Nicolae Sfetcu

Animation & Cartoons

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Animation & Cartoons

Animation is the optical illusion of motion created by the consecutive display of images of static elements. In film and video production, this refers to techniques by which each frame of a film or movie is produced individually. These frames may be generated by computers, or by photographing a drawn or painted image, or by repeatedly making small changes to a model unit (see claymation and stop motion), and then photographing the result with a special animation camera. When the frames are strung together and the resulting film is viewed, there is an illusion of continuous movement due to the phenomenon known as persistence of vision. Generating such a film tends to be very labour intensive and tedious, though the development of computer animation has greatly sped up the process.

Graphics file formats like GIF, MNG, SVG and Flash (SWF) allow animation to be viewed on a computer or over the Internet.

An **animated cartoon** is a short, hand-drawn (or made with computers to look similar to something hand-drawn) moving picture for the cinema, TV or computer screen, featuring some kind of story or plot (even if it is a very short one). Please note that this page is *not* about animated films in general, but only about ones which follow the above definition. Although cartoons can use many different types of animation, they all fall under the *traditional animation* category.

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Animation

Animation techniques

Traditional animation began with each frame being painted and then filmed. Cel animation, developed by Bray and Hurd in the 1910s, sped up the process by using transparent overlays so that characters could be moved without the need to repaint the background for every frame. More recently, styles of animation based on painting and drawing have evolved, such as the minimalist Simpsons cartoons, or the roughly sketched The Snowman.

Computer animation has advanced rapidly, and is now approaching the point where movies can be created with characters so life-like as to be hard to distinguish from real actors. This involved a move from 2D to 3D, the difference being that in 2D animation the effect of perspective is created artistically, but in 3D objects are modeled in an internal 3D representation within the computer, and are then 'lit' and 'shot' from chosen angles, just as in real life, before being 'rendered' to a 2D bitmapped frame. Predictions that famous dead actors might even be 'brought back to life' to play in new movies before long have led to speculation about the moral and copyright issues involved. The use of computer animation as a way of achieving the otherwise impossible in conventionally shot movies has led to the term "computer generated imagery" being used, though the term has become hard to distinguish from computer animation as it is now used in referring to 3D movies that are entirely animated.

Computer animation involves modelling, motion generation, followed by the addition of surfaces, and finally rendering. Surfaces are programmed to stretch and bend automatically in response to movements of a 'wire frame model', and the final rendering converts such movements to a bitmap image. It is the recent developments in rendering complex surfaces like fur and clothing textures that have enabled stunningly life-like environments and character models, including surfaces that even ripple, fold and blow in the wind, with every fibre or hair individually calculated for rendering.

On the other hand, life-like motion can be created by a skilled artist using the simplest of models. A computer is nothing more than a very expensive and complicated drawing tool, as a pencil is a drawing tool. Even if a complex physics-simulating program were created complete enough to exactly mimic the real world, without an animator to guide the imagery produced, the end result may not be emotionally affecting. This is because a significant part of the craft of animation concerns the artistic choices that an animator makes, and of which a computer is incapable.

History

Further information: History of animation

The major use of animation has always been for entertainment. However, there is growing use of instructional animation and educational animation to support explanation and learning. Animation is also celebrated as an artform (sometimes it receives government

funding; this was especially common in Eastern Europe in the Communist era), and is showcased in many film festivals worldwide.

The "classic" form of animation, the "animated cartoon", as developed in the early 1900s and refined by Ub Iwerks, Walt Disney and others, requires up to 24 distinct drawings for one second of animation. This technique is described in detail in the article Traditional animation.

Because animation is very time-consuming and often very expensive to produce, the majority of animation for TV and movies comes from professional animation studios. However, the field of independent animation has existed at least since the 1910s (ex. the pioneering stop-motion animator Ladislas Starevich in the Russian Empire), with animation being produced by independent studios (and sometimes by a single person). Several independent animation producers have gone on to enter the professional animation industry. Bill Plympton is one of the most well-known independent animators today. Today, with the rise of inexpensive animation programs like Macromedia Flash and free distribution channels such as Newgrounds, being an independent animator and getting your work seen by (potentially) millions of people is much easier than it used to be.

Limited animation is a way of increasing production and decreasing costs of animation by using "short cuts" in the animation process. This method was pioneered by UPA and popularized by Hanna-Barbera, and adapted by other studios as cartoons moved from movie theaters to television.

Animation studios

Animation Studios, like Movie studios, may be production facilities or financial entities. In some cases, especially in Anime they have things in common with artists studios where a Master or group of talented individuals oversee the work of lesser artists and crafts persons in realizing their vision.

Styles and techniques of animation

- Traditional animation
  - Character animation
  - Limited animation
  - Rotoscoping
- Computer animation
  - Multi-Sketching
  - skeletal animation
  - Morph target animation
  - Cel-shaded animation
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  - Analog computer animation
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  - PowerPoint animation
- Stop-motion animation
  - Cutout animation
  - claymation
  - Pixilation
  - Puppetoon
- Pinscreen animation
- Drawn on film animation
- Special effects animation

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- The Animator's Survival Kit, Richard Williams
- Animation Script to Screen, Shamus Culhane
- The Animation Book, Kit Laybourne

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Adult animation

Adult animation is animation that is targeted at adults. There are different reasons why a program or movie might be called "adult animation," the most common of which follow:

For American audiences, the primary reason for a program to be described as "adult animation" is adult humor. Popular programs such as FOX's The Simpsons and Family Guy contain humor that some parents might find unsuitable for children. However, adult humor can be innocuous as well, and simply above an average child's ability to appreciate, as is the case in many early theatrical cartoon series such as Looney Tunes and Popeye. An example for television of this is Steven Spielberg's cartoon Pinky and the Brain, which contains slapstick comedy for children, but jokes which can be appreciated only by teenagers and adults. Some animated series, such as Max Fleischer's Betty Boop cartoons of the 1930s and Nickelodeon's Ren and Stimpy series, walk the line between both types of adult humor.

Graphic violence is a consideration; many Japanese programs which are translated to English contain graphic violence, but even American programs such as HBO's Spawn and MTV's Æon Flux both contain violence which is unsuitable for children.

Swearing is another reason why programs garner this label. Comedy Central's *South Park* is a good example.

Nudity is not commonplace among American animated programs, but it can be a consideration in some theatrical releases.

Strong sexual content is another template of adult animation.

Many films, such as the works of Ralph Bakshi, contain all of these factors, and some examples of "adult animation" were originally released with the X rating in the United States.

Another reason is that a program or movie might contain animated pornography. This is virtually unheard of in American television, but there is a growing section of the population which consumes domestically produced direct-to-video animated pornography, and

imported programs and movies from around the world. Animated pornography is produced worldwide, but the best known variety is the Japanese genre known to Westerners as Hentai.

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Cartoon pornography

Cartoon pornography is the portrayal of illustrated or animated fictional characters in erotic or sexual situations. This includes but is not limited to parody renditions of famous cartoons and comics.

The advent of the Internet and the personal computer have given artists the freedom to explore and exchange ideas and techniques which have created beautiful artistic renditions to very lewd works. The freedom of the Internet and the use of the personal computer as a tool have allowed many artists who would not have had an audience to freely distribute and promote their works. Some have had such a success with their individual styles which have given birth to various ecommerce websites which enjoy a loyal following.

Styles of cartoon pornography

Due to the greater freedom given to the artists, cartoon pornography allows greater diversity than regular pornography.

Some artists use parodies of pre-existing cartoon or comics characters, drawing for example Walt Disney's famous princesses, television characters, or comic book characters in various states of undress and possibly engaged in sexual activity. Other artists, such as Jab, use their own characters and create erotic comics. Artists who draw pre-existing characters do not generally have any special notability among the cartoon pornography community, in contrast, some of the artists who draw their own characters, such as Alazar, Bill Ward, Ralph Bakshi, Kevin J. Taylor, or John Willie, have gained a cult fan base.

The artistic style of cartoon pornography can vary wildly, as it can in mainstream cartoons. Artists who parody pre-existing characters usually mimic the style of the characters' creators, although some draw in different styles. Realistic drawings are very common, as they stimulate many viewers, though the style may vary from highly realistic to extremely simple.

As cartoon pornography does not have to use real-life humans as models, the characters depicted do not have to represent normal adult women or men. Furry characters, especially females, are very common. The types of renditions found vary from human to animal to extraterrestrial.

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Animation camera

A motion picture camera specially adapted for frame-by-frame shooting animation or stop motion, also called a rostrum camera. It consists of a camera body with lens and film magazines, a stand that allows the camera to be raised and lowered, and a table, often with both top and underneath lighting. The artwork to be photographed is placed on this table.

Some manufacturers of animation cameras:

- Acme (USA)
- Crass (Germany)
- Neilson-Hordell (UK)
- Oxberry (USA)

Since most animation is now produced digitally, new animation cameras are not widely manufactured. Video cameras and scanners have taken their place.

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Rostrum camera

A **rostrum camera** is a specially adapted camera used in television and film to animate a still picture or object. It consists of a moving lower platform on which the article to be filmed is placed, while the camera is placed above on a column. The camera is connected to a mechanism that allows an operator to precisely control the movement of the platform as well as of the camera. In a modern setup a computer controls the platform's horizontal, vertical and rotational movements as well as its zoom. Many visual effects can be created from this simple setup although it is most often used to add interest to static objects. The camera can for example traverse across a painting, and using wipes and zooms, change a lifeless picture into a sequence suitable for television or movie productions.

With a multiplane camera, a 3-dimensional effect can be obtained.

Also called animation camera, if it is used for single frame shooting on film.

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Animation stand

An **animation stand** is any kind of device assembled for the filming of animation that is to be placed on a flat surface, including cel animation, graphic animation, clay painting animation, and silhouette animation.

Traditionally, the flat surface that the animation rests on is some kind of table that an animation cameraperson sits at. Pegs made specifically for animation are embedded into the table, in at least two slots allowing the pegs to slide from side to side, permitting horizontal movement of images, but can also be easily fixed into position for the accurate positioning ("registration") of the artwork.

Opposite the cameraperson is a series of supporting arms and supports, on top of which is mounted a film or video camera, pointing down toward the artwork, which films the artwork, frame-by-frame, as it is slowly moved and changes by the operator.

The vertical positing of the camera, always shooting down, is the main componant that defines an animation stand, as opposed to a stop motion set-up, or other equipment arrangements for animation production.

Animation stands can be home made, from metal or even wood, such as those owned by Portland, Oregon animator Jim Blashfield and Los Angeles animator Mike Jittlov, and still accomlish impressiuve animation production, or they can be elaborate (and expensive) professionally made precision-metal systems that allow for the compuerised movements of both the art and the camera, as has been traditionally used by professional animation studios and special effects facilities such as the Walt Disney studio and George Lucas's *Industrial Light and Mafic (ILM)* facilities.

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Avar

An **Avar** or **Animation Variable** is a variable controlling the position of part of an animated object, such as a character. The character "Woody" in Pixar's movie Toy Story uses 700 avars (with 100 in the face alone [1]). Successive sets of Avars control all movement of the character from frame to frame. In development they are used to define the junctions of a Stick model. Later they are incorporated into a full Wire frame model or a model built of polygons. Finally surfaces are added, requiring a lengthy process of Rendering to produce the final scene.

There are several ways of generating the Avar values. Motion capture uses lights or markers on a real person acting out the part, tracked by a video camera. Toy Story uses no motion capture, probably because manual control by a skilled animator can produce effects not easily acted out by a real person.

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Background artist

A **background artist** or sometimes called a **background stylist** or **background painter** is one who is involved in the process of animation who establishes the color, style, and mood of a scene drawn by an animation layout artist. The methods used can either be through traditional painting or by digital media such as Adobe Photoshop. Traditional methods involved painting entire production scenes for a television program or film. Current methods may involve painting primarily **background keys** or the establishing shot while production background artists paint the corresponding background paintings.

Some fields in which a Background Artist may work: • Motion pictures • Television • Video games • The Internet

Other artists who contribute to animated cartoons, but who are **not** Background Artists, are layout artists (who design the backgrounds, lighting, and camera angles), storyboard artists (who draw panels of the action from the script), character designers (who create the style and personality of each character).

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Cartoon physics

Cartoon physics is a joking reference to the fact that animation allows regular laws of physics to be ignored in humorous ways. For example, when a cartoon character runs off a cliff, gravity has no effect until the character notices and mugs an appropriate reaction.[1]

The phrase also reflects the fact that many of the most famous American animated cartoons, particularly those from Warner Brothers and MGM studios, unconsciously developed a relatively consistent set of such "laws" that have become regularly applied in comic animation.

The idea that cartoons behave differently, but not randomly, than the real world is virtually as old as animation. Walt Disney, for example, spoke of the *plausible impossible*, deliberately mispronouncing the second word so it rhymed with the first.

Specific reference to cartoon physics extends back at least to June of 1980, when an article "O'Donnell's Laws of Cartoon Motion"[2] appeared in Esquire magazine. A version printed in 1994 by the IEEE in a journal for engineers helped spread the word among the technical crowd, which has expanded and refined the idea. Dozens of websites exist outlining these laws.

The situation is so well-understood that it has been used as the topic of jokes for decades, as in the 1949 Looney Tunes short High Diving Hare, in which Bugs Bunny explains, "I know this defies the law of gravity; but you see, I haven't studied law!"

More recently, the cartoon characters Roger Rabbit and Bonkers D. Bobcat have their own variations on the theme, explaining that toons are allowed to bend or break natural laws for the purposes of comedy. Doing this is extremely tricky, so toons have a natural sense of comedic timing, giving them inherently funny properties. Bonkers also warns that the loss of this sense can lead to unfunny and even dangerous situations, perhaps explaining why cartoon violence, but not the real variety, is always funny.

In 1993, Stephen J. Gould writing in New Scientist noted that "... new, looney toon analysis reveals that these, seemingly nonsensical, phenomena can be described by logical laws similar to those in our world. Nonsensical events are by no means limited to the Looniverse. Laws that govern our own Universe often seem contrary to common sense."[3]. This theme is further described by Dr. Alan Cholodenko in his article, "The Nutty Universe of Animation" [4]

Why is it funny?

Adherents of evolutionary psychology have suggested that the humorous effect of cartoon physics is due to the interplay of intuitions between physics (objective) and

psychology (self-perception). The physics module predicts that the cartoon character will fall over the cliff immediately, while the psychology module anthropomorphizes the force of gravity and thus see it as vulnerable to deception, as long as the actor is self-deceived .

In short, it can lead to the humorous situation where a cartoon's logic is governed by what "makes sense" (is consistent) rather than what "is" (natural law).

Examples

Commonly cited cartoon physics "laws" include:

- No matter what happens to cats, they always return to their default shapes.
- Any body passing through solid matter will leave a dent or cutout conforming to its perimeter. (This is obviously not true in real life; a flimsier body will break and leave a different-shaped hole. Compare to the conspiracy theories regarding the fate of American Airlines Flight 77, which left a hole in the Pentagon not conforming to its perimeter.)
- Explosives, even if detonated close to a character's face, will cause only scorching of the skin. (Prior to the efforts of the American Civil Rights Movement, characters would often take on the appearance of blackface.) Similarly, a gun discharged directly into the face will not fire an actual bullet.
- If a character walks off a cliff, they will not fall, and continue to walk on thin air, until they notice they have walked off the cliff. In some cases a character can avoid falling, even if they are aware there is no ground below them.
- Alternatively, when a character runs off a cliff, notices the situation, and begins falling, at first only the body below the neck falls, during which the neck is stretched for a few seconds before the head follows.
- If a character falls from a tall building, another character from the same floor will be able to run all the way down to ground level in order to catch the falling character before he/she hits the ground.
- Characters are allowed to "swim" or blow themselves upwards a short distance in the air before falling normally to gravity.
- When a character chops the only thing holding another character from falling (such as a tree branch) the chopper will fall, together with whatever he/she was standing on (such as the tree or the ground) and the other character will remain floating in the air (branch included).
- An explosive device taken by one character will not explode until it is given back to the original character who triggered the device. Also applies to booby traps.
- A boomerang, when thrown, will not only change direction, but will actively hunt out its thrower so that the thrower may catch it (or be hit by it), regardless of his or her relation to the initial point of the throw.
- Motion reference frames are arbitrary. For instance, an outboard motor in a pan of water on wheels causes the motor and pan to move together. Likewise, a fan and a sail attached to a wheeled platform will cause the platform to move.
- A gun may be fired any number of times without being reloaded.
- Any fall is survivable.

- Holes can be physically picked up and moved. This also applies to mouths.
- When somebody gets hurt, bandages and plasters may appear instantly, without any person obviously having applied them.

Anvilology

Anvilology is the study of (cartoon) physical principles of anvils, as studied at "Acme Looniversity" in the animated series, Tiny Toons.

- Everything falls faster than an anvil (so that the evil character can hit the ground first and then be crushed, but not killed, by the anvil).
- Anvils are readily available.
- Anvils have mass but not much weight, so that they are very hard to push around, but it is possible to jump out of a plane with an anvil instead of a parachute and not notice until the parachute is opened while airborne.
- Anvils can stay in the air until noticed by a character, at which point they fall on the character.
- If a character moves out of the way of a falling anvil, the anvil will shift its position over the character before falling, so that it crushes (but does not kill) the character.

Cartoon collision physics

Cartoon collision physics are a subset of cartoon physics regarding the laws of collisions. Note that these laws deliberately refer to male subjects; bad things do not generally happen to women.

For a given cartoon character C:

1. If C runs into a wall,

a: If the wall is too thick, C will strike it and flatten out like dough, often regardless of clothing.

b: If the wall is thin enough, he will leave a hole in the wall in the shape of his body.

2. If C runs into something made of metal, he will dent it in the shape of his body.
3. If C runs off a cliff, the impact crater he leaves will conform with Rule 1b.
4. If C has a fragile body,

a: Running into any wall will cause him to be squashed into a musical instrument (usually an accordion), or

b: Any collision or fall will fracture him into a zillion pieces.

5. If C runs into a wall which has been painted to look like part of the landscape or a tunnel:

a: If the "camera" angle blends the painting with the actual landscape, he will enter the landscape or tunnel as though it were real.

b: If he was the one who painted the wall, he will just run into the wall — see Rule 1.

c: If the "camera" views the painting at an angle such that it is, without doubt, a painting on a wall, he will just run into the wall — see Rule 1.

d: Trains or large trucks are often known to drive *out* of walls painted in this way, usually just after the painter has slammed into the wall and is feeling sheepish for having fallen for their own ruse. However, if the view of the oncoming vehicle is blocked, then the vehicle will apparently stop.

Laws of Cartoon Thermodynamics

The Laws of Cartoon Thermodynamics are physical laws in the cartoon universe identified by Trevor Paquette and Lt. Justin D. Baldwin and popularized by film critic Roger Ebert. They overlap greatly with the older concept of "laws of **cartoon physics**".

- Any body suspended in space will remain in space until made aware of its situation (plus an interval for live falling bodies to express an appropriate emotion).
- Any body in motion will tend to remain in motion until solid matter intervenes suddenly.
- Any body passing through solid matter will leave a perforation conforming to its perimeter.
- The time required for an object to fall twenty stories is greater than or equal to the time it takes for whoever knocked it off the ledge to spiral down twenty flights to attempt to capture it unbroken.
- All principles of gravity are negated by fear.
- As speed increases, objects can be in several places at once.
- Certain bodies can pass through solid walls painted to resemble tunnel entrances; others cannot.
- Any violent rearrangement of feline matter is impermanent.
- Everything falls faster than an anvil.
- Guns, no matter how powerful, or no matter where aimed, will do nothing more than char flesh, blow away feathers, or rearrange beaks. In certain ocasions, they leave a perfectly circular hole that goes completely through the body of the character being shot, but this does not affect his/her health in any way.
- Any given amount of explosives will propel a body miles away, but still in one piece, charred and extremely peeved.
- Arms holding large falling weights are infinitely elastic, but will eventually drag the holder along.

Anime physics

Anime physics can be considered a subset of cartoon physics - a set of rules used in cartoons to twist or ignore the laws of physics for humorous or dramatic effect. These are commonly seen in anime but not so common in cartoons. Normally, these are referenced from popular series in the past. Note that many of these laws only apply to shounen series.

Examples include:

- Dramatic moments tend to distort time, either by slowing it down (usually long enough to call out the name of an attacker or the name of the "special move" used

in the attack, or for bystanders to comment on the situation), or by looping three times.
    - Similarly, transformations (especially those animated with stock footage) also seem to stop time until completed, allowing them to be used to counter attacks, or not allowing the person to be attacked while performing them.
- An angry or embarrassed girl will be able to hit any male (usually one who is romantically involved with her) hard enough to knock him into low Earth orbit and the male will usually survive.
- Attacks strong enough to shred entire planets will not destroy anyone's pants (but will usually destroy all other clothing). Conversely, certain explosions can destroy a female character's clothing without significantly harming her body—in some cases, without her initially noticing this.
- Any fire-based attack on a character will not completely burn his/her clothes but will leave black stains instead.
- Hair is usually more resiliant then the rest of the body, or regenerates in an infinitly small amount of time. Attacks which seriously damage, or even kill a character, will leave its hair intact, although sometimes messed up. When severe damage to the hair does occur, the hair is fully regenerated and identical to its appearance before the violation at the moment the character is healed. This has no connection to the amount of hair required to grow back, nor to the amount of time available.

