

GCSE LEVEL

FACT FILE

Moving Image Arts

Subject content link:

Animation

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Animation



Learning Outcomes

Students should be able to:

- Identify and discuss the following animation styles:
 - rotoscoping;
 - stop-motion;
 - pixilation;
 - 3D CGI animation; and
 - 2D animation.



Course Content

Animation comes in many forms but in every case the basic principle remains the same. A series of frames are created one by one which, when run together, create the illusion of continuous movement. Film-makers working in live action can capture actions with relative ease; sometimes live-action film-making is literally as simple as framing action and filming it. Animators, however, must create enough individual frames to create the illusion of movement and continuous action. For animated feature films this generally means creating 24 individual frames for each second of action. Some cheaper forms of animation might use as few as 12 frames per second. Either way the process remains labour intensive.

There are five basic animation styles:

Stop-motion: Here the animator manipulates specially-built character models positioned on sets. By moving the models a little before taking each frame, the animator can create the illusion of movement. Because the models are actual real-world objects they have a texture and feel which audiences respond well too. However the animator must be careful to light their models and scenes correctly and must also ensure that the camera remains correctly focused. Examples of stop-motion animation include the Aardman animations Wallace & Gromit films, *Coraline* (2009) and *The Nightmare Before Christmas* (1993). The technique has also been used to create special effects shots in live-action films. The giant ape in *King Kong* (1933) was achieved using stop-motion animation and similar uses of the technique can

be seen in films as diverse as *Star Wars* (1977), *The Empire Strikes Back* (1980), *The Terminator* (1984) and *The Life Aquatic* (2004). Special Effects Animator Ray Harryhausen is perhaps the most celebrated stop motion innovator. His stop motion special effects animation in films such as *Jason and the Argonauts* (1963) and *Clash of the Titans* (1981) continue to dazzle and enchant audiences.

Pixilation: This is an animation process similar to stop-motion but rather than using puppets or models, the animator uses human performers, asking them to alter their position in between frames. Because this form of animation is able to present human beings and real life objects as though they are moving in ways that may be unnatural in reality, it is a technique that is often used to generate unease. Czech animator Jan Švankmajer is famed for his use of the technique and he has used it to horrifying and surreal effect in films like *Alice* (1988). The technique can also be seen in the pop video for Peter Gabriel's song *Sledgehammer*.

2D Animation: Here animation is drawn frame by frame. In its most basic form the drawings can be rendered simply in pencil but usually this technique involves colouring or painting each frame. Traditionally 2D animation was achieved by tracing each hand drawn frame onto transparent acetate sheets called cels, colouring the characters and action on the sheet, then photographing each frame (also known as 'cel animation'). Nowadays 2D animation is generally created using digital tools. The frames will be drawn on a graphics tablet and coloured in using commercial illustration packages such as Photoshop. The frames can then be assembled into an animated sequence in editing. Examples of traditional 2D animation include classic Disney films such as *Bambi* (1942) and Warner Brothers' long-running Looney Tunes shorts. Modern examples of 2D animation include *The Iron Giant* (1999) and the TV series *The Simpsons*.

Rotoscoping: Here animators use live action footage as a starting point and then trace and/or paint over it frame by frame to create a vivid hyper-real effect. In the pre-digital era this process was extremely time-consuming but digital technology has made it a little easier to create. Rotoscoping is sometimes used in film title sequences; *A Fistful of Dollars* (1964) and *Juno* (2007) both make striking use of the technique. The science fiction film *A Scanner Darkly*

(2006) makes extensive use of the technique and its mix of real and unreal properties gives the film a nightmarish and hallucinatory feel.

3D Computer Animation: In computer animation the images used to create individual frame of animation are computer generated. Whilst there are a few purely 2D computer animation techniques, such as Flash Animation, most computer animation is 3D. In 3D animation the character models, lights, sets and camera are all virtual and don't exist outside the computer. Animators, once they've created their sets and characters using 3D modelling tools, can then animate them. Character models, objects and the camera itself can be moved and repositioned. Examples of 3D animation include Toy Story (1995), Despicable Me (2010) and computer generated animation is used extensively in modern visual effects. Films such as Jurassic Park (1993) and The Hobbit: The Desolation of Smaug (2013) use computer animation techniques to create fantastical worlds and creatures.

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