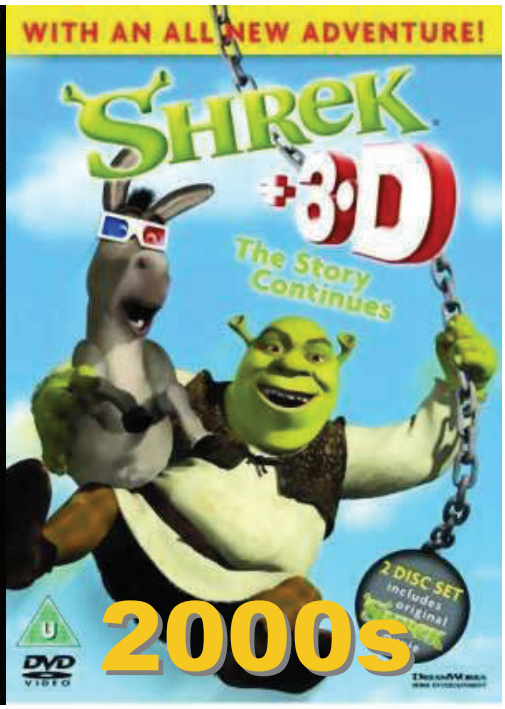




3-D Movies

After 50 years of trying, 3-D movies are going mainstream, and that's a good thing.

Think of it. All of the great films—Star Wars, Lord of the Rings, 2 Fast and 2 Furious—have something in common. They all tell their stories in flat two dimensions. No matter how many star fighters or tricked out cars rush toward the camera, they all just stay on the screen 50 feet away. Now imagine them zooming off the screen right past you.

OK, so that's not really a new trick. Way back in 1953, "It Came from Outer Space" (in 3-D) showed flaming tennis balls (space ships) flying off the screen. What is new is that the viewing technology works much better, studios are creating big movies in 3-D, and theatres and televisions are going digital. All this is bound to bring the third dimension into your life, ready or not.

Life is in 3-D—Why not Movies?

Several recent movies—Beowulf, U2 3D, Journey to the Center of the Earth, and others—have been released in 3-D. Many more are on the way. Big studios and noted directors are investing substantial time and money to bring 3-D to your local multiplex. Why?

Is there a sudden groundswell of consumer demand for 3-D movies? Not really. Perhaps it's just really cool and a bit challenging to make movies in 3-D. This is probably a motivation for some directors like George Lucas (Star Wars), Steven Spielberg (Indiana Jones), and Peter Jackson (The Lord of the Rings). But it's likely that the primary motivation is to get people back into the theatres and away from television and the Internet. The Wow Factor.

Some 3-D movies are available on DVD for home viewing, but not many and they tend to not show well on anything less than a big widescreen flat panel. The best 3-D experience is still at the movies, especially IMAX Theatres with their enormous screens and surround sound. But that may change soon.

Several television and computer monitor companies have shown large 3-D flat panel screens that do not require glasses to see 3-D. As of now, no single standard has been agreed upon. But someday soon, you should be able to stay in your home and be able to see the world in full 3-D without moving from your couch.

Back to the Future of 3-D

The future is difficult to predict because it hasn't happened yet.

Since the future is by definition an extension of the past, we may be able to see where we are going by looking back at where we have been.

Soon enough—probably within the next 10 years—you'll be able to watch movies, TV shows, live sporting events, and maybe your friends live in 3-D on you computer or television screen. And you won't need to be wearing any silly-looking glasses. Wow, this is a big deal, a quantum leap in home entertainment. How did we get to this point?

History of 3-D Movies

Even though the first big Hollywood movies in 3-D came out in the 1950s, the dream of showing pictures and movies in 3-D goes back to before the twentieth century.

Stereographs

In the 1850s the new technology of photography was quickly adapted to create 3-D images that could be seen using a devise called a stereoscope.

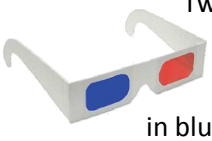
Two pictures of the same scene were taken from slightly different angles. At first this was done by shifting the camera slightly and taking a second picture. Later two cameras were used and then one camera with two lenses. Through the stereoscope each eye sees a separate picture from a slightly different angle, just like our eyes do. The brain combines these images to create the sense of depth. If you look through only one eye, you see only two dimensions—vertical and horizontal. In 3-D, depth is the third dimension.

Stereoscopic Movies

In the late 19th and early 20th centuries, moving pictures were merged with the stereoscope. Because the movies had to be viewed through a bulky hand-held stereoscope, it wasn't practical for commercial use.

Enter the 3-D Glasses

It wasn't until 1922 that the first 3-D movie was shown to a paying audience. This was also the first movie to use glasses with red and blue lenses.



Two slightly separated but otherwise identical movies were projected on the screen. One was in red, the other in blue. Because of the red and blue lenses, each eye could see only one image. The two separate images are combined by the brain to create a 3 dimensional image. Many 3-D films from then to now use a similar technology.

In the 1950s, 3-D films started to be made using Polaroid 3-D lenses to separate the images. These allowed the movies to be shown in full colour, which was not possible with the blue/red lenses. Today's 3-D movies continue to use a form of polarization.

Look Ma, No Glasses

Since the beginning of 3-D, people have had to look through glasses of some sort to get the 3-D effect. No more! New technologies will now allow viewers to see 3-D images on a high definition computer or television without glasses. It's expensive but, like all technology, prices will inevitably come down. The big problem is there's very little content to show on these devices. But that too will change. Anyone want to watch the NBA championships—in 3-D?

This article was last updated in July 2008

3-D Movies | Key Vocabulary

3-D	A view that has three dimensions: vertical, horizontal, and depth. 3-D movies appear to have three dimensions even though they are shown on a flat screen.
Beowulf	The hero of an old English poem from the 8th century. The story was made into a movie released in 2007. It was available in IMAX 3D and standard formats.
IMAX Theatre	A movie theatre that shows movies made with much larger and higher resolution film than shown in standard theatres. IMAX was created by Canada's IMAX Corporation.
Polaroid 3-D lens	A lens for viewing 3-D movies. Two separate polarized images are projected onto the screen on top of one another. Each lens of the 3-D glasses sees only one of the projected images. This creates an illusion of three dimensions.
stereoscope	A device used to view a 3-D picture. Two separate images of the same scene, but taken from slightly different angles, are printed side-by-side. Each image is viewed by a separate eye. This provides the illusion of three dimensions.
stereoscopic movie	A device that is similar to the stereoscope except it uses a series of flipping pictures that create a short movie effect.

Discussion Points

1. Not all movies will benefit from 3-D. What movie from the past do you think would benefit from a 3-D makeover? Can you think of one that would not?
2. It took over fifty years for 3-D to go from the stereopticon to the low-budget 3-D movies of the fifties. It has taken another fifty years to get to the high cost, high quality 3-D movies of today. What other technologies have taken a similar length of time to develop?
3. If you were to make a 3-D movie, describe some scenes that would benefit from 3-D.
4. Other than entertainment, what uses of 3-D technology can you imagine?