Notes

1. ^ In a neologism contest held by New Scientist, a winning entry coined the term "coyotus interruptus" for this phenomenon—a pun on coitus interruptus and Wile E. Coyote, who fell to his doom this way particularly often.
2. ^ O'Donnell's Laws of Cartoon Motion", *Esquire*, 6/80, reprinted in *IEEE Institute*, 10/94; V.18 #7 p.12. Copy on Web
3. ^ Stephen J. Gould, Looney Tuniverse: There is a crazy kind of physics at work in the world of cartoons (1993) *New Scientist*
4. ^ Dr. Alan Cholodenko, "The Nutty Universe of Animation, The "Discipline" of All "Disciplines", And That's Not All, Folks!" *International Journal of Baudrillard Studies* Volume 3, Number 1 (January 2006)

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Crowd simulation

Crowd simulation is the process of simulating the movement of a large number of objects or characters, now often appearing in 3D computer graphics for film.

The need for crowd simulation arises when a scene calls for more characters than can be practically animated using conventional systems, such as skeletons/bones.

Animators typically create a library of motions, either for the entire character or for individual body parts. To simplify processing, these animations are sometimes *baked* as morphs. Alternatively, the motions can be generated *procedurally* - i.e. choreographed automatically by software.

The actual movement and interactions of the crowd is typically done in one of two ways:

- *Particle Motion*: The characters are attached to point particles, which are then animated by simulating wind, gravity, attractions, and collisions. The particle method is usually inexpensive to implement, and can be done in most 3D software packages. However, the method is not very realistic because it is difficult to direct individual entities when necessary, and because motion is generally limited to a flat surface.
- *Crowd AI*: The entities - also called agents - are given artificial intelligence, which guides the entities based on one or more of sight, hearing, basic emotion, energy level, aggressiveness level, etc.. The entities are given goals and then interact with each other as members of a real crowd would. They are often programmed to respond to changes in environment, enabling them to climb hills, jump over holes, scale ladders, etc. This system is much more realistic than particle motion, but is very expensive to program and implement.

The most notable examples of AI simulation can be seen in New Line Cinema's The Lord of the Rings films, where AI armies of many thousands battle each other. The crowd simulation was done using Weta Digital's MASSIVE software.

Crowd simulation can also refer to simulations based on group dynamics and crowd psychology, often in public safety planning. In this case, the focus is just the behavior of the crowd, and not the visual realism of the simulation.

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Drawn on film animation

Drawn on film animation (also known as "direct animation") is an animation technique where footage is produced by creating the images directly on filmstock, as opposed to cel animation where the images are created on separate sheets of plastic before being photographed onto filmstock.

The most **famous** practictioner of drawn on film animation is Norman McLaren, who produced numerous animated films using this method, including *Begone Dull Care*.

Another Drawn on Film animator, Wes Southern, is known for his psychedelic and abstract work mostly in the late 90's. His most famous work, "Untitled 1" is available free over the Internet. Southern works with acid, sandpaper, paints, pens, razors and, "just about everything under the sink."

LINK [1] **"Untitled 1"** in .avi format

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Live-action/animated films

A **live-action/animated film** is a motion picture that features a combination of real actors or elements: live-action and animated elements, typically interacting.

The tradition goes back all the way to the earliest days of animation with Winsor McCay's short Gertie the Dinosaur, which shows a live-action narrator (specifically, a "live" actor, instead of a filmed one) interacting with an animated landscape and character (Gertie). In one scene, the narrator appears to throw a real orange which is caught by Gertie (the real orange is replaced by an animated one just as it leaves the narrator's hand), and the film climaxes with a scene in which the narrator enters the animated landscape (again, replaced by an animated version) and takes a ride on the famous dinosaur's back.

In the later days of silent film, the popular animated cartoons of Max Fleischer included a series where his cartoon character Koko the Clown interacted with the live world; for example, having a boxing match with a live kitten. In a variation on this concept, Walt Disney's first directorial efforts (years before Mickey Mouse was born) were the animated Alice Comedies short cartoons, in which a young live-action girl named Alice interacted with animated cartoon characters.

In the era of sound film, the 1940 Warner Bros. cartoon You Ought to Be in Pictures, directed by Friz Freleng, can be seen as a predecessor to Roger Rabbit. The animated sequence in the 1945 film Anchors Aweigh in which Gene Kelly dances with an animated Jerry Mouse is one of the actor's most famous scenes.

The Disney Studio mixed live-action and animation in several notable films (which are primarily considered live-action):

- In The Three Caballeros (1945), Donald Duck cavorts with several Latin-American dancers, plus Aurora Miranda (sister of Carmen Miranda), who gives him a kiss.
- In Song of the South (1946), Uncle Remus sings "Zip-a-Dee-Doo-Dah" in an animated field, and tells the stories of Brer Rabbit through the animated sequences.
- So Dear to My Heart (1949) features sequences of a similar nature.
- Mary Poppins (1964) is one of the best-known films of this nature, including a scene in which Dick Van Dyke dances with cartoon penguins as Julie Andrews watches.
- Bedknobs and Broomsticks (1971) features a hybrid sequence in which Angela Lansbury and David Tomlinson dance together in an underwater nightclub, while Tomlinson must bear the brunt of aggressive, anthropomorphic soccer-playing animals in the latter half.
- Pete's Dragon (1977) does the opposite of its predecessors: it puts the animated dragon, Elliott, in a live-action setting.

There were also many previous films combining live action with stop motion animation using back projection, such as the films of Willis O'Brien and Ray Harryhausen.

Ralph Bakshi combined live-action and animation twice in 1973's Heavy Traffic and 1975's Coonskin (a.k.a. "Streetfight").

Who Framed Roger Rabbit (1988) broke new ground with its advanced special effects and "realistic" portrayal of the interaction of animated characters and live actors. With the commercial and technological success of *Who Framed Roger Rabbit*, a slew of live

action/animated films followed, including Rock-A-Doodle, Cool World, Space Jam, The Adventures of Rocky and Bullwinkle, Monkeybone, Looney Tunes: Back in Action, The SpongeBob SquarePants Movie, Fat Albert, Charlotte's Web, and Enchanted.

The combination of live action and animation is very common in TV commercials, especially those promoting products appealing to children.

Techniques

Originally, animation was combined with live action in several ways, sometimes as simply as double-printing two negatives onto the same release print. More sophisticated techniques used optical printers or aerial image animation cameras, which enabled more exact positioning, and better interaction of actors and animated characters. Often, every frame of the live action film was traced by rotoscoping, so that the animator could add his drawing in the exact position.

In the penguin sequence in Mary Poppins, they filmed the live action part first, having the actors sitting in front of a painted background. Then the penguins were added, probably by using cel overlay.

With the rise of digital special effects, combining live-action and animation has become more common. The Star Wars prequels and the Lord of the Rings trilogy, for example, include substantial amounts of animation, though it may not be recognized as such because of the animation's realistic, non-cartoony appearance.

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Performance capture

Performance capture is a term popularized by the creators of The Polar Express movie. It differs from standard special effects type motion capture due to the real time and interactive nature of the performance as opposed to capturing data for reference motion for movies, sports analysis and games. In effect it is a digital replacement for the furry or latex rubber costume, allowing the actor to give the performance without wearing the "Barney" suit. Whether the audience is the director, or a live television performance, it is an ensemble Performance, rather than just a list of motions that will be edited together later. It is a combination of motion capture and facial expression capture, using the actions of live actors as input to digital image generators to create more natural and realistic animation. Real time Performance capture allows the director or audience to see the end character interacting with the environment to fix eye contact, timing, reaction and other issues that can effect performances with other characters that may or may not be filmed at the same time.

In performance capture, actors wear the same body suits as in motion capture, but also record the facial movements using either special makeup to enhance the contrast of the face, or reflective markers or LEDs. Markerless systems that track the facial features are being developed but currently suffer from resolution issues that make them difficult to use at camera distances that allow full body motion capture. The actor usually interacts with wireframe models of the objects in the scene. The recorded performance data can be used to

animate different actors. In *The Polar Express* Tom Hanks played five roles - an 8-year old boy, his father, the train's conductor, a hobo, and Santa Claus.

Using Alias Motion Builder software, low polygon count (Low being subjective, a few 10,000 polygons verses millions for film quality characters) can be animated in real time to allow characters to be viewed in real time in digital sets. This unique capability allows Performance capture to create real time animatics. It is expected that the success of animatics in Lucas Films "Star Wars" and other projects will eventually lead to an entire industry segment where all movies will be previsualized before they are greenlighted.

Newer active marker systems such as PhaseSpace [1] modulate the active output of the LED to differentiate each marker, allowing several markers to be on at the same time, while still providing the higher resolution of 3,600 x 3,600 or 12 megapixel resolution while capturing at 120 (128 markers or four persons) to 480 (32 markers or single person) frames per second. The advantage of using active markers is intelligent processing allows higher speed and higher resolution at a lower price. This higher accuracy and resolution requires more processing than older passive technologies, but the additional processing is done at the camera to improve resolution via a subpixel or centroid processing, providing both high resolution and high speed. By using newer processing and technology, these motion capture systems are about 1/3 the cost of passive systems. The key advantage besides higher resolution and data quality is low latency for Performance capture. Additionally the active markers reduce data cleanup times by a factor of ten over older technologies.

Note this active marker system can be used with facial expressions, but requires patience by the actor to wear LEDs on the face, and most facial capture systems require exaggerated expressions. Fingers pose a problem with most optical motion capture systems and require data gloves, or controllers to differentiate hand positions when the hands are often blocked from cameras.

Although performance capture has been used in some earlier films and computer games, *The Polar Express* was the first movie made solely with the process. This film was directed by Robert Zemeckis, who had a long history of technical innovations in filmmaking (historical composites in Forrest Gump and the combination of animation and live action in Who Framed Roger Rabbit) and became a self-professed fan of performance capture (he produced the 2006 thriller Monster House made using the same technique) because of the creative freedom it gives the director. Zemeckis is currently using performance capture in an adaptation of Beowulf scheduled for 2007 release.

Most recently, *Titanic* director James Cameron has been given permission to lease the performance capture technology to bring to life the numerous monsters and cyborg characters in his next theatrical motion picture Battle Angel Alita. Cameron explains that the film's main star, Alita, a young cyborg girl, will be completely computer generated, using performance capture.

Often cited as "performance capture" is the Lord of the Rings character Gollum. There is some dispute on this subject. There have been many publicity stills showing Andy Serkis in a motion capture suit, with dots on his face; however, many scenes were keyframe animated at Weta Digital using Serkis's performance as a reference. Artists would animate on top of film plates of Serkis, using the human eye instead of the computer to capture the subtleties of his performance in an effective but time-consuming process. This method is often referred

to as "rotomation," and is a CGI form of the traditional animation technique called rotoscoping. Serkis did this again to play the title character in King Kong (2005).

Another example is the character of Sonny in I, Robot (film), played by Alan Tudyk.

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Pinscreen animation

Pinscreen animation makes use of a screen filled with movable pins, which can be moved in or out by pressing an object onto the screen. The screen is lit from the side so that the pins cast shadows. The technique has been used to create animated films with a range of textural effects difficult to achieve with traditional cel animation. The technique was developed by Alexandre Alexeieff and his wife Claire Parker who were often guests of the National Film Board of Canada. They made a total of 6 very short films with it, over a period of fifty years.

Despite their short running time and their monochrome nature they won numerous awards over the years.

The original pinscreen had 240,000 pins which were usually pressed with a small tool, one pin at a time or with other specialized instruments. The pin and frame assembly was built very solidly and mounted in a secure fashion to offer a stable image to the animation camera day after day, week after week as each image of the movie was painstakingly composed. Smaller, cheaper models have been made and a five by seven inch "play" version is sometimes sold in Science museums or through the Web and printed catalogs.

According to Claire Parker, the images created by the pinscreen made it possible to make an animated movie which escaped from the flat, "comic" aspect of cel animation and plunged instead into the dramatic and the poetic by the exploitation of chiaroscuro, or shading effects.

One animator who remains involved in pinscreen animation to this day is the National Film Board's Jacques Drouin.

Many computer programs have been made with the goal of simulating the images generated by a physical pinscreen.

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Previsualization

Pre-visualization (also known as **pre-vis**, **pre-viz**, or **animatics**) is a technique in which low-cost digital technology aids the filmmaking process. It involves using computer graphics (usually 3D), to create rough versions of the shots in a movie sequence. Usually, this is only done for the more complex shots (visual effects or stunts), as the benefits are fewer for simple scenes such as dialogues. The end result may or may not be edited and may or may not have temporary music and dialgoue. Some can look like simple grey shapes representing the characters or elements in a scene, while other pre-vis can be sophisticated enough to look like a modern video game.

Before desktop computers were widely available, pre-visualization was rare and crude, yet still effective. For example, Dennis Muren of Industrial Light and Magic used toy action

figures and a lipstick camera to film a miniature version of the Return of the Jedi speeder bike chase. This allowed the film's producers to see a rough version of the sequence before the costly full-scale production started. Very few people had heard of 3D computer graphics until the release of Steven Spielberg's Jurassic Park in the early 90's. It included revolutionary visual effects work by Industrial Light and Magic (winning them another Oscar), one of the only companies in the world at the time to use digital technology to create imagery. As a result, computer graphics lent themselves to the design process, when visual effects supervisor (and Photoshop creator) John Knoll asked artist David Dozoretz to do the first ever pre-visualization for an entire sequence (rather than just the odd shot here and there) in Paramount Pictures' Mission: Impossible. Producer Rick McCallum showed this sequence to George Lucas, who hired Dozoretz in 1995 for work on the new Star Wars prequels. This represented an early but signifcant change as it was the first time that pre-visualization artists reported to the film's director rather than visual effects supervisor.

Since then, pre-visualization has become an essential tool for large scale film productions, and have been essential for movies such as The Star Wars prequels, the Matrix trilogy, the Lord of the Rings trilogy, the Mission: Impossible series, X-Men, etc.

While visual effects companies can offer pre-visualization services, today most studios hire separate companies. The most notable of these are Pixel Liberation Front, Persistence of Vision Digital Entertainment, and Proof.

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Storyboard

Storyboards are a series of illustrations displayed in sequence for the purpose of previsualizing an animated or live-action film. A storyboard is essentially a large comic of the film or some section of the film produced beforehand to help the directors and cinematographers visualize the scenes and find potential problems before they occur. Often storyboards include arrows or instructions that indicate movement.

History

Origins

The storyboarding process, in the form it is known today, was developed at the Walt Disney studio during the early 1930s, after several years of similar processes being in use at Disney and other animation studios. Storyboarding became popular in live-action film production during the early 1940s.

In creating a motion picture with any degree of fidelity to a script, a storyboard provides a visual layout of events as they are to be seen through the camera lens. In the storyboarding process, most technical details involved in crafting a film can be efficiently described either in picture, or in corollary notation.

Some live-action directors, such as Joel and Ethan Coen, storyboard extensively before taking the pitch to their funders, stating that it helps them get the figure they are looking for

since they can show exactly where the money will be used. Other directors storyboard only certain scenes, or not at all. Animation directors are usually required to storyboard extensively, sometimes in place of doing a script.

Animatics

In animation and special effects work, the storyboarding stage may be followed by simplified mock-ups called "animatics" to give a better idea of how the scene will look with motion. At its simplest, an animatic is a series of still images edited together and displayed in sequence. More commonly, a rough dialogue or sound track is added to the sequence of still images (usually taken from a storyboard) to test whether the sound and images are working well together.

This allows the animators and directors to work out any screenplay and timing issues that may exist with the current storyboard. The storyboard and soundtrack are amended if necessary, and a new animatic may be created and reviewed with the director until the storyboard is perfected. Editing the film at the animatic stage prevents the animation of scenes that would be edited out of the film; as animation is a very expensive process, there can be very few "deleted scenes" if the film is to be completed under budget.

Often storyboards are animated with simple zooms and pans to simulate camera movement (using software such as Final Cut Pro). These animations can be combined with available animatics, sound effects and dialog to create a presentation of how a film could be shot and cut together. Examples of these exist on the DVD special features for several feature films.

Benefits of the process

Storyboards were adapted from the film industry to business, purportedly by Howard Hughes of Hughes Aircraft. Today they are used by industry for planning ad campaigns, commercials, a proposal or other projects intended to convince or compel to action.

One advantage of using storyboards is that it allows (in film and business) the user to toy with changes in the storyline to evoke stronger reaction or interest. Flashbacks, for instance, are often the result of sorting storyboards out of chronological order to help build suspense and interest.

Storyboards are used to brainstorm and capture all the ideas before taking action. The process of visual thinking and planning allows a group of people to brainstorm together, placing their ideas on storyboards and then arranging the storyboards on the wall. This fosters more ideas and generates consensus inside the group.

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Leica reel

In film, specifically animation, a **leica reel** is a type of storyboarding device used in the production of potential series or features. Unlike actual storyboards or pitches, leica reels

(when made) are used later in the development process, usually after voice actors have been hired and recorded, and thus are not used for selling or marketing the project.

A leica reel is made from animated stills, or sometimes preliminary artwork or storyboard frames, arranged with recorded material. The specific recorded material used can occasionally be the entire sountrack of the film, where sound editing has already occurred, though in many cases it is only the vocal soundtrack (in various states of completion) along with a selection of sound effects.

The name "leica reel" is supposedly derived from the fact that it is "like a reel", though in fact this is incorrect and the term actually comes from the German make of cameras called Leicas which were used to make these filmed storyboards in the early days of animation.

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Syncro-Vox

Syncro-Vox (sometimes spelled **Synchro-Vox**) is a filming method which combines static images with moving images, the most common effect of which is to simulate talking lips on a photograph of a celebrity or a cartoon drawing. The method was developed by cameraman Edwin "Ted" Gillette in the 1950s in order to simulate talking animals in television commercials. Gillette filed the technique on February 4, 1952, and obtained patent #2,739,505 on March 27, 1956.[1]

Because animating a mouth in synchronization with sound was difficult, Syncro-Vox was soon used as a cheap animation technique, most famously in the cartoons produced by Cambria Studios: Clutch Cargo, Space Angel, and Captain Fathom, in which actors' lips voicing the scripted dialogue were laid over the animated figures. [2]

Although Syncro-Vox has long since fallen into disuse as a serious animation method, it survives in comedic form on late-night talk shows, such as Late Night with Conan O'Brien. A spoof of Cambria Studios' Syncro-Vox cartoons called "The Adventures of Mr. Incredible and Pals" was also included as a special feature on the 2005 DVD release of The Incredibles (2004). The technique was also used in the Barenaked Ladies music video "Thanks, That Was Fun", which combined clips from previous videos with new mouth movements. The talking pirate painting that asks "Are you ready, kids?" in the introduction to SpongeBob SquarePants cartoons imitates the Syncro-Vox technique with modern animation technology. One of the final non-spoof uses of Syncro-Vox was in a pair of episodes of Courage the Cowardly Dog which featured a talking tree and a talking "spirit of the harvest moon".

Footnotes

- *Note 1:* Method and Means for Producing Composite Talking Picture (PDF format)
- *Note 2:* "Don't believe your eyes! How 'Clutch Cargo' cuts corners as a television comic strip", *TV Guide, December 24, 1960,* pp. 28-29.

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Traditional animation

Traditional animation, sometimes also called **cel animation** or **hand-drawn animation**, is the oldest and historically the most popular form of animation. In a traditionally-animated cartoon, each frame is drawn by hand.

The traditional animation process

Storyboards

Traditionally-animated productions, just like other forms of animation, usually begin life as a *storyboard*, which is a script of sorts written with images as well as words, similar to a giant comic strip. The images allow the animation team to plan the flow of the plot and the composition of the imagery. The *storyboard artists* will have regular meetings with the director, and may have to redraw or "re-board" a sequence many times before it meets final approval.

Voice recording

Before true animation begins, a preliminary soundtrack or "scratch track" is recorded, so that the animation may be more precisely synchronized to the soundtrack. Given the slow, methodical manner in which traditional animation is produced, it is almost always easier to synchronize animation to a pre-existing soundtrack than it is to synchronize a soundtrack to pre-existing animation. A completed cartoon soundtrack will feature music, sound effects, and dialogue performed by voice actors. However, the scratch track used during animation typically contains just the voices, any vocal songs that the characters must sing along to, and temporary musical score tracks; the final score and sound effects are added in post-production.

In the case of most pre-1930 sound animated cartoons, the sound was *post-synched;* that is, the sound track was recorded after the film elements were finished by watching the film and performing the dialogue, music, and sound effects required. Some studios, most notably Fleischer Studios, continued to post-synch their cartoons later, which allowed for the presence of the "muttered ad-libs" present in many Popeye the Sailor and Betty Boop cartoons. Although virtually all American animation is now pre-synched (and has been since the 1930s), nearly all Japanese animation *(anime)* is post-synched.

Animatics

Often, an *animatic* or *story reel* is made after the soundtrack is created, but before full animation begins. An animatic typically consists of pictures of the storyboard synchronized with the soundtrack. This allows the animators and directors to work out any script and timing issues that may exist with the current storyboard. The storyboard and soundtrack are amended if necessary, and a new animatic may be created and reviewed with the director until the storyboard is perfected. Editing the film at the animatic stage prevents the animation of scenes that would be edited out of the film; as traditional animation is a very expensive and time-consuming process, creating scenes that will eventually be edited out of the completed cartoon is strictly avoided.

Design and timing

Once the animatic has been approved, it and the storyboards are sent to the design departments. Character designers prepare model sheets for all important characters and props in the film. These model sheets will show how a character or object looks from a variety of angles with a variety of poses and expressions, so that all artists working on the project can deliver consistent work. Sometimes, small statues known as maquettes may be produced, so that an animator can see what a character looks like in three dimensions. At the same time, the *background stylists* will do similar work for the settings and locations in the project, and the *art directors* and *color stylists* will determine the art style and color schemes to be used.

