

## Special and visual effects since the beginning

Special and visual effects are used in filming to create an optical illusion. In some ways they have always been present since the beginning of the cinema: in actual fact, the entire process of filming is based on the illusion of movement created from a series of single photograms due to the persistence of vision in the human eyes.

One of the first to use special effects at the beginning of last century was French director and illusionist George Melies, who started with simple ones like cuts, and continued with more complex ones, like making his characters fly, disappear or be decapitated by using devices such as **pulling cables**, miniatures, or painted screens.

Little by little effects became more sophisticated and shocking and had a **boost** with the birth of the digital age. In 1977 one of the first motion control systems was created by George Lucas in *Star Wars*. The extreme was reached in *The Jungle Book*, where the only real person on the set was a child who acted in a blue screen studio, whereas all the other elements were added later through a computer.

### Special effects

SFX or special effects are applied during production. As directors want to shoot certain situations that are not happening there at that moment, they create them artificially. So, even though the events are not spontaneous, they are real and tangible. For example, a fire can be created by throwing a match into a can of oil, a stuntman can drive dangerously, an

actor can wear an artificial leg to lose it in an accident, etc.

Special effects can be:

- **optical**, if the use of camera lenses and lights makes the scene look different from what it would otherwise appear;
- **mechanical**, if objects or situations like weather conditions are created from nothing.

### Visual effects

Unlike special effects, VFX or visual effects are applied in post-production. They are added later, using CGI (computer generated images), 3D devices, animation, or green screen. Fires, explosions, blood spread everywhere, just to mention some, aren't real but simulated by special computer software.

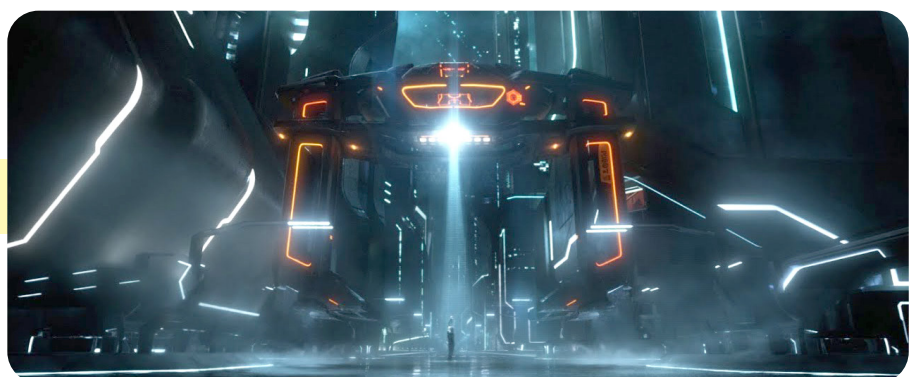
### Special effects vs visual effects

Even though special effects seem to belong to the past, they are still used nowadays. Some, in fact, say that they are more realistic and help the actors to transmit stronger emotions.

Visual effects, instead, allow results like flying through the universe, going back to the age of dinosaurs, or diving deep into oceans to be reached, which special effects could never achieve. As the software necessary to create them is becoming more and more available and cheap, visual effects are increasingly used.

Most directors, however, use both special and visual effects, choosing when to use what and making the best of them.

**boost:** *spinta, incremento*  
**pulling cable:** *corda per tirare*



## 1 Explain...

1. the main difference between special effects and visual effects.
2. the pros and cons of both.

## 2 Read the passage and match paragraphs and subtitles. You won't use a subtitle.

- a. Applications
- b. Different types
- c. Disadvantages
- d. Beginning
- e. How it works
- f. Turning points
- g. What it is

### Augmented Reality

1.

AR, augmented reality, is a modified form of reality obtained by adding digital content to real world images. Even if that sounds similar to virtual reality, it isn't the same thing. Virtual reality makes you see and hear simulated things different from the real world around you. Augmented reality, instead, only presents variations of the world around you and is better suited to applications in everyday life.

2.

This technology dates back to 1968, when Harvard University electrical engineering Professor Ivan Sutherland created *The Sword of Damocles*. It was a new display system which had, though, the disadvantage of having such a heavy headset that it was necessary to anchor it to the ceiling to make it work. Of course, that limited its possibilities, but later technological advances allowed various applications, mainly as simulation tools for military or industrial purposes.

3.

At the end of the century the National Football Team started to use it, and after that, both individual and commercial applications grew rapidly. Starting from 2010, companies such as National Geographic, Disney and Coca Cola used it for their advertising campaigns during important events. The first device that even the general public could use was *Google Glasses*, produced by Google in 2014, through which people were able to get digital information just by nodding their head.

Shortly after that, Snap, the company producing *Snapchat* (an Android application that was initially focused on private, person-to-person photo sharing), added the *geofilter feature* with which users could add geographic locations to their photos. Then, they commercialised *Lenses*, with which users could add motion graphics to photos and videos.

4.

Reality is first captured through sensors and cameras, the best ones being those that can read 3D images. Then, the AR devices contained in cameras, even the ones in a smartphone, analyse and process the images and use projection to add digital layers onto them. It is possible to project onto a smartphone screen, a headset or simply onto surfaces.

5.

All AR devices have common features but also some specific ones that make them more suitable to particular kinds of AR:

- **marker-based** use a particular object as a trigger to display content;
- **markerless** use cameras or GPS to locate the user and display information;
- **projection-based** project digital images directly onto objects or surfaces close to the user;
- **outlining** use image recognition to display shapes and limits (for example landing strips for planes);
- **superimposition-based** replace an object near the user with a digital image (particularly useful during surgery).

6.

The new technologies have made augmented reality so user-friendly, appealing and popular that they are commonly used by social networks and businesses. As they are highly adaptable, they find innumerable applications in the field of entertainment, sports, transports, commerce, marketing, healthcare, and education.