While design is going on, the *timing director* (who in many cases will be the main director) takes the animatic and analyzes exactly what poses, drawings, and lip movements will be needed on what frames. An *exposure sheet* (or *X-sheet* for short) is created; this is a printed table that breaks down the action, dialogue, and sound frame-by-frame as a guide for the animators. If a film is based more strongly in music, a *bar sheet* may be prepared in addition to or instead of an X-sheet. Bar sheets show the relationship between the on-screen action, the dialogue, and the actual musical notation used in the score.

Layout

Layout begins after the designs are completed and approved by the director. The layout process is synonymous with the blocking out of shots by a cinematographer on a live-action film. It is here that the background layout artists determine the camera angles, camera paths, lighting, and shading of the scene. Character layout artists will determine the major poses for the characters in the scene, and will make a drawing to indicate each pose. For short films, character layouts are often the responsibility of the director.

The layout drawings are spliced into the animatic, using the X-sheet as a guide. Once the animatic is made up of all layout drawings, it is called a *Leica reel.* The term originates from the Disney Studio in the 1930s, from the frame format used by Leica cameras.

Animation

Once the Leica reel is finally approved by the director, animation begins.

In the traditional animation process, animators will begin by drawing sequences of animation on sheets of paper perforated to fit the peg bars in their desks, often using colored pencils, one picture or "frame" at a time. A key animator or lead animator will draw the key drawings ("key" in the sense of "important") in a scene, using the character layouts as a guide. The key animator draws enough of the frames to get across the major points of the action; in a sequence of a character jumping across a gap, the key animator may draw a frame of the character as he is about to leap, two or more frames as the character is flying through the air, and the frame for the character landing on the other side of the gap.

Timing is important for the animators drawing these frames; each frame must match exactly what is going on in the soundtrack at the moment the frame will appear, or else the discrepancy between sound and visual will be distracting to the audience. For example, in high-budget productions, extensive effort is given in making sure a speaking character's mouth matches in shape the sound that character's actor is producing as he or she speaks. (Try making "ah," "ooh" and "ee" sounds out loud, and note how your mouth will subconsciously form a different shape for each sound; good animators must pay attention to such seemingly trivial things).

As they are working on a scene, a key animator will usually prepare a *pencil test* of the scene. A pencil test is a preliminary version of the final animated scene; the pencil drawings are quickly photographed or scanned and synced with the necessary soundtracks. This allows the animation to be reviewed and improved upon before passing the work on to his *assistant animators,* who will go add details and some of the missing frames in the scene. The work of the assistant animators is reviewed, pencil-tested, and corrected until the lead animator is ready to meet with the director and have his scene *sweatboxed*, or reviewed by the director, producer, and other key creative team members. Similar to the storyboarding stage, an animator may be required to re-do a scene many times before the director will approve it.

In high-budget animated productions, often each major character will have an animator or group of animators solely dedicated to drawing that character. The group will be made up of one supervising animator, a small group of key animators, and a larger group of assistant animators. For scenes where two characters interact, the key animators for both characters will decide which character is "leading" the scene, and that character will be drawn first. The second character will be animated to react to and support the actions of the "leading" character.

Once the key animation is approved, the lead animator forwards the scene on to the *clean-up department,* made up of the *clean-up animators* and the *inbetweeners.* The clean-up animators take the lead and assistant animators' drawings and trace them onto a new sheet of paper, taking care in including all of the details present on the original model sheets, so that it appears that one person animated the entire film. The *inbetweeners* will draw in whatever frames are still missing *in between* the other animators' drawings. This procedure is called tweening. The resulting drawings are again pencil-tested and sweatboxed until they meet approval.

At each stage during pencil animation, approved artwork is spliced into the Leica reel.

This process is the same for both *character animation* and special effects animation, which on most high-budget productions are done in separate departments. Effects animators animate anything that moves and is not a character, including props, vehicles, machinery and phenomena such as fire, rain, and explosions. Sometimes, instead of drawings, a number of special processes are used to produce special effects in animated films; rain, for example, has been created in Disney films since the late-1930s by filming slow-motion footage of water in front of a black background, with the resulting film superimposed over the animation.

Backgrounds

While the animation is being done, the *background artists* will paint the sets over which the action of each animated sequence will take place. These backgrounds are generally done in gouache or acrylic paint, although some animated productions have used backgrounds done in watercolor, oil paint, or even crayon. Background artists follow very closely the work of the background layout artists and color stylists (which is usually compiled into a workbook for their use), so that the resulting backgrounds are harmonious in tone with the character designs.

Traditional ink-and-paint and camera

Once the clean-ups and in between drawings for a sequence are completed, they are prepared for photography, a process known as *ink-and-paint.* Each drawing is then transferred from paper to a thin, clear sheet of plastic called a *cel,* so called because they were once made out of celluloid (acetate is now used). The outline of the drawing is inked or photocopied onto the cel, and gouache or a similar type of paint is used on the reverse sides of the cels to add colors in the appropriate shades. In many cases, characters will have more than one color scheme assigned to them; the usage of each one depends upon the mood and lighting of each scene. The transparent quality of the cel allows for each character or object in a frame to be animated on different cels, as the cel of one character can be seen underneath the cel of another; and the opaque background will be seen beneath all of the cels.

When an entire sequence has been transferred to cels, the photography process begins. Each cel involved in a frame of a sequence is laid on top of each other, with the background at the bottom of the stack. A piece of glass is lowered onto the artwork in order to flatten any irregularities, and the composite image is then photographed by a special animation camera, also called rostrum camera. The cels are removed, and the process repeats for the next frame until each frame in the sequence has been photographed. Each cel has *registration holes,* small holes along the top or bottom edge of the cel, which allow the cel to be placed on corresponding peg bars before the camera to ensure that each cel aligns with the one before it; if the cells are not aligned in such a manner, the animation, when played at full speed, will appear "jittery." Sometimes, frames may need to be photographed more than once, in order to implement superimpositions and other camera effects. Pans are created by either moving the camera, cels, or backgrounds one step at a time over a succession of frames.

As the scenes come out of final photography, they are spliced into the Leica reel, taking the place of the pencil animation. Once every sequence in the production has been photographed, the final film is sent for development and processing, while the final music and sound effects are added to the soundtrack. Again, editing is generally not done in animation, but if it is required it is done at this time, before the final print of the film is ready for duplication or broadcast.

Digital ink and paint

It should be noted that the actual "traditional" ink-and-paint process is no longer in use by any major animated productions at present. The current process, termed "digital ink and paint," is the same as traditional ink and paint until after the animation drawings are completed; instead of being transferred to cels, the animators' drawings are scanned into a computer, where they are colored and processed using one or more of a variety of software packages. The resulting drawings are composited in the computer over their respective backgrounds, which have also been scanned into the computer (if not digitally painted), and the computer outputs the final film by either exporting a digital video file, using a video cassette recorder, or printing to film using a high-resolution output device. Use of computers allows for easier exchange of artwork between departments, studios, and even countries and continents (in most low-budget American animated productions, the bulk of the animation is actually done by animators working in other countries, including Korea, Japan, Singapore, and India).

The last major feature film to use traditional ink and paint was Studio Ghibli's Princess Mononoke (1997); the last animated series to do so was Ed, Edd n Eddy. Digital ink and paint has been in use at Walt Disney Feature Animation since 1989, where it was used for the final rainbow shot in The Little Mermaid. All subsequent Disney animated features were digitally inked-and-painted, using Disney's proprietary CAPS (Computer Animation Production System) technology, developed primarily by one-time partner Pixar. Most other studios use one of a number of other high-end software packages such as Toonz or Toon Boom Studio, Animo, US Animation and even consumer-level applications such as Macromedia Flash.

Computers and video cameras

Computers and video cameras in traditional cel animation can also be used as tools without affecting the film directly, assisting the animators in their work and making the whole process faster and easier. Doing the layouts on a computer is much more effective than doing it the old original way. And video cameras gives the opportunity to see a "sneak preview" of the scenes and how they will look when finished, enabling the animators to correct and improve them without having to complete them first. This can be considered a digital form of *pencil testing*.

Techniques

The cel & limited animation

The cel is an important innovation to traditional animation, as it allows some parts of each frame to be repeated from frame to frame, thus saving labor. A simple example would be a scene with two characters on screen, one of which is talking and the other standing silently. Since the latter character is not moving, it can be displayed in this scene using only one drawing, on one cel, while multiple drawings on multiple cels will be used to animate the speaking character.

For a more complex example, consider, a sequence in which a girl sets a plate upon a table. The table will stay still for the entire sequence, so it can be drawn as part of the background. The plate can be drawn along with the character as the character places it on the table. However, after the plate is on the table, the plate will no longer move, although the girl will continue to move as she draws her arm away from the plate. In this example, after the girl puts the plate down, the plate can then be drawn on a separate cel from the girl. Further frames will feature new cels of the girl, but the plate does not have to be redrawn as it is not moving; the same cel of the plate can be used in each remaining frame that it is still upon the table. The cel paints were actually manufactured in shaded versions of each color to compensate for the extra layer of cel added between the image and the camera, in this example the still plate would be painted slightly brighter to compensate for being moved one layer down.

In very early cartoons made before the use of the cel, such as Gertie the Dinosaur (1914), the entire frame, including the background and all characters and items, were drawn on a single sheet of paper, then photographed. Everything had to be redrawn for each frame containing movements. This led to a "jittery" appearance; imagine seeing a sequence of drawings of a mountain, each one slightly different from the one proceeding it. The pre-cel animation was later improved by using techniques like the slash method invented by Raoul Barre; the background and the animated objects were drawn on separate papers. A frame was made by removing all the blank parts of the papers where the objects were drawn before being placed on top of the backgrounds and finally photographed. The cel animation process was invented by Earl Hurd and John Bray in 1915.

In lower-budget productions, this "shortcut" is used in a greater capacity. For example, in a scene in which a man is sitting in a chair and talking, the chair and the body of the man may be the same in every frame; only his head is redrawn, or perhaps even his head stays the same while only his mouth moves. This is known as *limited animation*. The process was popularized in theatrical cartoons by UPA and used in most television animation, especially that of Hanna-Barbera. The end result does not look very lifelike, but is inexpensive to produce, and therefore allows cartoons to be made on small television budgets.

Animation loops

Creating *animation loops* or *animation cycles* is a labor-saving technique for animating repetitive motions, such as a character walking or a breeze blowing through the trees. In the case of walking, the character is animated taking a step with their right foot, then a step with their left foot. The loop is created so that, when the sequence repeats, the motion is seamless. However, since an animation loop essentially uses the same bit of animation over and over again, they are easily detected and can in fact become distracting to an audience. In general, they are used only sparingly by productions with moderate or high budgets.

Ryan Larkin's 1969 Academy Award nominated National Film Board of Canada short Walking makes creative use of loops. In addition, a promotional music video featuring the Soul Coughing song "Circles" poked fun at animation loops as they are often seen in The Flintstones, in which Fred and Barney, supposedly walking in a house, wonder why they keep passing the same table and vase over and over again.

Multiplane camera

The multiplane camera is a tool used to add depth to scenes in 2D animated movies, called the multiplane effect. This visual phenomena is also called the parallax process. The art are placed on different layers of glass plates, in this way realistic backgrounds and foregrounds can be made. The panorama views in *Pinocchio* is a well known example on how impressive it can appear. Different versions of the camera has been made through time, but the best known and most famous is the one used by the Walt Disney Studio. Another one was made by Fleischer Studios, and called a tabletop. Miniature sets made of paper cutouts was placed in front of the camera, and the cels between them, creating visually realistic scenes. Others who made their own multiplane camera was Ub Iwerks and Don Bluth. Today it is no longer needed as computers can give the same results.

Hand inking

Originally the cels were inked by hand by first laying them over the artists drawings, and then the inkers traced the outlines of the artwork onto the cels, using different colors. With the invention of xerography, hand inking was no longer needed, and this was reflected by the animation's visual style. Yet it is said to still be in use in areas like animated commercials, even if animated features and series have left it a long time ago.

Xerography

Applied to animation by Ub Iwerks, the electrostatic copying technique called xerography allowed the drawings to be copied directly onto the cels, leaving only the coloring to the inkers. This saved time and money, and it also made it possible to put in more details and to control the size of the xeroxed objects and characters (this replaced the little known, and seldom used, photographic lines technique at Disney, used to reduce the size of animation when needed). At first it resulted in a more sketchy look, but the method was improved later.

Instead of using black lines only, cels with lines in different colors were also possible, using colored toner powder.

The xerographic method was first used by Disney in the short film *Goliath II*, while the first feature using this process was *One Hundred and One Dalmatians* (1961). The graphic style of this film was strongly influenced by the process. Some hand inking was still used together with xerography in this and subsequent films when distinct colored lines were needed.

This automatic cel printing technique could be used for other things than just transferring the animators art. A method that was related to conventional rotoscoping also became possible. If the movie was supposed to contain inanimate objects like a car or a boat, a small live action model of the object(s) was built. Then it was painted white and the edges painted with thin black lines. The object was then filmed like it was meant to move in the finished movie, and prints of the film was transferred to cels, showing a model made up of the painted black lines. (A notable example of this is Cruella's car in *One Hundred and One Dalmatians*.) The process of printing 3D objects onto cels was greatly improved when computer graphics advanced enough to allow the creation of three dimensional computer generated objects that could be manipulated in any way the animators wanted, and then transfer the outlines to the cels.

The APT process

Invented by David W. Spencer for the movie *The Black Cauldron*, the APT (Animation Photo Transfer) process was a new breakthrough in how to transfer the artists' work onto cels. Basically, the process was a modification of a repro-photographic process; the drawings were photographed on high-contrast "litho" film, and the resulting negative was copied onto a plastic sheet which was originally covered with a dye, which was removed from the unexposed portion by a development process, leaving the lines. This material was available in many colors. Spencer received a Technical award from the Motion Picture Academy for developing this process.

Cel overlay

A cel with inanimate objects made to make the impression of a foreground when laid on top of a ready frame. This creates the illusion of depth, but not as much as a multiplane camera would. A special version of cel overlay is called line overlay, made to complete the background instead of making the foreground, and was invented to deal with the sketchy appearance of xeroxed drawings. The background was first painted as shapes and figures in flat colors, containing rather few details. Next a cel with detailed black lines was laid directly over it, each line drawn to add more information to the underlaying shape or figure, giving the background the complexity it needed. In this way the visual style of the background will match the visual style of the xeroxed parts of the animation. As the xerographic process evolved, line overlay was left behind.

Computers and traditional animation

Though the process described above is the traditional animation process, painting cels is becoming increasingly rare as the computer moves into the animation studio. Sometimes, animators will now draw directly into a computer using a graphics tablet or similar device. Though outline drawings are done in a similar manner as they would be on paper (still, many professional animators often prefer drawing on paper, since it gives better control of subtle lines), the computer makes it very fast and simple to paint color into those outlines, thus saving much time and labor in the animation process. The drawings are composited in a computer program on many transparent "layers" much the same way as they are with cels, and made into a sequence of images which may then be transferred onto film or converted to a digital video format.

Though traditional animation is now commonly done with computers, it is important to differentiate computer-assisted traditional animation from 3D computer animation, such as Toy Story and ReBoot. However, often traditional animation and 3D computer animation will be used together, as in Don Bluth's Titan A.E. and Disney's Tarzan and Treasure Planet.

Interestingly, the process has now come full-circle, and many modern video games such as Viewtiful Joe, The Legend of Zelda: The Wind Waker and others use "cel-shading" animation filters to make their full 3D animation appear as though it were drawn in a traditional cel style. This technique has recently also been used in the animated movie Appleseed, and was integrated with cel animation in the FOX animated series Futurama.

Rotoscoping

Rotoscoping is a method of traditional animation invented by Max Fleischer in 1915, in which animation is "traced" over actual film footage of actors and scenery. Traditionally, the live action will be printed out frame by frame and registered. Another piece of paper is then placed over the live action printouts and the action is traced frame by frame using a lightbox. The end result still looks hand drawn but the motion will be remarkably lifelike. Waking Life is a full-length, rotoscoped animated movie, as is American Pop by Ralph Bakshi. The popular music video for A-ha's song "Take On Me" also featured rotoscoped animation, along with live action. In most cases, rotoscoping is mainly used as a guide to aide the animation of realistically rendered human beings, as in Snow White and the Seven Dwarfs, Sleeping Beauty, Pocahontas, and Anastasia.

Live-action hybrids

Similar to the computer animation and traditional animation hybrids described above, occasionally a production will marry both live-action and animated footage. The live-action parts of these productions are usually filmed first, the actors pretending that they are interacting with the animated characters, props, or scenery; animation will then be added into the footage later to make it appear as if it has always been there. Like rotoscoping, this method is rarely used, but when it is, it can be done to terrific effect, immersing the audience in a fantasy world where humans and cartoons co-exist. Early examples include the silent

Out of the Inkwell (begun in 1919) cartoons by Max Fleischer and Walt Disney's Alice Comedies (begun in 1923). Live-action and animation were later combined to successful effect in features such as The Three Caballeros (1945), Anchors Aweigh (1945), Song of the South (1946), Mary Poppins (1964), Heavy Traffic (1973), Who Framed Roger Rabbit (1988), and Space Jam (1996). Other significant live-action hybrids include the music video for Paula Abdul's hit song "Opposites Attract" and numerous television commercials, including those for cereals such as Honey Nut Cheerios, Trix, and Rice Krispies.

Special effects animation

See also: Special effects#Special effects animation

Besides traditional animated characters, objects and backgrounds, many other techniques are used to create special elements such as smoke, lightning and "magic", and to give the animation in general a distinct visual appearance.

Notable examples can be found in movies such as Fantasia, The Little Mermaid and The Secret of NIMH. Today the special effects are mostly done with computers, but earlier they had to be done by hand. To produce these effects, the animators used different techniques, such as dry brush, airbrush, charcoal, grease pencil, backlit animation or, during shooting, the cameraman used multiple exposures with diffusing screens, filters or gels. For instance, the Nutcracker Suite segment in Fantasia has a fairy sequence where stippled cels are used, creating a soft pastel look.

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Animated cartoon

An **animated cartoon** is a short, hand-drawn (or made with computers to look similar to something hand-drawn) moving picture for the cinema, TV or computer screen, featuring some kind of story or plot (even if it is a very short one). Please note that this page is *not* about animated films in general, but only about ones which follow the above definition. Although cartoons can use many different types of animation, they all fall under the *traditional animation* category.

History

Main article: History of animation

The first examples of trying to capture motion into a drawing can already be found in paleolithic cave paintings, where animals are depicted with multiple legs in superimposed positions, clearly attempting depicting a sense of motion.

The phenakistoscope, zoetrope and praxinoscope, as well as the common flip book, were early animation devices to produce movement in drawings using technological means, but animation did not really develop much further until the advent of motion picture film.

The first animated cartoon (in the traditional sense, i.e. on film) was *"Fantasmagorie"* by the French director Émile Cohl.

One of the very first successful animated cartoons was "Gertie the Dinosaur" by Winsor McKay. It is considered the first example of true character animation.

In the 1930s to 1960s, theatrical cartoons were produced in huge numbers, and usually shown before a feature film in a movie theater. MGM, Disney and Warner Brothers were the largest studios producing these 5 to 10-minute "shorts".

Competition from television drew audiences away from movie theaters in the late 1950s, and the theatrical cartoon began its decline. Today, animated cartoons are produced mostly for television.

Technologies

The advent of film technology opened opportunities to develop the art of animation. The basic animation process is described in the article ***Animation*** , and the classic, hand-drawn technology in ***Traditional animation*** .

At first, animated cartoons were black-and-white and silent. Felix the Cat is a notable example.

The first cartoon with synchronized sound is often identified as Walt Disney's Steamboat Willie, starring Mickey Mouse in 1927, but Max Fleischer's 1926 My Old Kentucky Home is less popularly but more correctly credited with this innovation. Fleischer also patented rotoscoping, whereby animation could be traced from a live action film.

With the advent of sound film, musical themes were often used. Animated characters usually performed the action in "loops", i.e. drawings were repeated over and over, synchronized with the music.

Disney also produced the first full-color cartoon in Technicolor, "Flowers and Trees", in 1931, although other producers had earlier made films using inferior, 2-color processes instead of the 3-color process offered by Technicolor.

Later, other movie technologies were adapted for use in animation, such as stereophonic sound in Disney's Fantasia in 1941, and later, widescreen processes (e.g. CinemaScope), and even 3D.

Today, animation is commonly produced with computers, giving the animator new tools not available in hand-drawn traditional animation. See ***Computer animation*** for further information of the specific technologies.

Note, however, that some types of animation cannot be called "cartoons", which implies something that resembles a drawing. Clay animation and other forms of stop motion filming, are *not* cartoons in the strict sense of the word.

An animated cartoon created using Macromedia Flash is sometimes called a webtoon.

Feature films

The name "animated cartoon" is generally not used when referring to full-length animated productions, since the term more or less implies a "short". This section will focus on traditionally-animated feature films which would have been called cartoons had they had a shorter running time.

The first feature-length animated film (of any type) was Quirino Cristiani's traditionally-animated El Apóstol, made in 1917 in Argentina to resounding critical acclaim and popular success.[1] That film is now lost, as is Cristiani's Sin dejar rastros, released a year later. The earliest surviving animated feature film is Lotte Reiniger's The Adventures of Prince Achmed, made in the Weimar Republic in 1926. It used intricate black paper cut-outs and scenes were tinted in various colours. However, it cannot be called a "cartoon" because it used a type of 2D stop motion animation. The first animated feature film with synchronized sound was Cristiani's 1931 traditionally-animated *Peludòpolis*, which is also lost.

Disney's "Snow White and the Seven Dwarfs", made in 1937 thus holds the title of being the oldest surviving traditionally-animated feature film, the first animated feature film to use a technicolor process, and the first to be released in the United States. To date, Disney has produced 44 "Classic" hand-drawn animated features. It appears that no more will be produced, since the studio has closed all its facilities for this type of animation. They will, however, continue making computer-animated features. There have also been rumours lately that the new Pixar heads of Disney will eventually revive the studio's 2-D wing.

Other studios also produced huge numbers of animated features; a list of those released in the United States can be found here.

Notable artists and producers

Tex Avery
Ralph Bakshi
Hanna-Barbera
Quirino Cristiani
Walt Disney
Max Fleischer
Ivan Ivanov-Vano
Chuck Jones
Walter Lantz
Hayao Miyazaki

Further information: Animation

Television

American television animation of the 1950s featured quite limited animation styles, highlighted by the work of Jay Ward on Crusader Rabbit. Chuck Jones coined the term "illustrated radio" to refer to the shoddy style of most television cartoons that depended more on their soundtracks than visuals. Other notable 1950s programs include UPA's Gerald

McBoing Boing, Hanna-Barbera's Huckleberry Hound and Quick Draw McGraw, and rebroadcast of many classic theatrical cartoons from Warner Brothers, MGM, and Disney

Hanna-Barbera's show, The Flintstones was the first successful primetime series in the United States, running from 1960-66 (and in reruns since). While many networks followed the show's success by scheduling other primetime cartoons in the early 1960s, including The Jetsons, Top Cat, and The Alvin Show, none of these programs survived more than a year in primetime. However, networks found success by running these failed shows as Saturday morning cartoons, reaching smaller audiences with more demographic unity among children. Television animation for children flourished on Saturday morning, on cable channels like Nickelodeon and Cartoon Network, and in syndicated afternoon timeslots.

Primetime cartoons were virtually non-existent until 1990's hit *The Simpsons* ushered in a new era of adult animation.

Commercial animation

Animation has been very popular in television commercials, both due to its graphic appeal, and the humor it can provide. Some animated characters in commercials have survived for decades, such as Snap, Crackle and Pop in advertisements for Kellogg's cereals.

The legendary animation director Tex Avery was the producer of the first Raid "Kills Bugs Dead" commercials in 1966, which were very successful for the company. The concept has been used in many countries since.

Genres of animated cartoons

Funny animals

The first animated cartoons often depicted funny animals in various adventures. This was the mainstream genre in the United States from the early 1900s until the 1940s, and the backbone of Disney's series of cartoons.

Zany humor

Bugs Bunny, Daffy Duck of Warner Brothers, and the various films of Tex Avery at MGM introduced this popular form of animated cartoons. It usually involved acts such as characters being crushed by massive boulders or going over the edge of a cliff but floating in mid air for a few seconds. The *Road Runner* cartoons are great examples of these actions. Disney never really mastered this genre. The article **Cartoon physics** describes typical antics of zany cartoon characters.

Sophistication

As the medium matured, more sophistication was introduced, albeit keeping the humorous touch. Classical music was often spoofed, a notable example is "What's Opera, Doc" by Chuck Jones. It should be noted that European animation sometimes followed a very different path from American animation. In the Soviet Union, the late 1930s saw the enforcment of socialist realism in animation, a style which lasted throughout the Stalinist era. The animations themselves were mostly for kids, and based on traditional fairy tales.

Limited animation

In the 1950s, UPA and other studios refined the art aspects of animation, by using extremely limited animation as a means of expression.

Modernism

Graphic styles continued to change in the late 1950s and 1960s. At this point, the design of the characters became more angular, while the quality of the character animation declined.

Japanese art styles

Anime became very popular among young Western adults in the late 20th century.

Animated Music videos

Popular with the advent of MTV and similar music channels, they often contain animation, sometimes rotoscoped, i.e. based on live action performers. Cartoons animated to music go at least as far back as Disney's 1929 The Skeleton Dance. These are now popular with animated band Gorillaz

References

1. ^ *Quirino Cristiani, The Untold Story of Argentina's Pioneer Animator. AWN Magazine Article. Retrieved on April 27, 2006.*

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Funny animal

While most funny animal stories are light-hearted and humorous, the genre is not exclusively comedic. Dark or serious stories featuring anthropomorphic animals can also be grouped under the "funny animals" category. These stories may intersect with any other

genre or group of genre, including historical stories, science fiction, superheroes, westerns, slapstick comedy, children's entertainment, and satire.

Today, funny animals are sometimes called **furries** in certain social groups and subcultures, particularly the furry fandom and other largely Internet-based subcultures. The use of this new terminology began in the 1980s and was becoming common by 1990, when the newsgroup *alt.fan.furry* was created for "fans of funny animals, ala Steve Gallacci's book." There is some controversy over which term is most appropriate, and though *furry* is more common in Internet usage (along with *cartoon animal*), *funny animal* is the term most frequently used by professional cartoonists and scholars who write about comics and animation.

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Independent animation

Independent animation is a term used to describe animated short cartoons and feature films produced outside the professional Hollywood animation industry.

Because animation is very time-consuming and expensive to produce, the vast majority of animated productions are made by professional studios. When the Hollywood animation industry entered a decline during the 1960s (see Hollywood Animation: The TV Era), a small but steady number of independent animation producers kept the art of animation alive. They produced a number of experimental films that pushed the boundaries of the medium, experimenting in ways that Hanna-Barbera and Disney didn't dare to consider. A number of independent animation producers went on to produce mainstream animation, and they became successful in their own right.

Many independent animation short films are largely unknown; they are rarely seen outside of independent "art house" movie theaters. Collections of independent films have been gathered for theatrical viewing, and video release, under such titles as the International Tournee of Animation (which existed between about 1966 and the late 1990s) and Spike and Mike's Classic Festival of Animation (1977 to 1990) and Spike and Mike's Sick and Twisted Festival of Animation since 1990.

The rise of the Internet in the 1990s and 2000s saw an exponential increase in the production of independent animation. Personal computer power increased to the point where it was possible for a single person to produce an animated cartoon on a home computer, using software such as Macromedia Flash or Autodesk, and distribute these short films over the World Wide Web. Independently produced Internet cartoons flourished as the popularity of the Web grew, and a number of strange, often hilarious short cartoons were produced for the Web.

In the late 1990s, an independent animated short film called The Spirit of Christmas was produced for under $2,000 by two artists, Matt Stone and Trey Parker. This film was widely distributed on the Internet as a pirated cartoon, and its phenomenal popularity gave rise to the popular TV animated series South Park.

1960s

The Critic (1963) by Mel Brooks

Bambi Meets Godzilla by Marv Newland

1970s

Closed Mondays by Will Vinton

1980s

A Grand Day Out by Nick Park

Luxo Jr. by Pixar

Your Face by Bill Plympton

1990s

Tin Toy by Pixar

2000s

Homestar Runner by The Brothers Chaps

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Cel

A **cel**, short for celluloid, is a transparent sheet on which objects are drawn or painted for traditional, hand-drawn animation. Celluloid was used for animation and film production up until the late 20th century, however, it burned easily and suffered from spontaneous decomposition, and was largely replaced by cellulose acetate plastics.

Generally, the characters are drawn on cels and laid over a static background drawing. This reduces the number of times an image has to be redrawn and enables studios to split up the production process to different specialised teams. Using this assembly line way to animate has made it possile to produce films much more cost-effectively. The invention of the technique is generally attributed to Earl Hurd, who patented the process in 1914.

The outline of the images are drawn on the back of the cel. The colors are also painted on the back to eliminate brushstrokes. Traditionally, the outlines were hand-inked but now they are almost exclusively xerographed on. Another important breakthrough in cel animation was the development of the APT (Animation Photo Transfer) process, first seen in The Black Cauldron. Disney later stopped using cels in 1990 when CAPS replaced this element in the animation process.

Actual production cels are sometimes sold after the animation process is complete. More popular shows and movies may demand higher prices for the cels, with some selling for thousands of dollars. Some cels are not used for actual production work, but may be a "special" or "limited edition" version of the artwork, sometimes even printed ("lithographed") instead of hand-painted. These normally do not fetch as high a high price as original "under-the-camera" cels, which are true collector's items. Some cels have fetched record prices at art auctions, e.g. a cel depicting numerous characters from the finale of Who Framed Roger Rabbit sold for $50,600 at Sotheby's in 1989.

With the advent of computer assisted animation production, the use of cels has been practically abandoned in major productions.

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Character animation

Character animation is a special aspect of the animation process, in which life is breathed into an artificial character. One of the most difficult aspects of both the traditional animation process and the computer animation process, character animation involves creating the nuances, gestures, distinct movements, and patterns of speech that will make an audience believe that the character is actually alive.

Historically, Winsor McKay's Gertie the Dinosaur, 1914, is often considered the very first example of true character animation. Otto Messmer imbued his Felix the Cat with an instantly recognizable personality during the 1920s. The following decade, Walt Disney made character animation a particular focus of his animation studio, best showcased in productions such as Three Little Pigs, Snow White and the Seven Dwarfs, Pinocchio, and Dumbo. Disney animation artists such as Bill Tytla, Grim Natwick, Fred Moore, Ward Kimball, Les Clark, John Sibley, Marc Davis, Wolfgang Reitherman, Hal King, Hamilton Luske, Norm Ferguson, Eric Larson, Johnny Lounsbery, Milt Kahl, Frank Thomas and Ollie Johnston all became masters of the technique.

Other notable figures in character animation include the Termite Terrace/Warner Bros. staffers (Chuck Jones, Robert McKimson, Tex Avery, Friz Freleng), independent animator Richard Williams, John Lasseter at Pixar, and latter-day Disney animators Andreas Deja and Glen Keane.

Character animation is augmented by special effects animation, which creates anything that is not a character; most commonly vehicles, machinery, and natural phenomena such as rain, snow, and water.

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Limited animation

Limited animation is a process of making animated cartoons that does not follow a "realistic" approach. The short cartoons and feature films of Walt Disney from the 1930s and 1940s are widely acclaimed for depicting animated simulations of reality, with exquisite detail in every frame. However, this style of animation is very time-consuming and expensive. "Limited" animation creates an image that uses abstract art, symbolism, and limited movement to create the same effect, but at a much lower production cost. This style of animation depends more upon suspension of disbelief to tell a story; the story exists more in the viewer's imagination. It also encourages the animators to indulge in artistic styles that are not necessarily bound to the limits of the real world. The result is a new artistic style that could not have developed if animation was solely devoted to producing simulations of reality. Without limited animation, such ground-breaking films as Yellow Submarine, Chuck Jones' The Dot and the Line, and many others could never have been produced.

The process of limited animation also allows for animation cels to be duplicated, resulting in a lower number of separate frames per second. While the standard rate of film projection is 24 frames per second (and video projection, including VCR and DVD displays, are as much as 30 frames per second), cartoons produced through limited animation may have as few as

12, 8 or even 6 frames per second. The reduced number of frames causes the halting, "jerky" motion seen in lower budgeted TV cartoons, as opposed to the smoother flow of animation seen in most feature films and high-quality TV animation.

Limited animation was originally founded as an artistic device, though it was soon used widely as a cost-cutting measure rather than an aesthetic method. The UPA studio made the first serious effort to abandon the ultra-realistic approach perfected by Disney. Their first effort at non-realistic animation, Gerald McBoing-Boing, won an Oscar, and it provided the impetus for limited animation to be accepted at the major Hollywood cartoon studios, including Warner Brothers and MGM. However, the real attraction of limited animation was the reduction in costs: because limited animation does not place a great emphasis on detail, it is much less expensive to produce. The 1950s saw all of the major cartoon studios change their style to limited animation, to the point where painstaking detail in animation occurred only rarely.

Limited animation techniques were used during the 1960s and 1970s to produce a great number of inexpensive, poor quality TV cartoons, "Saturday morning cartoons". Such TV series as Clutch Cargo are infamous for being produced on ultra low budgets, with camera tricks used in place of actual animation. Despite the poor quality of the animation, the TV cartoon studios Hanna-Barbera and Filmation thrived during this period. Limited animation is common in Japanese animation, anime, especially in TV series.

The cost-cutting techniques used to mass-produce cartoons on a low budget included:

- cels and sequences of cels were re-used over and over again -- animators only had to draw a character walking one time.
- only portions of a character, such as the mouth or an arm, would be animated on top of a static cel.
- the visual elements were made subsidiary to audio elements, so that verbal humor and voice talent became more important factors for success.

Animated cartoons which made good use of limited animation included *Gerald McBoing-Boing*, Mister Magoo, The Rocky and Bullwinkle Show and The Flintstones.

In recent years, nostalgia for the 1970s, combined with technologies such as Macromedia Flash, have led to a revival of the genre of limited animation.

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Rotoscope

Rotoscoping is a technique where animators trace live action movement, frame by frame, for use in animated cartoons. Originally, pre-recorded live-film images were projected onto a matte windowpane and redrawn by an animator. This projection equipment is called a **Rotoscope**.

History

The technique was invented by Max Fleischer, who used it in his series "Out of the Inkwell" starting around 1914, with his brother Dave Fleischer dressed in a clown outfit as the live-film reference for the character Koko the Clown.

Fleischer used rotoscope in a number of his later cartoons as well, most notably the Cab Calloway dance routines in three Betty Boop cartoons from the early 1930s, and the animation of Gulliver in Gulliver's Travels.

Walt Disney and his animators employed it carefully and very effectively in Snow White and the Seven Dwarfs, primarily used in the animation of Prince Charming. Rotoscoping was also used in many of Disney's subsequent animated feature films.

Ralph Bakshi used the technique quite extensively in his animated movies Wizards (1977) and The Lord of the Rings (1978). Bakshi was refused by 20th Century Fox for a $50,000 budget increase to finish Wizards, and thus had to resort to rotoscoping to finish the battle sequences. (This was the same meeting at which George Lucas was also denied a $3 million budget increase to finish Star Wars.)

Don Bluth used the technique in two major films, the successful Anastasia and the box-office bomb Titan A.E..

Smoking Car Productions invented a digital rotoscoping process in 1994 for the creation of its critically-acclaimed adventure game The Last Express. The process was awarded U.S. Patent 6061462: Digital Cartoon and Animation Process.

Using a similar technique, Richard Linklater produced a digitally rotoscoped feature called Waking Life, creating a surreal image of live action footage, a technique which is now being used to produce the movie A Scanner Darkly. Linklater is the first director to use digital rotoscoping to create an entire feature film.

Rotoscoping was also used in the 1985 A-ha music video Take on Me.

Additionally, a 2005-06 advertising campaign by Charles Schwab uses rotoscoping for a series of television spots, under the tagline "Talk to Chuck." This distinctive look is the work of Bob Sabiston, an MIT Media Lab veteran who brought the same "interpolated rotoscoping" technique to the Richard Linklater film Waking Life.

Technique

Rotoscoping is decried by some animation purists, but has often been used to good effect. When used as an animator's reference tool, it can be a valuable time-saver.

Poor-quality rotoscoping has slight deviations from the true line that differ from frame to frame, which when animated cause the animated line to "boil". Avoiding boiling requires considerable skill in the person performing the tracing.

Rotoscoping has often been used as a tool for special effects in live action movies. By tracing an object, a silhouette (called a matte) can be created that can be used to create an empty space in a background scene. This allows the object to be placed in the scene. However, this technique has been largely superseded by bluescreen techniques.

Rotoscoping has also been used to allow a special visual effect (such as a glow, for example) to be guided by the matte or rotoscoped line. One classic use of traditional

rotoscoping was in the original three Star Wars films, where it was used to create the glowing lightsaber effect, by creating a matte based on sticks held by the actors.

The term "rotoscoping" (typically abbreviated as "roto") is now generally used for the corresponding all-digital process of tracing outlines over digital film images to produce digital mattes. This technique is still in wide use for special cases where techniques such as bluescreen will not pull an accurate enough matte. Rotoscoping in the digital domain is often aided by motion tracking and onion-skinning software. Rotoscoping is often used in the preparation of garbage mattes for other matte-pulling processes.

Motion capture is a form of digital rotoscope (often referred to by animators as "the devil's rotoscope").

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History of animation

The first examples of trying to capture motion into a drawing can already be found in paleolithic cave paintings, where animals are depicted with multiple legs in superimposed positions, clearly attempting depicting a sense of motion.

The history of **film animation** begins with the earliest days of silent films and continues through the present day.

The first animated film was created by frenchman Émile Reynaud, inventor of the praxinoscope, an animation system using loops of 12 pictures. On October 28, 1892 at Musée Grévin in Paris, France he exhibited animations consisting of loops of about 500 frames, using his théatre optique system - similar in principle to a modern film projector.

The first animation on standard picture film was Humorous Phases of Funny Faces by J. Stuart Blackton in the year 1906. It features a cartoonist drawing faces on a chalkboard, and the faces coming to life.

Fantasmagorie, by the French director Émile Courtet (also called Émile Cohl), is also noteworthy; it was projected for the first time on August 17, 1908 at 'Théâtre du Gymnase', in Paris. Émile Courtet later went to Fort Lee, New Jersey near New York City in 1912, where he worked for French studio Éclair and spread its technique in the US.

The first puppet-animated film was The Beautiful Lukanida (1910) by the Russian-born ethnically-Polish Director Wladyslaw Starewicz (Ladislas Starevich).

Walt Disney's Snow White and the Seven Dwarfs (produced in Technicolor) is sometimes incorrectly considered to be the first animated feature, even though at least five feature-length animationed films had been produced previously: the very first was El Apóstol (1917) by Quirino Cristiani from Argentina, who also directed two other animated feature films, including 1931's Peludopolis, the first animated feature film with sound. Another notable early feature was the silhouette-animated The Adventures of Prince Achmed (1926) from German Lotte Reiniger and French/Hungarian Berthold Bartosch which used colour-tinted scenes. The New Gulliver (1935) from the USSR also predates Snow White.

Europe

- Animation before film in 20th century.

History of French animation

- 1908-1925, Work of Émile Courtet:

The first animated cartoon (1908), and most animation techniques: morphing (1909), puppet animation and color animated cartoon (1910), pixilation (1911), first animated series (Le chien Flambeau, 1917).

History of Italian animation

- The 1970 Italian animated cartoon art and industry (La Linea (cartoon), Caliméro...)

History of Russian animation

1910-1913 Ladislas Starevich creates puppet animations
1935 First animated feature film in USSR, The New Gulliver

1935 Soyuzmultfilm Studio is created, will go on to fund many thousands of short animated films, mostly for kids
late 1930s to 1950s - enforced Socialist Realism in cartoons (with a few exceptions).
1953 Puppet animation division re-founded at Soyuzmultfilm (it was closed shortly after The New Gulliver was released)
1962 Fyodor Khitruk's short film History of a Crime introduces new aesthetic to Soviet animation
1969 First episode of popular series Nu, Pogodi!
1972 First Cheburashka short is made
1979 Yuriy Norshteyn releases Tale of Tales, since then voted twice by a large panel of international critics as the best animated film ever made.
1989 Studio Pilot, the first private animation studio in the USSR, is founded
1990s government subsidies shrink dramatically, while the number of studios grows. Soyuzmultfilm is beset by corruption and banditism, slowly loses its dominant place among Russian studios.

History of animation in the former Yugoslavia

The Zagreb school, cf. Zagreb Film
The akovec school, cf. Škola Animiranog Filma akovec

North and South America

History of Argentinian animation

- World's first two feature-length animated films and first film with sound by Quirino Cristiani[1];Quirio Cristiani's page (Spanish)

History of Canadian animation

- Early Work
- Contributions of the National Film Board of Canada's animation department
- Early commercial productions
  - Contributions of Canadian voice actor recordings
- The 1980s- rise of the major indigenous industry

History of Cuban animation

¡Vampiros en la Habana!
Festival Internacional del Nuevo Cine Latinoamericano

History of United States Animation

- Beginning of industrial production of animated cartoon.

Because the history of Hollywood animation as an art form has undergone many changes in its hundred-year history, Wikipedia presents four separate chapters in the development of its animation:

Animation in the United States during the silent era (1900s through 1920s)

- The beginnings of theatrical, the earliest animated cartoons in the era of silent film, ranging from the works of Winsor McCay through Koko the Clown and Felix the Cat
- The Bray Studios was the first and foremost cartoon studio, housed in New York City. Many aspiring cartoonists started their careers at Bray, including Paul Terry

of "Mighty Mouse" fame, Max Fleischer of "Betty Boop" fame, as well as Walter Lantz of "Woody Woodpecker" fame. The cartoon studio operated from circa 1915 until 1928. Some of the first cartoon stars from the Bray studios were Farmer Alfalfa (by Paul Terry) and Bobby Bumps (by Earl Hurd).

The Golden Age of Hollywood animation (1930s and 1940s)

- The dominance of Walt Disney throughout the 1930s
  The rise of Warner Bros. and MGM
  The departure from realism, and UPA

Animation in the United States in the television era (1950s through 1980s)

- The emergence of TV animated series from Hanna-Barbera Productions
  The decline of theatrical cartoons and feature films
  Saturday morning cartoons
  The attempts at reviving animated features through the 1960s
  The rise of adult animation in the early 1970s
  The onslaught of commercial cartoons in the 1980s

Modern animation of the United States (1980s through present)

- Who Framed Roger Rabbit and the return of Disney
  Steven Spielberg's collaborations with Warner Bros.
  A flood of newer, bolder animation studios
  The mainstream popularization of anime
  The rise of computer animation
  The decline of Saturday morning cartoons, the rise of Nickelodeon and Cartoon Network
  In 2005, Disney closes all facilities for hand-drawn traditional animation, concentrating on computer animation for their feature films

Asia

- Shadow animation around Asia (VIe century)

History of Chinese Animation

- Wan brothers since 1926 and the first Asian feature animated cartoon film, Princess Iron Fan (1941) inspired from Journey to the West, made during the Japanese occupation.

History of Japanese animation

- The first Japanese Animation

Found recently in Kyoto, the film depicts a boy wearing a sailor uniform performing a salute. The film dates back to around the year 1900 and is on 35mm Celluloid, comprised of 50 frames put together with paste

- Pre-Tezuka Experiments
  - Momotaro's Sea Eagles
    Momotaro's Divine Sea Warriors
- Mushi Productions and Toei Animation

  - Osamu Tezuka's Astroboy (1963)
    Isao Takahata's Hols: Prince of the Sun (1968), helped by Hayao Miyazaki and Yoichi Kotabe.
- The 1970s
  - Rise of the Giant Robot fall of Japanese film industry
- The Golden Age of Anime
  - Space Opera
    Rise of Otaku subculture
    Start of Studio Ghibli
    Ambitious productions ending with Akira (1988)
- The 1990s and 2000s
  - Decline of domestic industry combined with international growth
    The impact of Neon Genesis Evangelion series and the Post-Evangelion trend.
    Critical Acclaim in the west and the Rise of Moé series domestically.

Home | Flip book | Progressive animation

Flip book

A **flip book** is a book with a series of pictures that vary gradually from one page to the next, so that when the pages are turned rapidly, the pictures appear to animate by simulating motion or some other change. Flip books are often illustrated books for children, but may also be geared towards adults and employ a series of photographs rather than drawings. Flip books are not always separate books, but may appear as an added feature in ordinary books or magazines, often in the page corners. Software packages and websites are also available that convert digital video files into custom-made flip books.

Functionality

Flip books are essentially a primitive form of animation. Like motion pictures, they rely on persistence of vision to create the illusion that continuous motion is being seen rather than a series of discontinuous images being exchanged in succession. Rather than "reading" left to right, a viewer simply stares at the same location of the pictures in the flip book as the pages turn. The book must also be flipped with enough speed for the illusion to work, so the standard way to "read" a flip book is to hold the book with one hand and flip through its pages with the thumb of the other hand. The German word for flip book—*Daumenkino*, or "thumb cinema"—reflects this process.

History and cultural uses

The first flip book appeared in September, 1868, when it was patented by John Barnes Linnet under the name kineograph ("moving picture"). They were the first form of animation to employ a linear sequence of images rather than circular (as in the older phenakistoscope). The German film pioneer, Max Skladanowsky, first exhibited his serial photographic images in flip book form in 1894, as he and his brother Emil did not develop their own film projector until the following year. In 1895, Thomas Edison invented a mechanized form of flip book called the mutoscope, which mounted the pages on a central rotating cylinder rather than binding them in a book. The mutoscope remained a popular attraction through the mid-20th century, appearing as coin-operated machines in penny arcades and amusement parks. In 1897, the English filmmaker Henry William Short marketed his "Filoscope", which was a flip book placed in a metal holder to facilitate flipping.

Flip books are now largely considered a toy or novelty for children, and were once a common "prize" in cereal and Cracker Jack boxes. However, in addition to their role in the birth of cinema, they have also been an effective promotional tool since their creation for such decidedly adult products as automobiles and cigarettes. They continue to be used in marketing of all kinds, as well as in art and published photographic collections. Vintage flip books are popular among collectors, and especially rare ones from the late 19th to early 20th century have been known to fetch thousands of dollars in sales and auctions.

The first international flip book festival was held in 2004, by the Akademie Schloss Solitude in Stuttgart. Another international flip book festival was held in Linz, Austria in 2005.

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Progressive animation

Progressive Animation is a term that was first coined by Brian C. Wilkinson of the Hayao Miyazaki Mailing List (A discussion group mainly focused on the films of Hayao Miyazaki and Isao Takahata) back in the early 1990s. It was first referenced in this quote:

For that matter, it seems that the best anime has neo-realist/French new wave as well as Japanese cinematic overtones, plus the occasional expressionist/ impressionist (the slash "/" in these cases indicates a contrast comparison) work too. I do not know too many non-japan animated works that attempt to directly "compete" as films rather than "cartoon movies" ala Disney, let alone hold that place as competent works (even AKIRA deserves this credit :). Hence what I've coined as "Progressive Animation"--even Roger Rabbit was more a "Cartoon Movie" then good cinema.

Source: Fukumoto Archive of the Miyazaki Mailing List Message #605

Progressive animation is very closely related to alternative comics, in that both are works in their respected medium that go against traditional views of their mediums. These traditional views in both are works that are only produced for children or a small fan obsession-oriented subculture.

Because of the large variety of animated films Japan has produced, it has a comparatively large progressive art oriented market. But despite Japanese Anime's diversity, progressive Anime in Japan is still vastly overshadowed by the more common fan obsession oriented market, and only a relatively small percentage of Anime films are actually considered progressive.

Progressive animation advocates want to see a more critical and less "blindly obsessive" evaluation of the animation medium normally found in traditional animation oriented groups. Progressive animation artists want to do something vastly different from what is commonly accepted as animation experimenting in genres and visual styles that were thought inappropriate for the medium.

A few non-Japanese examples of progressive animation

(for Japanese examples see progressive anime)

Æon Flux (US)
Drawn From Memory, a feature film animated entirely by Paul Fierlinger
Fantasia (US)
Fantastic Planet (France/Czechoslovakia)
KYysar (Czechoslovakia)
The Old Man and the Sea (Alexandr Petrov, Russia)
Plague Dogs (US)
Tale of Tales (Yuriy Norshteyn, USSR)
Watership Down (UK)
When the Wind Blows (UK)

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Animated character

A **fictional character** is any person who appears in a work of fiction. More accurately, a fictional character is the person or conscious entity we imagine to exist within the world of such a work. In addition to people, characters can be aliens, animals, gods or, occasionally, inanimate objects. Characters are almost always at the center of fictional texts, especially novels and plays. It is, in fact, hard to imagine a novel or play without characters, though such texts have been attempted (James Joyce's Finnegans Wake is one of the most famous examples). In poetry, there is almost always some sort of person present, but often only in the form of a narrator or an imagined listener.

In various forms of theatre, performance arts and cinema (except for animation and CGI movies), fictional characters are performed by actors, dancers and singers. In animations and puppetry, they are voiced by voice actors, though there have been several examples, particularly, in machinima, where characters are voiced by computer generated voices.

The process of creating and describing characters in a work of fiction is called characterization.

The opposite of a fictional character is a nonfictional character.

Names of characters

The names of fictional characters are often quite important. The conventions of naming have changed over time. In many Restoration comedies, for example, characters are given emblematic names that sound nothing like real life names: "Sir Fidget", "Mr. Pinchwife" and "Mrs. Squeamish" are some typical examples (all from The Country Wife by William Wycherley). Some 18th and 19th century texts, on the other hand, represent characters' names by the use of a single letter and a long dash (this convention is also used for other proper nouns, such as place names). This has the effect of suggesting that the author had a real person in mind but omitted the full name for propriety's sake. Les Misérables by Victor Hugo uses this technique. A similar technique was employed by Ian Fleming in his 20th Century James Bond novels, where the real name for M, if spoken in dialogue, was always written "Adm. Sir M***

Some ways of reading characters

Readers vary enormously in how they understand fictional characters. The most extreme ways of reading fictional characters would be to think of them exactly as real people or to think of them as purely artistic creations that have everything to do with craft and nothing to do with real life. Most styles of reading fall somewhere in between.

Here are some typical ways of reading fictional characters in literary criticism:

Character as symbol

In some readings, certain characters are understood to represent a given quality or abstraction. Rather than simply being people, these characters stand for something larger. Many characters in Western literature have been read as Christ symbols, for example. Other characters have been read as symbolizing capitalist greed (as in F. Scott Fitzgerald's The Great Gatsby), the futility of fulfilling the American Dream, or quixotic romanticism (Don Quixote). Three of the principle characters in Lord of the Flies can be said to symbolize elements of civilization: Ralph represents the civilizing instinct; Jack represents the savage instinct; Piggy represents the rational side of human nature.

Character as representative

Another way of reading characters symbolically is to understand each character as a representative of a certain group of people. For example, Bigger Thomas of Native Son by Richard Wright is often seen as representative of young black men in the 1930s, doomed to a life of poverty and exploitation. Dagny Taggart and other characters from Atlas Shrugged by Ayn Rand are seen as representative of American's hard-nosed, hard-working class.

Many practitioners of cultural criticism and feminist criticism focus their analysis of characters on cultural stereotypes. In particular, they consider the ways in which authors rely on and/or work against stereotypes when they create their characters. Such critics, for example, would read Native Son in relation to racist stereotypes of African American men as sexually violent (especially against white women). In reading Bigger Thomas' character, one could ask in what ways Richard Wright relied on these stereotypes to create a violent African-American male character and in what ways he fought against it by making that character the protagonist of the novel rather than an anonymous villain.

Often, readings that focus on stereotypes demand that we focus our attention on seemingly unimportant characters, such as the ubiquitous sambo characters in early cinema. Minor characters, or stock characters, are often the focus of this kind of analysis since they tend to rely more heavily on stereotypes than more central characters.

Characters as historical or biographical references

Sometimes characters obviously represent important historical figures. For example, Nazi-hunter Yakov Liebermann in The Boys from Brazil by Ira Levin is often compared to real life Nazi-hunter Simon Wiesenthal, and corrupted populist politician Willie Stark from All the King's Men by Robert Penn Warren is often compared to Louisiana governor Huey P. Long.

Other times, authors base characters on people from their own personal lives. Glenarvon by Lady Caroline Lamb chronicles her love affair with Lord Byron, who is thinly disguised as the title character. Nicole, a destructive, mentally ill woman in Tender is the Night by F. Scott Fitzgerald, is often seen as a fictionalized version of Fitzgerald's wife Zelda.

Perhaps because so many people enjoy imagining characters as real people, many critics devote their time to seeking out real people on whom literary figures were likely based. Frequently authors base stories on themselves or their loved ones.

Character as words

Some language- or text-oriented critics emphasize that characters are nothing more than certain conventional uses of words on a page: names or even just pronouns repeated throughout a text. They refer to characters as *functions* of the text. Some critics go so far as to suggest that even authors do not exist outside the texts that construct them.

Character as patient: psychoanalytic readings

Psychoanalytic criticism usually treats characters as real people possessing complex psyches. Psychoanalytic critics approach literary characters as an analyst would treat a patient, searching their dreams, past, and behavior for explanations of their fictional situations.

Alternatively, some psychoanalytic critics read characters as mirrors for the audience's psychological fears and desires. Rather than representing realistic psyches then, fictional characters offer us a way to act out psychological dramas of our own in symbolic and often hyperbolic form. The classic example of this would be Freud's reading of Oedipus (and Hamlet, for that matter) as emblematizing every child's fantasy of murdering his father to possess his mother.

This form of reading persists today in much film criticism. The feminist critic Laura Mulvey is considered a pioneer in the field. Her groundbreaking 1975 article, "Visual Pleasure and Narrative Cinema"[1], analyzed the role of the male viewer of conventional narrative cinema as fetishist, using psychoanalysis "as a political weapon, demonstrating the way the unconscious of patriarchal society has structured film form." but this is not all.

Round characters vs. flat characters

Some critics distinguish between "round characters" and "flat characters" or types. The former are made up of many personality traits and tend to be complex and both more life-like and believable, while the latter consist of only a few personality traits and tend to be simple and less believable. The protagonist (main character, sometimes known as the "hero" or the "heroine") of a traditional novel is almost always a round character; a minor, supporting character in the same novel may be a flat character. Scarlett O'Hara, of Gone with the Wind, is a good example of a round character, whereas her servant Prissy exemplifies the flat character. Likewise, many antagonists (characters in conflict with protagonists, sometimes known as "villains") are round characters. An example of an antagonist who is a round character is *Gone with the Wind's* Rhett Butler. Experimental literature and postmodern fiction will often intentionally make use of flat characters, even for protagonists; the "round character" did not become the standard until well after the Renaissance.

A number of stereotypical or "stock" characters have developed throughout the history of drama. Some of these characters include the country bumpkin, the con artist, and the city slicker. Often, these characters are the basis of "flat characters", though elements of stock characters can also be present in round characters as well. An entire tradition of theater, the Italian commedia dell'arte, was based on performers improvising situations around well-known stock characters.

Unusual uses

Postmodern fiction frequently incorporates real characters into fictional and even realistic surroundings. In film, the appearance of a real person as himself inside of a fictional story is a type of cameo. For instance, Woody Allen's Annie Hall has Allen's character call in Marshall McLuhan to resolve a disagreement. A prominent example of this approach is Being John Malkovich, in which the actor John Malkovich plays the actor John Malkovich (though the real actor and the character have different middle names).

In some experimental fiction, the author acts as a character within his own text. One of the earliest examples of this is Niebla ("Fog") by Miguel de Unamuno (1907), in which the main character visits Unamuno in his office to discuss his fate in the novel. Paul Auster also employs this device in his novel City of Glass (1985), which opens with the main character getting a phone call for Paul Auster. At first the main character explains that the caller has reached a wrong number, but eventually he decides to pretend to be Auster and see where it leads him. In Immortality by Milan Kundera, the author references himself in a storyline seemingly separate from that of his fictional characters, but at the end of the novel, Kundera meets his own characters.

With the rise of the "star" system in Hollywood, many famous actors are so familiar that it can be hard to limit our reading of their character to a single film. In some sense, Bruce Lee is always Bruce Lee, Woody Allen is always Woody Allen, and Harrison Ford is always Harrison Ford; all often portray characters that are very alike, so audiences fuse the star persona with the characters they tend to play, a principle explored in the Arnold Schwarzenegger vehicle Last Action Hero.

Some fiction and drama make constant reference to a character who is never seen. This often becomes a sort of joke with the audience. This device is the centrepoint of one of the most unusual and original plays of the 20th century, Samuel Beckett's Waiting for Godot, in which Godot of the title never arrives.

Iconic fictional characters

Some fictional characters are so famous that they can be referenced easily outside of the work from which they came, often because they have come to symbolize some archetype or ideal.

Character / Description / Significance / Characters influenced

Alice / The young heroine of Alice's Adventures in Wonderland by Lewis Carroll / Symbolic of a naïve girl introduced into a strange, new world / Shadowcat in X-Men

Abraham Van Helsing / Vampire hunter in Bram Stoker's Dracula / The driven expert in and hunter of supernatural monsters and creatures, usually vampires / Buffy Summers

Arthur Dent / From Douglas Adams' Hitchhiker's Guide to the Galaxy novels. / The ultimate everyman. The unassuming ,ordinary person thrown into extraordinary situations. More reactive than proactive, they do not fit the classic hero mold in appearance or behaviour. Often smarter than they give themselves credit for, they survive insane situations by luck, ingenuity, and having a sense of humor. / Bridget Jones,Various characters played by Jackie Chan

Archie Bunker / Character in the sitcom All in the Family / His name has become a term for bigot, especially an older one who maintains outdated attitudes / Eric Cartman

Batman / DC Comics superhero created by Bob Kane and Bill Finger / Symbol of mystery and heroism driven by a dark obsession. / The Punisher

Big Brother / Iconic leader of the totalitarian state of Oceania in 1984 by George Orwell / Term describing any propaganda or symbol, people are made to love fervently without sense or reason; also used for any monitoring or supervision perceived as overly intrusive / Adam James Susan

Bugs Bunny / Carrot-chomping, Warner Bros. cartoon rabbit, known for the catch phrase “What’s Up Doc?” / Symbol of benign slyness and cunning / Babs and Buster Bunny

Charlie Brown / Child protagonist of the comic strip Peanuts by Charles M. Schulz / Prototypical lovable loser and chronic worrier / Arthur Dent

Captain America / Marvel comics World War II Superhero / The ultimate Super-Soldier at the peak of human physical and mental fitness. / Star Wars Clone Troopers

Captain Ahab / Sea captain from Moby Dick by Herman Melville, who is on a never-ending quest to kill the title whale / Often used to describe a person with a destructive, hate-driven and all-consuming quest / Khan Noonien Singh

Cigarette Smoking Man / Primary adversary of Fox Mulder and Dana Scully on The X-Files; member of a secret, malevolent shadow government in league with extraterrestrial invaders. / Symbolizes government corruption and secrecy, malevolent covert operations and shadow government, the paranoia surrounding mass government conspiracies to conceal truth about UFOs, political assassinations and so forth from the public. / Charles

Logan

Cinderella / Title character from an age-old rags-to-riches fariy tale / Term for anyone who rises from a meager, unhappy life into a more pleasant one; especially a woman who does so through a relationship with an elite man / Marisa in Maid in Manhattan

The Cleavers / The family depicted in the sitcom Leave it to Beaver. / Often used to describe a somewhat idealistic, harmonious, perfect American (typically suburban) family. / The Huxtables in The Cosby Show

Conan the Barbarian / The barbarian in Robert E. Howard's series about Conan the Cimmerian. / Noble Savage / He-Man

Cthulhu / Godlike monstrosity in H.P. Lovecraft's short story "The Call of Cthulhu" / Personification of cosmic forces beyond mankind's comprehension / Apocalypse in X men

Daleks / Hideously mutated yet ultra-racist aliens housed in metal shells, most prominent enemies of the Doctor in Doctor Who. Catchphrase - "Exterminate!", shouted in stilted, shrill electronic voice. / Have come to symbolize rampant, unchecked racism, fascism, authoritarianism and most especially Nazism; unthinking hatred of 'the Other' and the desire to purge and exterminate the different and unalike. / Rau Le Creuset

Darth Vader / Hero-turned-villain-turned-Hero, and right hand to the Emperor in George Lucas'Star Wars films; an adherent of the 'Dark Side of the Force' and ruthless galactic warlord. / The modern 'tragic hero' - a character, once a good person, who was corrupted and twisted into a ruthless embodiment of almost unstoppable evil and malevolence before finally being redeemed by love. / Sephiroth

Don Quixote / Title character from Miguel Cervantes' novel; believed he was a chivalric knight although he was actually a self-deluded buffoon / Symbol of dedication to achieving one's goals in spite of all obstacles, especially reality; source of adjective "quixotic"

Dr. Jekyll and Mr. Hyde / Title characters from the novel by Robert Louis Stevenson; due to a wayward experience the quiet scientist Jekyll would transform into the malicious Hyde / Refers to anyone particularly two-faced, especially with one bad and one good side / Incredible Hulk,Two Face

Doctor Who / Title character from the BBC Television show Doctor Who; a Time Lord who travels through time and space for the purposes of defeating evil / Symbolic of time-travelling characters. Also, the eccentric who triumphs over adversity through a combination of wit, superior knowledge, inspirational skill and good luck; the rootless, living-on-his-feet wanderer. A symbol of good-natured mystery and adventure. / MacGyver

Dracula / Title vampire from Bram Stoker's horror novel / Archetypal vampire, a metaphor for any person, thing or idea that is life or energy-draining / Nosferatu

Hamlet / Protagonist of William Shakespeare play of the same name / Symbol of any brooding, angry young man with a willingness to accost others; also used to symbolize indecisiveness / Shinn Asuka

Heathcliffe / Lover of Catherine in Emily Bronte's Wuthering Heights / The tortured and brooding gothic hero; the passionate and romantic man who's obsessive desire for the woman of his dreams destroys him and those around him. / Angel

Holden Caulfield / Protagonist of The Catcher in the Rye by JD Salinger / Symbol of troubled, cynical young people / Flay Allster

Homer Simpson / Character from the animated sitcom The Simpsons, created by Matt Groening / Often used to refer to an oafish American adult male / Peter Griffin

Huckleberry Finn / Runaway youth featured in several works by Mark Twain / Symbol of anyone with an exceedingly simple moral code, especially one that clashes with larger society

Indiana Jones / Globe-trotting archaeologist in a series of films by George Lucas and Steven Spielberg / Symbol of high adventure / Martin Mystery

Inspector Clouseau / Clumsy, inept detective in a series of Pink Panther films originally played by Peter Sellers, more recently played in remake by Steve Martin. / The bumbling detective who accomplishes things more by accident than design, yet is hailed as a genius by everyone except a long suffering superior. Sometimes unassuming, sometimes arrogant. Known for his dedication to duty. / Inspector Gadget, Inspector Zenigata from Lupin III anime

James Bond / Secret agent from a series of novels by Ian Fleming and a long-running series films / Used to describe anyone who is suave, charming, clever and attractive to women; the personification of espionage at its most romantic

Jim Anderson / The titular father in the 1950s radio, later TV sitcom Father Knows Best. Played by Robert Young / The name of the show is often referred to more than the character. Generally describes the idealistic father figure. Always strong and wise, gentle but firm when needed, rarely lost his temper. The hub of the traditional, conservative, typically White midwestern suburban family. / Charles Ingalls in Little House on the Prairie.

King Arthur / Legendary British king; maybe not entirely fictional / Epitome of righteousness, justice and virtue. / Harry Potter

Lolita / Nickname of the 12-year-old girl from Vladimir Nabokov's novel of the same name / Name for any young girl involved with an older man.

Macbeth / Title character from a William Shakespeare play of the same name / Symbolic of anyone undone by a drive for power / Patrick Zala

Merlin / Mentor of King Arthur / A mysterious and wise mentor or wizard / Gandalf, Obi Wan Kenobi, Albus Dumbledore

Ophelia / Character in the play Hamlet by William Shakespeare. One-time love interest of the title character; she who drowns, possibly by suicide / Term used to describe any troubled and mentally unstable young woman

Puck / Prankster from Shakespeare's play Midsummer Night's dream / Trickster figure

Prince Charming / Prince from the fairy tale Sleeping Beauty by Charles Perrault / Term for any handsome, charismatic, and ideal male suitor / Yuna Roma Saran

Robin Hood / Outlaw from British legend who "steals from the rich to give to the poor" / Archetypical “outlaw hero” who fights the wealthy and powerful for the sake of the poor and helpless. / Green Arrow

Romeo and Juliet / Title couple from William Shakespeare's play of the same name, lovers whose marriage is forbidden by a family rivalry. / Their names are used to describe any passionate pair of young lovers, especially one whose love is doomed or forbidden

Sauron / Primary antagonist in J.R.R Tolkien's The Lord of the Rings novels / A figure of unstoppable, omnipotent and almost pure evil / Lord Voldemort, Emperor Palpatine

Ebenezer Scrooge / Wealthy, ill-tempered old man from A Christmas Carol by Charles Dickens / Term used to describe anyone miserly and uncharitable / Scrooge McDuck

Sam Spade / 1930s private investigator in mystery novels written by Dashiell Hammett, including The Maltese Falcon. / The classic image of the trenchcoat-and-fedora clad 'gumshoe'; the depiction of the detective as a jaded, sarcastic and cynical investigator who nevertheless operates according to his own rigid code of honour and sense of 'tarnished idealism'. / Philip Marlowe, Lennie Briscoe, John Constantine, numerous detective story / film noir heroes.

Santa Claus / Jolly old, bearded figure delivering Christmas gifts to children / Figure representing love and kindness towards children; the true meaning of Christmas.

The Scarlet Pimpernel / Title character of novel by Baroness Orczy; seemingly foppish and idiotic English aristocrat who in reality is a courageous spy rescuing innocents from the Reign of Terror. / Has come to symbolize duel identity, the hero who is not what he / she seems; the seemingly bumbling, ineffectual fool who is, in truth, a dashing, well-admired hero. / Countless superheroes with secret identities; most notably Superman / Clark Kent

Sherlock Holmes / Consulting Detective from several stories and novels by Arthur Conan Doyle, most notably The Hound of the Baskervilles and The Adventures of Sherlock Holmes / Figure representing the power of observation, logic and reason, especially in the cause of justice or deductive analysis; symbol of a character devoted to logic and reason over passion and emotion. / Mr Spock, Dr. Gregory House

Spider-Man / Marvel Comics superhero created by Stan Lee / Superhero (frequently teenaged) who has to cope with the problems of everyday life while coping with a dual identity as a superhero. / Static Shock, Buffy Summers

Superman / DC Comics superhero created by Jerry Siegel and Joe Shuster / Archetypical superhero, modern messiah figure and a symbol of unstoppable good

Uncle Tom / Character in Uncle Tom's Cabin by Harriet Beecher Stowe, a black slave who is docile and obedient / Term for a person who is a disgrace to his or her race, especially African Americans who act in a stereotypical manner or act to please the "white establishment"

Victor Frankenstein / Creator of the Monster in Frankenstein; scientist who creates a man constructed from the flesh of the dead, over whom he eventually loses control. / Archetypical mad scientist; the scientist who's lust for power / knowledge and yearning to 'play God' leads to his / her defeat or ruin, usually through the construction of a terrible creature or weapon of his /her own devising.

Dr. Moreau / Dr. John Watson / Sidekick to Sherlock Holmes / The archetypical sidekick, especially for detective characters / Robin

Wile E. Coyote / Warner Bros. cartoon character who constantly tries and fails to kill the Road Runner . Symbol of dedication in the face of futility, or of incompetent malevolence inevitably defeated / Ralph Wolf

Wonder Woman / DC Comics superheroine / Personification of supreme feminine physical power and self-confidence. / Buffy the Vampire Slayer

Zorro / Dashing, black-clad pre-American Civil War era of stories by Johnston McCulley and several feature films. / The face of resistance during times of corruption; the champion of the common man against brutal oppressors.

Home

Animator

An **animator** is one who is involved in the process of animation. How this person actually creates animation depends on the field in which he or she works.

Some fields in which an animator may work:

- Motion pictures
- Television
- Video games
- The Internet

Among the specialized categorizations of animators are character animators (artists who specialize in character movement, dialogue, acting, etc.) and special effects animators (who animate anything that is not a character; most commonly vehicles, machinery, and natural phenomena such as rain, snow, and water).

Other artists who contribute to animated cartoons, but who are **not** animators, are layout artists (who design the backgrounds, lighting, and camera angles), storyboard artists (who draw panels of the action from the script), and background artists (who paint the "scenery").

Home

Anime

Anime (¢Ëá, ***Anime***[?]) is a medium of animation originating in Japan, with distinctive character and background aesthetics that visually set it apart from other forms of animation. While some anime is entirely hand-drawn, computer assisted animation techniques are quite common. Storylines are typically fictional; examples of anime representing most major genres of fiction exist. Anime is broadcast on television, distributed on media such as DVD and VHS, or included in computer and video games. Anime is influenced by Japanese comics known as manga. Some anime storylines have been adapted into live action films and television series.

History

Main article: History of anime

The **history of anime** begins at the start of the 20th century, when Japanese filmmakers experimented with the animation techniques that were being explored in France, Germany, United States and Russia. During the 1970s, anime developed further, separating itself from its roots, and developing unique genres such as mecha. In the 1980s, anime was accepted in the mainstream in Japan, and experienced a boom in production. The mid-to-late '90s, on into 2000, saw an increased acceptance of anime in overseas markets.

Terminology

The Japanese term for animation is ¢Ëáü·çó (*animshon*, pronounced: /QnimeÐfon/), written in katakana. It is a direct transliteration and re-borrowed loanword of the English term "animation", though there exists a theory that the word comes from the French *animé* (*animated*, "ah nee MAY") or "les dessins animés" (animated drawings). The Japanese term is abbreviated as ¢Ëá (*anime*, pronounced: /Qnime/). Both the original and abbreviated forms are valid and interchangeable in Japanese, but as could be expected the abbreviated form is more commonly used.

As with a few other Japanese words such as Pokémon and Kobo Abé, anime is sometimes spelled as animé in English with an acute accent over the final *e* to cue the reader that the letter is pronounced as [e].

In Japan, the term is a broad one, and does not specify an animation's nation of origin or style. In English speaking countries the word is used usually only to refer to animated programming of Japanese origin. However, Some non-Japanese works are erroneously called anime if they borrow stylistically from the medium.

Syntax and morphology

Anime can be used as a common noun, *"Do you watch anime?"* or as a suppletive adjective, *"The anime Guyver is different from the movie Guyver."* It may also be used as a mass noun, as in *"How much anime have you collected?"* and therefore is never pluralized "animes" (nouns are never pluralized in Japanese). However, in other languages where *anime* has been adopted as a loan word, it is sometimes used as a count noun in singular and in plural as in

Danish *"Jeg tror, jeg vil se en anime*" (*"I think I'll watch an anime"*) and *Hvor mange anime'er har du nu?"* (*"How many anime do you have now?"*).

Synonyms

Anime is sometimes referred to by the portmanteau **Japanimation**, but this term has fallen into disuse. **Japanimation** saw the most usage during the 1970s and 1980s, which broadly comprise the first and second waves of anime fandom, and had continued use up until before the mid-1990s anime resurgence. In general, the term now only appears in nostalgic contexts. The term is much more commonly used within Japan to refer to domestic animation. Since *anime* or *animshon* is used to describe all forms of animation, *Japanimation* is used to distinguish Japanese work from that of the rest of the world.

In more recent years, anime has also frequently been referred to as *manga* in European countries, a practice that may stem from the Japanese usage: In Japan, *manga* can refer to both animation and comics (although the use of *manga* to refer to animation is mostly restricted to non-fans). Among English speakers, *manga* usually has the stricter meaning of "Japanese comics". An alternate explanation is that it is due to the prominence of Manga Entertainment, a distributor of anime to the US and UK markets. Because Manga Entertainment originated in the UK the use of the term is common outside of Japan.

Characteristics

Anime features a wide variety of artistic styles which vary from artist to artist and is characterized by stark, colorful graphics and stylized, colorful images depicting vibrant characters in a variety of different settings and storylines, aimed at a wide range of audiences.

Genres

Anime has many genres, with as many as traditional, live action cinema. Such genres include action, adventure, children's stories, comedy, drama, erotica (hentai), medieval fantasy, occult/horror, romance, and science fiction.

Most anime includes content from several different genres, as well as a variety of thematic elements. This can make categorizing some titles very difficult. A show may have a seemingly simple surface plot, but at the same time may feature a far more complex, deeper storyline and character development. It is not uncommon for a strongly action themed anime to also involve humor, romance, and even poignant social commentary. The same can be applied to a romance themed anime in that it may involve a strong action element.

Genres and designations that are specific to anime and manga:

- Bishojo: Japanese for 'beautiful girl', blanket term that can be used to describe any anime that features pretty girl characters, for example *Magic Knight Rayearth*
- Bishonen: Japanese for 'beautiful boy' blanket term that can be used to describe any anime that features "pretty" and elegant boys and men, for example *Fushigi Ykgi*

- Ecchi: Derived from the pronunciation of the letter 'H'. Japanese for 'indecent sexuality'. Contains mild sexual humor, for example *Love Hina*.
- Hentai: Japanese for 'abnormal' or 'perverted', and used by Western Audiences to refer to pornographic anime or erotica. However, in Japan the term used to refer to the same material is typically *Poruno* or *Ero*. Example: La Blue Girl.
- Josei: Japanese for 'young woman', this is anime or manga that is aimed at young women, and is one of the rarest forms. Example: *NANA*.
- Kodomo: Japanese for 'child', this is anime or manga that is aimed at young children, for example *Doraemon*.
- Mecha: Anime or manga featuring giant robots, example *Mobile Suit Gundam*.
- Moé: Anime or manga featuring characters that are extremely perky or cute, for example *Little Snow Fairy Sugar*.
- Progressive: "Art films" or extremely stylized anime, for example *Voices of a Distant Star*.
- Seinen: Anime or manga similar to Shonen, but targeted at teenage or young male adults, for example *Oh My Goddess!*.
- Sentai/Super Sentai: Literally "fighting team" in Japanese, refers to any show that involves a superhero team, for example *Cyborg 009*.
- Shojo: Japanese for 'young lady' or 'little girl', refers to anime or manga targeted at girls, for example *Fruits Basket*.
    - Maho shojo: Subgenre of shojo known for 'Magical Girl' stories, for example *Sailor Moon*.
- Shojo-ai/yuri: Japanese for 'girl-love', refers to anime or manga that focus on love and romance between female characters, for example *Revolutionary Girl Utena*.
- Shonen: Japanese for 'boys', refers to anime or manga targeted at boys, for example *Dragon Ball Z*.
    - Maho shonen: Male equivalent of Maho Shojo, for example *DNAngel*.
- Shonen-ai/yaoi: Japanese for 'boy-love', refers to anime or manga that focus on love and romance between male characters. This term is being phased out in Japan due to references to pedophilia, and is being replaced by the term "Boys Love" (BL). An example of this style is *Gravitation*.

Some anime titles are written for a very specific audience, even narrower than those described above. For example, Initial D and éX-Driver concern street racing and car tuning. Ashita No Joe is about boxing. Hanaukyo Maid Team is based on the French maid fantasy.

Recently, the *National Child Exploitation Coordination Centre of Canada* had incorrectly classified all anime as "hentai", giving an improper impression of the content of most anime and manga series. Complaints about the article's content and improper citations caused the NCECC to revise the citations but not the content.

Music

Anime uses music as an important artistic tool. Anime soundtracks are big business in Japan, and are often times met with similar demand as chart topping pop albums. It is for this reason that anime music is often composed and performed by 'A-list' musicians, stars, and composers. Skilled BGM (background music) composers are highly respected in the anime fan community. Anime series with opening credits use the opening theme song as a quick introduction to the show. The most frequent use of music in Anime is background music or BGM. BGM is used to set the tone of a given scene, for example Neon Genesis Evangelion 's "Decisive Battle" is played when the characters are making battle preparations and it features heavy drum beats and a militaristic style which highlights the tension of the scene and hints at the action to follow.

The theme song (also referred to as the Opening song or abbreviated as OP) usually matches the overall tone of the show, and serves to get the viewer excited about the upcoming program. Insert songs and ending songs (abbreviated ED) often make commentary about the plot or the program as a whole, and are often times used to highlight a particularly important scene. Opening and ending themes, as well as insert songs, are frequently performed by popular musicians or Japanese idols, so in this way, songs become a very important component of an anime program. In addition to the themes, the seiyk for a specific anime also frequently releases CD for their character, called Image Albums. Despite the word "image" in the CD's name, it only contains music and/or "voice messages" (where the seiyk talks with the audience or about herself), making the listener think that the character him/herself is singing. Another type of Anime CDs release are Drama CD, featuring songs and tracks which makes use of the seiyk to tell a story, often not included in the main anime.

Animation process

Techniques

The drawing style used in anime that is created for television is counter productive to the animation process. The anime style has an emphasis on detail that subsequently creates difficultly with meeting production schedules and budgets, which is in contrast to animation styles that have design ethics that stress simplicity. Thus, the anime style has a philosophy of applying more effort into each of a few drawings than less effort into one of many.

Osamu Tezuka adapted and simplified many Disney animation precepts to reduce the budget costs and number of frames in the production. This was intended to be a temporary measure to allow him to produce one episode every week with an inexperienced animation staff. Some animators in Japan overcome production budgets by utilizing different techniques than the Disney or the old Tezuka/Otsuka methods of animating anime. Due to reduced frame rate, several still shots and scrolling backgrounds, scenes are created with a greater focus on quality than the rest of the production. Animator Yasuo Ltsuka was a pioneer of this technique. Directors such as Hiroyuki Imaishi (Cutey Honey, Dead Leaves) simplify backgrounds so that more attention can be paid to character animation. Other

animators like Tatsuyuki Tanaka (in Koji Minamoto's Eternal Family in particular) use squash and stretch, an animation technique not often used by Japanese animators; Tanaka makes other shortcuts to compensate for this. Anime studios use techniques to draw as little new animation as possible such as using dialogue that involves only animating mouths while the rest of the screen remains absolutely unchanged, a technique familiar to Western animation styles.

ome higher-budgeted television and OVA (Original Video Animation) series also forego the shortcuts found in most other anime. Classic films, such as those produced by Toei Animation up until the mid 1960s, and recent big budget films, such as those produced by the enormously successful Studio Ghibli have much higher production budgets, due to their anticipated success at the box office.

Another unique aspect of anime not found in other commercial animation markets is the lack of a directorial system. Animation productions tend to keep to a set style by the director or animation director. In Japan starting with the animation director Yoshinori Kanada (as a means to save time and money) allowed each animator to bring their own individual style to the work. An example of this is the The Hakkenden that showed constantly shifting styles of animation from episode to episode, based upon the key animator that worked on that particular episode.

Many non-Japanese cartoons are starting to incorporate mainstream anime shortcuts and symbols in an attempt to appeal to the sizable anime fanbase in many countries, to cut costs, as an effort to be viewed more like art, and sometimes simply because of creators' own interest in anime.

Style

While different titles and different artists have their own unique artistic styles, many stylistic elements have become common to the point that they are described as being definitive of anime in general, and have been given names of their own. A common style is the large eyes style drawn on many anime characters, credited to the influence of Osamu Tezuka, who was inspired by the exaggerated features of American cartoon characters such as Betty Boop and Mickey Mouse and from Disney's Bambi. Tezuka found that large eyes style allowed his characters to show emotions expressions distinctly. Cultural anthropologist Matt Thorn argues that Japanese animators and audiences do not perceive such stylized eyes as inherently more or less foreign. [1] When Tezuka began drawing Ribbon no Kishi, the first manga specifically targeted at young girls, Tezuka further exaggerated the size of the characters' eyes. Indeed, through Ribbon no Kishi, Tezuka set a stylistic template that later shojo artists tended to follow. Another variation of this style is "chibi" or "super deformed"; which usually feature huge eyes, an enlarged head, and small body.

Other stylistic elements are common as well; often in comedic anime, characters that are shocked or surprised will perform a "face fault", in which they display an extremely exaggerated expression. Angry characters may exhibit a "vein" or "stressmark" effect, where lines representing bulging veins will appear on their forehead. Angry women will sometimes summon a mallet from nowhere and strike someone with it, leading to the concept of Hammerspace. Male characters will develop a bloody nose around their female love interests

(typically to indicate arousal, based on an old wives tale).[2] Embarrassed characters will invariably produce a massive sweat-drop, which has become something of a stereotype of anime.

The degree of stylization varies from title to title. Some titles make extensive use of common stylization: FLCL, for example, is known for its wild, exaggerated, stylization. In contrast, titles such as Only Yesterday, a film by Isao Takahata, take a much more realistic approach, and feature no stylistic exaggerations.

Companies

Anime is produced by Anime companies. It is common for several companies to collaborate on different aspects of an anime to produce the finished product. Profits are gained by television and box office release and also by retail release, commonly through the sale of DVDs. Merchandise is also a source of substantial income.

Production types of anime

Most anime can be categorized as one of three types:

- **Films**, which are generally released in theaters, represent the highest budgets and generally the highest video quality. Anime movies that have broken profit earning records include Akira, Ghost in the Shell, and Spirited Away. Some anime films are only released at film or animation festivals and are shorter and sometimes lower in production values. Some examples of these are Winter Days, and Osamu Tezuka's Legend of the Forest. Other types of films include compilation movies, which are television episodes edited together and presented in theaters for various reasons, and are hence a concentrated form of a television serial. These may, however, be longer than the average movie. There are also theatrical shorts derived from existing televisions series and billed in Japanese theaters together to form feature-length showing.
- **Television series** anime is syndicated and broadcast on television on a regular schedule. Television series are generally low quality compared to OVA (Original Video Animation) and film titles, because the production budget is spread out over many episodes rather than a single film or a short series. Most episodes are about 23 minutes in length, to fill a typical thirty-minute time slot with added commercials. One full season is 26 episodes, and many titles run half seasons, or 13 episodes. Most TV series anime episodes will have opening credits, closing credits, and often an "eyecatch", a very short scene, often humorous or silly, that is used to signal the start or end of the commercial break (as "bumpers" in the United States are used in a similar fashion). "Eyecatch" scenes are often found in TV series anime and are generally similar throughout the series. The ending credits are often followed by a preview of the next episode. Some anime television shows are as follows; Inuyasha, Gundam Seed, Zatch Bell, Saint Seiya, and Sailor Moon.

- **OVA** (**Original Video Animation**; sometimes **OAV**, or **Original Animated Video**) anime is often similar to a television miniseries. OVAs can be any number of episodes in length; one-shots are particularly short, usually less than film-length. They are most commonly released directly to video. As a general rule OVA anime tends to be of high quality, approaching that of films. Titles often have a very regular, continuous plot best enjoyed if all episodes are viewed in sequence. Opening credits, closing credits, and eyecatches may sometimes be found in OVA releases, but not universally.

Franchising

It is common for one title to spawn several different releases. A title that starts as a popular television series may have a movie adapted from it at a later date. An example is *Tenchi Muyo!* Originally an OVA, it spawned three movies, three television series, and several spin-off titles and specials. Not all successors to an anime are a sequel to the original story. Prequels and alternate stories are commonly adapted from the original.

Western distribution

Commercial appeal

Character and plot development can be important attributes to anime series. While there are episodic series, many anime have plots that advance and have characters that mature with the progression of the series. The different approaches to storytelling which many anime employ caught the interest of some people, which allowed anime to develop a fanbase outside of Japan. Anime has become commercially profitable in western countries as early commercially successful western adaptions of anime, such as *Astro Boy*, have revealed.[3]

Licensing

Anime is available outside of Japan in localized form. Licensed anime is modified by distributors through dubbing into the language of the country. The anime may also be edited to alter cultural references that may not be understood by a non-Japanese person and certain companies may remove what may be perceived as objectionable content. This process was far more common in the past, when anime was largely unheard of in the west, but its use has declined on recent years because of the demand for anime in its original form. This "light touch" approach to localaization has proved popular with fans as well as viewers formerly unfamiliar. The popularity of such methods is evident by the success of Naruto and Cartoon Network's Adult Swim programming block, both of which employ minor edits. The "light touch" approach also applies to DVD releases as they often include both the dubbed audio and the original Japanese audio with subtitles, are typically unedited, and lack commercials. Anime editied for television may be released on DVD "uncut" (e.g. Blue Gender).

Fansubs

Although it is a violation of copyright laws in many countries, some fans watch fansubs, recordings of anime series that have been subtitled by fans. Watching subtitled Japanese versions, though not necessarily downloaded fansubs, is seen by many enthusiasts as the prefered method of watching anime. The ethical implications of producing, distributing, or watching fansubs are topics of much controversy even when fansub groups do not profit from their activities or cease distribution of their work once the series has been licensed outside of Japan.

References

1. ^ *Do Manga Characters Look "White"?. Retrieved on December 5, 2005.*
2. ^ The concept of a bloody nose is supposedly due to blood rushing to the face in an exaggerated blush. This is especially common in the popular anime *Naruto*, and sometimes even has characters getting propelled up into the air by a fountain of blood (such as when Naruto uses his sexy no jutsu, in which he changes into a sexy naked blonde girl in front of male characters).
3. ^ *Progress Against the Law: Fan Distribution, Copyright, and the Explosive Growth of Japanese Animation. Retrieved on 1 May 2006.*

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History of anime

The **history of anime** begins at the start of the 20th century, when Japanese filmmakers experimented with the animation techniques that were being explored in the West. Though filmmakers in Japan experimented with animation earlier, the first widely popular anime series was Osamu Tezuka's Astro Boy (1963). During the 1970s, anime developed further, separating itself from its Western roots, and developing unique genres such as mecha. Notable shows in this period include Lupin III and Mazinger Z. During this period several filmmakers became famous, especially Hayao Miyazaki and Mamoru Oshii.

In the 1980s, anime was accepted in the mainstream in Japan, and experienced a boom in production. The start of the Gundam franchise, and the beginnings of Rumiko Takahashi's career began in this decade. Akira set records in 1988 for the production costs of an anime.

The 1990s and 2000s saw an increased acceptance of anime in overseas markets. Akira and Ghost in the Shell (1995) became famous worldwide. The series Dragon Ball Z became a worldwide success. Other series like Neon Genesis Evangelion and Cowboy Bebop were popular in Japan and attracted attention from the West. Spirited Away shared the first prize at the 2002 Berlin Film Festival and won the Academy Award for Best Animated Feature in 2003, and Innocence: Ghost in the Shell was featured at the 2004 Cannes Film Festival.

The earliest known anime (discovered in 2005) was produced circa 1907 and consists of fifty frames drawn directly onto a strip of celluloid. The untitled short depicts a young boy writing the Chinese characters for "moving picture"(;), then turning towards the viewer, removing his hat, and offering a salute. The creator's identity is unknown.

The First Generation of Japanese Animators

Sadly very few complete animations made during this time have survived until now. The reasons vary, but they are mostly commercial. After they had their big time, reels (being property of the cinemas) were sold to smaller cinemas in the country and then disassembled and sold as strips or single frames.

Shimokawa Oten: A political caricaturist and cartoonist, who worked for the magazine Tokyo Puck. He was hired by Tenkatsu to do an animation for them. Due to medical reasons, he only was able to do five movies, including Imokawa Mukuzo - Genkanban no maki, before he returned to his previous work as a cartoonist.

Kouchi Jun'ichi: A caricaturist and painter, who also had studied watercolor painting. 1912 he also entered the cartoonist sector and was hired for an animation by Kobayashi Shokai later in 1916. He is viewed as the technically most advanced Japanese animator in the 1910s. His works include around 15 movies.

Kitayama Seitaro: Unlike the other pioneers of his era, Kitayama made animations on his own, not being commissioned by larger corporations. He even founded his own animaton studio Kitayama Eiga Seisakujo (which was closed due to lack of commercial success). His animation technique was the chalkboard animation and, later, paper animation (with and without preprinted backgrounds).

The Second Generation of Japanese Animators

Murato Yosuji, Kimura Hakuzan, Yamamoto Sanae and Ofuji Noboro were students of Kitayama Seitaro and worked at his film studio. Masaoka Kenzo, another important animator, worked at a smaller animation studio. In 1923, the Great Kanto earthquake destroyed most of Kitayama studio and the residing animators spread out and founded studios of their own, knowing that one could make money with the production of animations.

During this time, the first youth protection laws were adopted, which also lead to censorship of some early animations for children under the age of 15. On the other hand, films that offered educational value were supported and encouraged by the Monbusho (the

Ministry of Education). Hundreds of thousands of yen were spent for this purpose. Animation had found a persistent place in scholastic, political and industrial use, which lead to high demand of new content.

During the War

In the 1930s the Japanese government began enforcing cultural nationalism. This also lead to a strict censorship and control of published media. Many animators were urged to produce animations which enforced the Japanese spirit and national affiliation. The movies were shown in NEWS-Cinemas as an opinion-forming limbering filler and were very famous, in fact (after Japan had its own support of movie material through the newly-founded Fujifilm) News-Cinemas boomed and together with it the animation industry reached a peak in officially shown movies. At that time many small studios were closed or fused to bigger studios until only three big studios remained on the broad market.

Disney had a strong influence on the animators at that time, but due to commercial issues Japanese animations at that time didn't have a high production standard, but were rather pale imitations of Disney productions (repeating scenes and gags, afterrecording of sound and so on). Disney also used sound film very early but that was too expensive for most Japanese studios until the mid 30s.

Until the 30s the Japanese movie industry was dominated by the cinemas, who commissioned animations from small studios or single animators. Due to the fusing and enlarging of animation studios bigger projects were possible, but the necessary money didn't come from the Monbusho or a big cinema combine. Many animations were instead commissioned by the military, showing the sly, quick Japanese people (often depicted as monkeys) winning against enemy forces.

In 1942 Momotaro no Umiwashi (C*Înwò, Momotaro's Sea Eagles) by Geijutsu Eigasha, all together 37 minutes in length, became the longest and technically most advanced eastern animation to date. It showed the story of a navy unit, which consisted of the human Momotaro and several animal species representing the far eastern races fighting together for a common goal. At the time this movie was the third longest animated movie with only Disney's Snow White and Fleischer's Gulliver's Travels being longer. Three years later (April 12, 1945) Shouchiku Douga Kenkyuusho produced the 74-minute-long animation Momotaro - Umi no Shinpei (C*Îwn^u, Momotaro's Divine Sea Warriors). This film is considered the first feature length Japanese animation.

Toei Animation and Mushi Productions

In 1948, Toei Animation was founded and produced the first color anime feature film in 1956, Hakujaden (The Tale of the White Serpent, 1958). This film was more Disney in tone than modern anime with musical numbers and animal sidekicks. It was released in the US as Panda and the Magic Serpent. Throughout the 1960s and into the early 1970s Toei continued to release these Disney-like films and eventually also produced two of the most well known anime series, Dragon Ball 1986 and Sailor Moon 1992.

Toei's style was also characterized by an emphasis on each animator bringing his own ideas to the production. The most extreme example of this is Isao Takahata's film Hols: Prince of the Sun (1968). *Hols* is often seen as the first major break from the normal anime style and the beginning of a later movement of "auteuristic" or "progressive anime" which would eventually involve directors such as Hayao Miyazaki and Mamoru Oshii.

A major contribution of Toei's style to modern anime was the development of the "money shot". This cost-cutting method of animation allows for emphasis to be placed on important shots by animating them with more detail than the rest of the work (which would often be limited animation). Toei animator Yasuo Ltsuka began to experiment with this style and developed it further as he went into television.

Osamu Tezuka started a rival production company called Mushi Productions. The studio's first hit Mighty Atom became the first popular anime television series in 1963. Contrary to popular belief, Atom was not the first anime series broadcast in Japan; that honor falls to Manga Calendar, which began broadcasting in 1962. However, Atom was the first series to feature regular characters in an ongoing plot. American television, which was still in its infancy and searching for new programming, rewrote and adapted Atom for the United States in 1964, retitled as Astro Boy. The success of Atom in Japan opened the doors for many more anime titles to be created, including Mitsuteru Yokoyama's Tetsujin 28-go (later released in the U.S. as Gigantor), Tezuka's Jungle Emperor (later released in the U.S. as Kimba the White Lion) and Tatsuo Yoshida's Mach Go Go Go (later released in the U.S. as Speed Racer), which was produced by Tatsunoko Production Co., Ltd.

By the late 1960s anime began to branch out into new areas. Tezuka began this branching out with several experimental, adult-oriented films known as the Animerama films. The three films are 1001 Nights (1969), Cleopatra (1970), and Belladonna of Sadness (1973). Belladonna is the most experimental of the three, providing an inspiration for Revolutionary Girl Utena (1997). In addition the first adult oriented TV show Lupin III (1971) was broadcast at this time.

The 70s

During the 1970s, the Japanese film market fell apart due to competition from television. Toei slowly got out of the production of lavish Disneyesque musicals and focused mainly on producing TV series. Also, Mushi Productions went bankrupt spreading many animators into new studios such as Madhouse Production and Sunrise. As a result of these two events, many young animators were thrust into the position of director before they would have been promoted to it. This injection of young talent allowed for a wide variety of experimentation.

An example of this experimentation is with Isao Takahata's 1974 television series Heidi. This show was originally a hard sell because it was a simple realistic drama aimed at children. Most TV networks thought the TV show wouldn't be successful because children needed something more fantastic to draw them in. "Heidi" wound up being an international success being picked up in many European countries and becoming popular there. In Japan it was so successful that it allowed for Miyazaki and Takahata to start up a series of literary based anime called World Masterpiece Theatre. Even though Miyazaki and Takahata left in the late 1970s, this series lasted until the mid-1990s.

Another genre known as mecha came into being at this time. Some early works include Mazinger Z (1972-74), Science Ninja Team Gatchaman (1972-74), Space Battleship Yamato (1974-75) and Mobile Suit Gundam (1979-80). These titles showed a progression in the science fiction genre in anime, as shows shifted from more superhero-oriented, fantastical plots to somewhat more realistic space operas with increasingly complex plots and fuzzier definitions of right and wrong. One famous example would be that of Char Aznable from Mobile Suit Gundam who changed from antagonist in the original series to tenuous ally in the sequel series, Zeta Gundam and back to the villain for the movie Char's Counterattack.

The 80s

This shift towards space operas became more pronounced in the late 1970s due to the commercial success of Star Wars. This allowed for the early space opera "Space Battleship Yamato" to be revived in a theatrical version. This theatrical version of Yamato is seen as the basis of the anime boom of the 1980s, referred to as the Golden Age of Anime.

Two events happened at the time of this shift from superhero Giant Robots to elaborate Space Operas. A subculture in Japan (who later called themselves Otaku) began to develop around animation magazines such as Animage or later Newtype. These magazines popped up in response to the overwhelming fandom that developed around shows such as Yamato in the late 1970s.

In addition a major component of anime from a technical perspective developed with Yoshinori Kanada an animation director (who worked on Yamato) who allowed individual key animators working under him to put their own style of movement as a means to save money. In many more "auteuristic" anime this formed the basis of an individualist animation style that is unique to Japan (in commercial animation). In addition, Kanada's animation was inspiration for Takashi Murakami and his Superflat art movement.

In the United States the popularity of Star Wars had a similar, but much smaller, effect on the development of anime. Gatchaman was reworked and edited into Battle of the Planets in 1978 and again as G-Force in 1986. Space Battleship Yamato was reworked and edited into Star Blazers in 1979 and finally, and perhaps most infamously, Robotech (1985) was created from three anime titles, The Super Dimension Fortress Macross, Super Dimension Cavalry Southern Cross and Genesis Climber Mospeada. The first organized American "otaku" developed as fans of these series.

The Otaku culture became more pronounced with Mamoru Oshii's adaptation of Rumiko Takahashi's popular manga Urusei Yatsura 1982. Yatsura would allow Takahashi to become a household name in anime despite her humble origins as a doujinshi artist. As for Oshii he would begin to break away from fan culture and take a more auteuristic approach with his 1984 film Urusei Yatsura 2: Beautiful Dreamer. This break with the otaku culture would allow Oshii to experiment much further later in his career.

The otaku subculture had some effect on people who were entering the industry around this time. The most famous of these people were the amateur production group Daicon Films which would become Studio Gainax. Gainax began by making films for the Daicon Scifi conventions and were so popular in the otaku community that they were given a chance to helm the biggest budgeted (to that point) anime film, Royal Space Force: The Wings of Honneamise (1987).

One of the most influential anime of all time, Nausicaä of the Valley of the Wind (1984), was made during this time period. The film gave extra prestige to anime allowing for many experimental and ambitious projects to be funded shortly after its release. It also allowed for its director Hayao Miyazaki and his long time colleague Isao Takahata the ability to set up their own studio under the supervision of former Animage editor Toshio Suzuki. This studio would become known as Studio Ghibli and its first film was Castle in the Sky (1986).

Around the same time as *Nausicaa* a new medium was developed for anime the OVA. These OVAs were direct-to-home-video series and or movies that catered to much smaller niche audiences. The first OVA was *Moon Base Dallos'* (1983-1984) directed by Mamoru Oshii. Dallos was a flop, but Megazone 23 (1985) was the first real success in this market. Shows such as *Patlabor* had their beginnings in this market and it proved to be a way to test less marketable animation against audiences.

The OVA was also responsible for allowing the first full-blown anime pornography with OVA's such as *Cream Lemon* (1984). (see also hentai).

The late 1980s, following the release of *Nausicaa*, saw an increasing number of high budget and/or experimental films. In 1985 Toshio Suzuki helped put together funding for Oshii's experimental film Angel's Egg (1985). The OVA market allowed for short experimental pieces such as Take the X Train, Neo-Tokyo, and Robot Carnival(all three 1987).

Theatrical releases became more ambitious each film trying to outclass or out spend the other film all taking cues from Nausicaa's popular and critical success. Night on the Galactic Railroad (1985), Tale of Genji (1986), and Grave of the Fireflies (1987) were all ambitious films based on important literary works in Japan. Films such as Char's Counterattack 1988 and Arion (1986) were lavishly budgeted spectacles. This period of lavish budgeting and experimentation would reach its zenith with two of the most expensive anime film productions ever: Royal Space Force: The Wings of Honneamise (1987) and Akira (1988).

Most of these films didn't make back the costs to produce them. Neither *Akira* nor *Royal Space Force: The Wings of Honneamise* were box office successes in Japan. As a result large numbers of anime studios closed down, and many of experimental productions began to be favored less over "tried and true" formulas. Only Studio Ghibli was to survive a winner of the many ambitious productions of the late 1980s with its film Kiki's Delivery Service (1989) being the top grossing film for that year earning over $40 million at the box office.

Despite the failure of *Akira* in Japan, it brought with it a much larger international fan base for anime. When shown overseas the film was a cult hit that would eventually become a symbol of the medium for the West. The domestic failure and international success of *Akira*, combined with the bursting of the bubble economy and Osamu Tezuka's death in 1989, brought a close to the era.

The 90s to the present

After this boom some people perceived a decline in overall quality of anime. Budgets fell and many ambitious projects weren't funded. There was a brief renaissance after the success of Hideaki Anno's Neon Genesis Evangelion (1995) but things still aren't going very well in the Japanese market. Most of the attention and consequently the more ambitious projects are being aimed for the West. Starting in 1995 with Macross Plus, Memories, and most

famously Ghost in the Shell (1995), there was a rush to get a prestigious large budget anime film to US audiences. *Memories* was unable to be released even though it was intended for international audiences because the license holder in Japan wanted too much money for the American distribution rights.

In 1995, Hideaki Anno directed and wrote what is probably the most controversial anime show ever written, Neon Genesis Evangelion. This show became popular in Japan among anime fans and became known to the general public through mainstream media attention. It is believed that Anno originally wanted the show to be the ultimate otaku anime designed to revive the failing anime industry, but midway through production he also made it into a heavy critique of the culture eventually culminating in the controversial, but quite successful (it grossed over $10 million) film The End of Evangelion (1997). Anno would eventually get so fed up with the anime industry that he'd go on to produce live action films.

Many scenes in the Evangelion TV show were so controversial that it forced TV Tokyo to clamp down on censorship of violence and sexuality in anime. As a result when Cowboy Bebop (1998) was first broadcast it was shown heavily edited and only half the episodes were aired. The censorship crackdown has relaxed a bit, but Evangelion had a major effect on the television anime industry as a whole.

In addition Evangelion started up a series of so-called "post-Evangelion" shows. Most of these were giant robot shows with some kind of religious or difficult plot. These include RahXephon, Brain Powerd, and Gasaraki. Another series of these are late night experimental TV shows. Starting with Serial Experiments Lain (1998) late night Japanese television became a forum for experimental anime with other shows following it such as Boogiepop Phantom (2000), Texhnolyze (2003) and Paranoia Agent (2004).

An art movement started by Takashi Murakami that combined Japanese pop-culture with postmodern art called Superflat came began around this time. Murakami asserts that the movement is an analysis of post-war Japanese culture through the eyes of the otaku subculture. His desire is also to get rid of the categories of 'high' and 'low' art making a flat continuum, hence the term 'superflat'. His art exhibitions are very popular and have an influence on some anime creators particularly those from Studio 4°C.

In contrast to these experimental trends the same time period has also been characterized by a trend towards extreme emphasis on otaku subculture. Many shows are currently being shown on late night television that are often based on h-games and are made solely for a die hard otaku audience. Examples of works in this genre of often fanservice heavy series includes Green Green (2003), Mahoromatic (2001), and Hand Maid May (2003). These shows have been criticized by some critics as being sexist (with many idealized depictions of submissive women) and destroying the artistic vitality of the anime industry due to relying on fan desires over any kind of artistic advancement. At the same time some these shows have turned out to be very profitable in Japan.

The 90's also saw the rise of Pokémon, which some could call one of the most successful anime ever created. The popular video game series spawned a television show lasting several seasons, a Broadway production, several movies, a trading card game, toys, and much more.

The late 1990s and 2000s also saw the increased acceptance of anime in overseas markets. Cowboy Bebop was widely popular in Japan and attracted attention in the West. Miyazaki's Spirited Away shared the first prize at the 2002 Berlin Film Festival and won the

Academy Award for Best Animated Feature in 2003, and Oshii's Innocence: Ghost in the Shell was featured at the 2004 Cannes Film Festival.

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Harem anime

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A **harem comedy** is a term for an anime or manga story wherein one male character is surrounded by — often living with — several female characters. The term is a creation of Western fans, the Japanese simply calling such shows *lovecomi* (love comedies), although the concept is well known to Japanese fans as well. It describes a situation where a lead male of a 'generic' quality cohabits with many pretty girls, who through the course of a storyline show varying degrees of affection towards him. In many cases, such series are adaptations of dating simulation games, or designed to appeal to a similar audience, especially seinen publications.

The original use of the term arguably began in the U.S. with the success of Tenchi Muyo!, and since then has typically had negative or satirical connotations. The discontent usually stems from several tropes used, such as accusations that male leads are blatant audience surrogates (or self inserts) who would never attract any sort of attention from women. More generally, many fans feel the premise itself is overused and typically fallen back upon when writers run out of ideas or are reluctant to pursue a romantic decision that may upset fans.

Design and criticism

The prototypical harem anime features a number of characters, usually with a minimum of one boy and three or more girls whose personalities are often stock characters popular in moé fandom. The term does not necessarily imply sexual connotations. Most members of the "harem" have some level of emotional attachment to the lead, ranging from romantic interest to casual friend to a sibling figure. Overall many casts are depicted as a family/friend unit and the seriousness of romantic entanglement can vary considerably.

Fandom sometimes complains that most females in harem comedies tend to be -- or at least, have become -- stock characters with little or no originality to their designs. Many harem comedies build tension on humorous misunderstandings, typically with female characters lashing out emotionally for no good reason, causing some fans to complain that this humor is at best repetitive and at worst sexist and violent. Most also have a remarkable lack of male characters besides the lead, which is explained by the author either wishing to control the size of an already large cast, or having no particular desire to design other male characters the (male) fandom will not be interested in. Many shojo works have equivalents to harems, but shonen and seinen are perceived as more overtly sexualized than shojo.

Some fans argue that the various girls create a better chance that for audience members to find a girl appealing to their tastes, and the male character is someone they can directly relate to in a humorous fashion. Also, the lead's interest is often concentrated on one particular girl, thus negating the "harem" accusation" - unless the writers have decided to keep their options open. This may happen if writers wish to assess a female character's popularity with fandom before advancing the plot.

Male characters

Male characters are few and usually invoked only when necessary, but harem series are generally believed to need at least one audience surrogate. The **Male Lead** is usually at least of high school age. His parents and family are either very tolerant of his situation or not present at all (he has moved out, parents have died, etc.). Typically wishy-washy Everyman characters, occasionally the personality of a "delinquent with a heart of gold" is a alternative option. Thrust into compromising situations, his responses are restrained by varying degrees of "loser" attributes. This can include simple bad luck, extreme shyness and awkwardness with girls in general, or being a complete nerd. Leads may have female friends on occasion, but in a strictly Platonic fashion. They also bear the brunt of any of a series's humor, including the physical.

Other optional males include the **Rival**, a polar opposite of the lead who is designed for the audience to dislike, or the lead's non-descript friends, who serve as an envious peanut

gallery oblivious to his troubles. Another option is a capable, older male who the lead looks up to and wishes to emulate.

Female characters

This list is intended to give common examples found in harem series, but in many stories these traits are mixed or fused.

- The **Lead Girl** is a prominent female character implied to have the "best chance" of ending up with the lead male, often by simple virtue of being the first member of the cast the Male Lead meets. A common debate amongst fans is whether the existence of this character negates the concept of a "harem", which is perhaps one reason the resolution in her relationship with the lead is usually delayed extensively. (Love Hina's Naru Narusegawa is a prime example.) She also tends to be a broadly drawn character (but see Magical girlfriend). She may, in contrast, be a member of another stereotype in addition. (Akane Tendo, Ranma ½) She may share many of his worries, but is usually much better at disguising insecurities, consequently seeming more confident and capable. Her clumsiness can be a source of embarrassment, resolved with the quick and infamous use of over-the-top slapstick.
- The **Housewife** usually has a demure personality and quiet graceful bearing, doting on other characters. They are more frequent in non-harem situations, perhaps because they are usually guarantees in shipping. (e.g., Aoi Sakuraba, Ai Yori Aoshi.)
    - A **Princess** role is similar but can take a satirical tone, implying a stuck-up, snotty attitude and a scheming nature. They usually do not get along with tomboys. (e.g., Princess Ayeka from Tenchi Muyo!)
- The **Tomboy** (bokukko) is often depicted as refreshingly frank and direct compared to the other girls. She is often identified as a roughneck with a love of parties, sports, drinking, and fun in general -- or alternatively, rude, messy, obnoxious, and destructive to peace in the household. Her relationship with the lead male is sometimes a simple friendship with the occasional teasing. Tomboys are usually sexually aggressive, if only playfully, towards the lead or even the other girls. Many speak with an Kansai accent (considered rougher by Tokyo standards), or even with masculine pronouns. (Mitsune "Kitsune" Konno from *Love Hina* is a good example.)
    - Some less easygoing tomboys are **Warriors**, who have a strict and well-honed dedication to sword fighting or martial arts, usually to the detriment of their social lives. They are often overly serious for their age, have problems making friends and identifying with their peers, and have such a lack of experience dealing with boys (who sometimes fear them) that they have an extreme aversion to guys in general. (*Love Hina* 's Motoko Aoyama is another good example.)
- **The Foreigner** is a good-natured caricature of a non-Japanese person (usually European or American Caucasian), with some knowledge of Japanese culture to

make them easier to write. Ensuing culture shock is often source of humor. Many of these characters are also biracial or bilingual as a result, although the latter is sometimes only referred to rather than depicted. This avoidance is slightly more common in anime, since textual translations in manga are easier than finding a seiyuu who can portray a convincing accent. The Foreigner usually plays a "sisterly" role - fond of the Male Lead, but without any sexual or romantic desire, as opposed to the stronger romantic interest of the Little Sister type. (e.g., Kaolla Su, from *Love Hina*).

- **The Competitor** is a character whom the male might consider more attractive in some ways than the Lead Girl, but who has a serious drawback in her personality. The Lead Girl knew her before the story begins, and had fights with her at that time. The top example is Ran from Urusei Yatsura; also, Peorth from *Oh My Goddess!*.
- **The Rich Girl** is mostly a parody of a wealthy girl, similar to the American "Archie Comics's" Veronica. Her wealth is displayed in ludicrous vehicles, in her large house and its many antiques, and in displays of ritualized obedience by her many servants. Obviously she does not move in with the male, and she is the least likely to end up with the male lead (e.g., Ayaka Yukihiro from Negima: Magister Negi Magi).
- The **Carefree Girl** is a character who doesn't feel the anxieties that the others do. She is stereotypically a girl whose life and personality are sunny, and who relaxes in the sun. Very often she is blonde and tanned, though she speaks Japanese fluently. Either she has hidden wealth which plays no part in the story, or is a fool. She is very often quite clumsy, making mistakes which the other characters have to fix. The top example is Mihoshi from Tenchi Muyo, who is both a fool and the daughter of an important personage of the galaxy. Karin Aoi in DNA^2 is trying to set herself up as carefree, but she's the main source of the problems in the story. (Example: Mutsumi Otohime from *Love Hina*.)
- The **Monosyllabic Girl** is a derivative of the mascot animal, such as Mokona from Magic Knight Rayearth, who is capable of saying only one syllable (Puu) in varying intonations to express emotions. Chi from Chobits is the prime example; almost all she says episode after episode is "Chi". Such a character need not literally say only one syllable; Ren from Yumeria says "Mone" a lot. These characters are extremely attentive to the male lead, and aren't really social. Their debility adds mystery, but it dehumanizes them as well.
- **Little Sisters** are the youngest female characters, usually seeing the lead character as a big brother (sometimes with frequent use of the title 'oniichan') or a nonthreatening crush object. Interestingly, this character is one of the most variable types. On one extreme, she may be a painfully shy, self-conscious wallflower, while on the other she is upbeat and immensely cheerful. These characters may be controversial because their frequency in doujinshi is sometimes perceived as a deliberate appeal to lolicon (e.g., Fuuka and Fumika from *Negima* or *Tenchi Muyo* 's Sasami).

- **The Slightly Older Woman** appears in the story because harem shows focus on the teenage male audience, who notice that teenage girls have not yet reached their peak of attractiveness. When set in a high school, there may be a member of the faculty or service personnel who is in her twenties and drop-dead gorgeous. Her part in the story is to gently put down all instances of attentiveness by the teenage boys. An early example of this type is Sakura, from Urusei Yatsura; also, Urd from Oh My Goddess! and Bloodberry from the Saber Marionette series.
- **The Android** is, as in the direct translation from the Japanese term, a man-made living creature. She has neither any family history nor expectation of continuing the extended family herself. Since she has not learned to display feminine graces, either, she represents the difference between the sexes without any superficialities, as perceived by adolescent males. It is the void in her personality that is attractive to some of them, who feel they could do anything with her. Some literal **Robot** women also appear, and can serve as any of the other types. Some merely represent the duties and obligations in society by their programming, while others are designed to learn and evolve. Because of potential misunderstandings, this is another potentially 'serious' archetype that is often the focus of parody.
    - **The Mystic** is a similar character, with an otherworldly or offbeat personality, with supernatural overtones instead of scientific ones. Both are often uses as vehicles for off-hand self-parody or black humor (e.g., Chachamaru Karakuri from *Negima*, Kanna from *Happy Lesson*).
- A **Nanny** is a capable, wise adult character (preferably female) who serves as the final authority figure of the group, perhaps a landlord or more distant relative (e.g., grandfather Yosho in *Tenchi Muyo* or Haruka Urashima in *Love Hina*). Although these characters may intervene in extreme circumstances, they are usually relaxed and uncritical to the point of near-irresponsibility.
- The typical **Genius** is extremely skilled in the sciences, and consequently is often depicted as a cute version of a mad scientist, usually with the associated lack of tact and foresight with her creations. Her abilities allow for more fanciful plot devices. This archetype is often associated with Washuu in *Tenchi Muyo*.
    - In contrast, the **Prodigy** or **Otaku** can be a satirical depiction, since these characters usually display great skill only in a certain hobby or interest while being woefully inept at most others (e.g. Hakase Satome from *Negima*).

Examples often cited by fans

- *Ai Yori Aoshi* is a recent anime going for a dual concept of both magical girlfriend and pseudo-harem anime. While the two leads are clearly in a relationship early in the story, they do live with a cast of other girls from whom they must keep the relationship a secret.
- *Chobits* is an anime which has a haremesque relationship between the main character Hideki Motosuwa, his android Chii, Takako Chimizu, and Yumi Omura.

This is not the focus of the anime, however, and the latter two are quickly paired off.

- *Dual!* has its harem mixed in with a Mecha parody.
- *Elfen Lied* is probably the most violent anime that one would put into the harem category. Despite the blood and gore accompanying most episodes, there is plenty of romantic play and jealousy to go around.
- *Galaxy Fraulein Yuna* is a variant on the harem anime archetype; the main character is a schoolgirl, and her extensive list of unusual admirers are also girls.
- *Geobreeders* somewhat counts as a harem anime where a young boy works with an all-girl squad to rid the world of phantom cats and make a profit out of it.
- *Girls Bravo* features scenes in which the male lead is transported to a mysterious planet that has a population of 90% female. When his lady-interest follows him back to Earth, a couple other fems join in the fracas and contribute the aspects of their varying personalities to the main story.
- *Hanaukyo Maid Tai* is generally considered to be a blatant, albeit tongue-in-cheek maid-harem anime.
- *Hand Maid May* is a similarly blatant maid-harem anime. With servant-androids similar to Chobits, the anime is much more light-hearted. Kazuya Saotome is surrounded by the real life girl-next-door Kasumi Tani, and the Cyberdolls May, Sara, Rena, Kai and Mami.
- *Happy Lesson* has few romantic elements at all, and female characters who dote on the lead are (from their viewpoint) mother figures.
- *Ichigo 100%* is another recent example of the harem anime archetype. While its classification is sometimes questionable due to the male lead's primary fixation on the (apparent) female lead, his wishy-washiness and his apparent reluctance to make a firm commitment (spurred, it seems, by his attempt to avoid hurting any of the girls), combined with his attraction to all the main female characters, makes this a *de facto* harem anime.
- *Love Hina* is another famous series which, in younger audiences, has supplanted *Tenchi Muyo!*'s title as the Typical Harem Anime.
- *Maburaho* is an interesting example in which three females, all gifted in magic, are after the same boy who can only use magic a limited number of times.
- *Negima: Magister Negi Magi* with a cast of more than thirty girls, is still thought as a harem anime, although the male lead is only nine years old.
- *Ranma ½* takes the simple harem idea and makes it far more complex. Since the lead male character is also female, his/her main harem members consist of four females and one male, with many other potential candidates of both genders appearing episodically. In addition, the lead female, who is also a member of the first harem, has a harem of her own consisting of at least three males, one of whom is also a member of the first harem. Two of the other females in the first harem also have their own small harems. When you include rivals, the situation becomes even more convoluted.
- *Shuffle!* - both the game and the series contains all the elements of a typical harem, with a unique group of characters to hold viewers' interest. Originally a

hentai game, the anime stands on its own with one male surrounded by 5 females characters.

- *Tenchi Muyo!*, especially the later television series, contains most of the common elements. Although certainly not the first, is considered by many American fans to be the prototypical (or at least most famous) harem anime.
- *Urusei Yatsura* is a definitive harem manga and television series, although the appearance of the female characters is episodic.
- *Vandread* is an example of the genre, but not in its purest form. While there are three male characters living among hundreds of girls, this anime focuses more on sci-fi themes. It does provide a nice twist to the harem concept by depicting females in a more dominant role.

Gender variants

Series like Fruits Basket, Ouran High School Host Club and Fushigi Ykgi could easily be considered female-oriented harem animes, each having a fairly ordinary female lead surrounded by a number of handsome, talented men who are devoted to her. There are also examples in obscure BL titles.

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Josei

Josei manga (Japanese: s', lit. "woman", IPA /d'osei/; also known as **red+su** (ìÇ£ü[1]) or **redikomi** (ìÇ£[3]ß), lit. "ladies' comics"), is a genre of manga or anime created mostly by women, for late teenage and adult female audiences. The male equivalent to josei is seinen. In Japanese, the word *josei* means only "female" and is not directly indicative of sexual matter.

The stories tend to be about everyday experiences of women living in Japan. Though there are some that cover high school, most cover the lives of adult women. The style also tends to be a more restrained, realistic version of shojo, keeping some of the wispy features and getting rid of the very large sparkly eyes. There are exceptions in the style described above, but what defines josei is some degree of stylistic continuity of comics within this particular demographic (the same is true with different demographics that have different stylistic tendencies).

In addition, unlike shojo manga, josei comics can portray realistic romance (as opposed to mostly idealized romance). A subset of josei comics are comics that are aimed at women about homosexual male relationships, much like but not to be confused with yaoi; josei tending to be both more explicit and with more mature storytelling. Josei is also known for a very sexual edge; many of the magazines have some of the raunchiest porn produced in Japan.

Josei is sometimes used within anime or manga, mostly by male characters, to refer to a sexual preference for older women, as contrasted with lolicon.

Examples

Blue
Gokusen (anime and manga)
Happy Mania (manga)
Tramps Like Us (manga) Japanese title: Kimi wa Petto
River's Edge (manga)
Honey and Clover (manga and anime)

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Mecha anime

In some works of science fiction, **mecha** (singular or plural, less frequently **meka**, **mechs** (singular: mech) or **giant robots**) are piloted or remote-controlled limbed vehicles. They are generally, though not necessarily, bipedal.

The term "mecha" is derived from the Japanese abbreviation for the English word "Mechanical" In Japanese, "mecha" encompasses all mechanical objects, including cars, guns, computers, and other devices. English speakers have repurposed the term to mean only the vehicles described above.

In most science fiction stories in which they appear, mecha are war machines: essentially armored fighting vehicles with legs instead of treads or wheels. Some stories, such as the Japanese manga Patlabor, also encompass mecha used for civilian purposes such as heavy construction work, police functions, or firefighting.

Some sci-fi universes posit that mecha are the primary means of combat, with conflicts sometimes being decided through gladiatorial matches. Others represent mecha as one component of an integrated military force, supported by and fighting alongside tanks, fighter aircraft, and infantry.

The distinction between smaller mecha and their smaller cousins (and likely progenitors), the powered armor suits, is blurred; according to one definition, a mecha is piloted while a powered armor is worn. Anything large enough to have a cockpit where the pilot is seated is generally considered a mecha.

The first occurrence of mecha in fiction is thought to be the novel The War of the Worlds by H. G. Wells where the Martians use tripod walkers very similar to mecha.

Rarely, mecha has been used in a fantasy convention, most notably in the anime series The Vision of Escaflowne and Maze anime. In those cases, the mecha designs are usually based on some alternative or 'lost' science-fiction technology from ancient times.

East and West

Mecha are quite popular in Japanese manga, and by extension anime. In Western entertainment, they are occasionally seen in video games, especially the action, strategy and

simulation genres, but the most well-known Western context for mecha is BattleTech. The original BattleTech - a tabletop strategy game - has been the basis of numerous MechWarrior computer games and a role-playing game and is the origin of the related term "mech". Other products bearing the BattleTech name include a collectible card game, books, comics and an animated TV series. FASA, the company that produced BattleTech, was sued for copyright infringement for using several mecha designs from Macross and other anime series without the proper copyright licenses1 (the first edition of BattleTech, then named BattleDroids, actually included two Japanese 1/144 model kits from the Fang of Sun Dougram anime series). After FASA closed its doors the BattleTech line was sold to WizKids, who now produce Classic Battletech and MechWarrior: Age of Destruction, a collectable miniatures game.

Though designs vary widely in both eastern and western mecha, there is a general difference in style. Japanese mechs tend to be anthropomorphic as opposed to the more vehicular western types, and it is not unusual for Japanese mecha to perform difficult acrobatic maneuvers while some western machines are designed to simply plod forward. Fingered hands are much more common on eastern mecha; western designs often just have upper limbs with permanent weapon emplacements.

However, these observances are hardly a rule. The comparison probably comes up due to the humanoid Gundams being the most iconic of Japanese mecha, versus BattleMechs being one of the most well known American. With a number of the original series of BattleMechs being based off of Macross mecha, it hardly makes gun arms a uniquely American feature. Neither are humanoid types with hands exclusively Japanese (a great amount of Battletech mechs from the Inner Sphere faction have hands), the iconic Sentinels from the X-Men being one such example (although aside from Sentinel Squad O*N*E, Sentinels are technically not mecha, because they lack a pilot). The inverse of this rule applies as well, as Eastern mechs in the Battletech style do exist, mainly in the GunGriffon universe.

The word 'mech' is used to describe such vehicles considerably more often in western entertainment than in Asian entertainment. "Mech" as a term originated from BattleTech (where it is often written as 'Mech, short for BattleMech or OmniMech), and is not used in Japan in other contexts except as an unintentional misspelling of 'mecha' (With the exception of the Japanese version of BattleTech, which attempts to retain the English word.) In Japanese, 'mecha' is the more frequent term (see 'Other meanings' below), though in the series themselves they are seldom known as such.

The mecha genre of anime

In anime, 'mecha' is a genre that features the vehicles and their pilots as the central characters. Here, the average mecha are usually twenty feet tall at the smallest, outfitted with a wide variety of weapons, and quite frequently have tie-ins with toy manufacturers. The Gundam franchise is an excellent example: Gundam toys and model kits (produced by the Japanese toymaker Bandai) are ubiquitous in Japan.

Mecha anime and manga differ vastly in storytelling and animation quality from title to title, and content ranges all the way from children's shows to ones intended for an older teen or adult audience.

Some mecha are capable of transformation (Macross to name but one) or combining to form even bigger ones (see Voltron). Go Nagai is also often credited with inventing this in 1974 with the television series Getter Robo.

History

The genre started with Mitsuteru Yokoyama's 1956 manga Tetsujin 28-go (which was later animated in 1963 and also released abroad as Gigantor). Its inclusion is debatable however, as the robot was controlled by remote instead of a cockpit in the machine. Not long after that the genre was largely defined by author Go Nagai, into something considerably more fantastical. Mazinger Z, his most famous creation, was not only the first successful Super Robot anime series, but also the pioneer of the genre staples like weapons that were activated by the hero calling out their names ("Rocket Punch!"). It was also a pioneer in die-cast metal toys such as the Chogokin series in Japan and the Shogun Warriors in the U.S., that were (and still are) very popular with children and collectors. Getter Robo, for its part, was the first combining robot, something that became a frequent design theme and was aggressively imitated in similar mecha shows.

The appearance of Gundam in 1979 is considered to have broken the mecha genre into two subsets: the super robot show, which focused on ultratech mecha that often had elements of mysticism and tend to use a "monster of the week" format; and the real robot show, in which the mecha are shown as tools rather than semi-mystical creations, and the focus is less on the machines and more on the pilots. The introduction of Mobile Suit Gundam in 1979 introduced a sort of paradox: a war show about giant war machines that was in fact anti-war at heart.

Other notable series include but are by no means limited to The Super Dimension Fortress Macross, which in its modified Robotech form led to the breakthrough of anime in the USA, Hideaki Anno's Gunbuster, which along with Macross is considered the pinnacle of anime in the 1980s, the police-focused Patlabor, and as examples of older shows, Go Lion (Voltron) and Giant Robo. Macross was especially noteworthy as it showed mecha fighting under combined arms tactics, ranging from the infantry Spartan MBR-07-II to the jet fighter VF-1 Valkyrie and artillery Monster HWR-00-II as well as Full Metal Panic.

One anime series that drew from the tradition of both super robot and real robot genres while being completely unique was Hideaki Anno's Neon Genesis Evangelion. Considered by

many to be the spiritual successor to Space Runaway Ideon, Evangelion was highly successful and quite controversial, similar to its would-be predecessor.

The *mecha* genre in anime is still alive and well as the new millennium came, with revival OVAs like *Getter Robo: the Last Day* and *Mazinkaiser* from the Super Robot tradition, the new Gundam Seed series from the Real Robot side, and RahXephon, a successful sci-fi anime series in the vein of *Evangelion*.

Arguably, the concept of piloted mecha goes back decades before Tetsujin-28. The tripods featured in The War of the Worlds, with advanced weaponry and dedicated piloting stations, are perhaps the forerunners of modern mecha.

Games

Because of their size and power, and the resultant potential for massive property damage demonstrating that size and power, mecha are quite popular subjects for games, both tabletop and electronic.

Tabletop games centered around mecha include Dougram, Metal Gear, BattleTech, Mekton, Heavy Gear, Jovian Chronicles, Gear Krieg, Mecha!, OHMU and many others, and they appear regularly in other epic-scaled games such as Rifts. Mecha are also major elements in some fantasy games, such as DragonMech and Iron Kingdoms, and although they appear in Exalted, they are not a major element of the game's setting.

Mecha are often featured in computer and console games. One notable console title that focuses on the mecha anime genre is Banpresto's Super Robot Wars series (also known as Super Robot Taisen), which in each installment of its games depict an elaborate crossover of popular and less-known mecha anime series. Also popular is Zone of the Enders, an action game, and the various Armored Core titles. Many game adaptations have been made of various popular mecha franchises, including Mobile Suit Gundam: Encounters in Space, many Macross games, and even American titles like the MechWarrior and MechCommander series, the Earthsiege and Starsiege series, Robotech: Battlecry and Robotech: Invasion. Also, there are the Front Mission, Xenogears and Xenosaga" games by Japanese developer Square Enix (who are also responsible for an homage to Super Robot anime with Robot Alchemic Drive), which are seeing increased popularity in America, especially with the third and fourth installments for PlayStation and PlayStation 2. Some non mecha-oriented games also feature some mecha-like machines, like Command & Conquer: Tiberian Sun and StarCraft.

Scale Models

Assembling and painting mecha scale model kits is a popular pastime among mecha enthusiasts. While many model kits are not produced for distribution to the West, foreign fans can acquire them through comic book shops or online retailers that cater to imports. Like other models such as cars or airplanes, more advanced kits require much more intricate assembly.

Others enjoy building Lego mecha, whether to reproduce existing designs or create their very own. Lego mecha construction can present unique engineering challenges; the balancing act between a high range of motion, good structural stability, and aesthetic appeal

can be difficult to manage. In 2006, the Lego company released their own somewhat manga-inspired mecha line with the Exo-Force series.

Grammar

The word "mecha" is both singular and plural, it specifically covers the Japanese aspect of the genre (because they refer to it as "meka"). The word "mech" or "mechs," singular and plural forms respectively, can refer to American mechanical design (such as BattleTech, though many of that game's early graphical designs were actually Japanese in origin). However, it is grammatically incorrect to refer to all such machines as "mechs" and/or "mechas".

Word origins and usage

In Japanese, the word mecha (or meka) is an abbreviation of the English "mechanical" and used to refer to all mechanical objects, real-world or fictional. In this sense, it is extended to humanoid, human-sized robots and such things as the boomers from Bubblegum Crisis, the similar replicants of Blade Runner, and cyborgs can be referred to as mecha, as well as mundane real-life objects such as industrial robots, cars and even toasters. In Japanese, the term "giant robots" is used in the similar context that English speakers have repurposed the term "mecha."

This is far less frequent among English speakers. There are exceptions; in the film A.I. Artificial Intelligence, the word is used to describe 'mechanicals' (robotic humanoids), as opposed to 'orga' for 'organics' (humans).

Mecha as practical war machines

The question of whether mecha could ever be used in the real world as practical war machines is a widely debated topic on many mecha forums (usually among mecha enthusiasts vs. utilitarians). Due to their intended purpose, mecha are usually compared to tanks (or, in the case of *Gundam* or *Macross*, fighters).

Mecha as a replacement for tanks

The major advantage usually cited promoting mecha over tanks is the mecha's use of legs, which emulates a human's ability to traverse almost any kind of terrain, thus giving a mecha superior all-terrain capability. In reality, a mecha would not be able to traverse terrain nearly as well as tanks because of their very nature. The use of legs means that all of the machine's weight is focused on two relatively small points. Considering that most mecha are depicted as very large and heavy, this could cause severe problems if the mecha were to traverse any kind of soft terrain where its legs could sink into the ground, or get stuck in light foliage, and inhibit movement. This is in contrast to a tank's treads which spread its weight out over a much larger area, reducing the weight burden on any given point. In addition, the tank's

treads emulate the method a caterpiller uses to move, which gives it excellent all terrain movement.

Also often pointed out is the agility of a mecha, which can in theory move in an unpredictable manner to present a more difficult target and/or dodge incoming fire. In the context of 21st century projectile weapons, dodging such attacks would be just as absurd as any human being able to do so, unless the distances involved were huge. It is possible, however, for mechas to reduce their targetability through agility. In order to accomplish this, a mecha would need to have a range of motion very similar to a human being. This range of motion precludes the battlefield use of the vast majority of mecha depictions, which tend to be limited in range of movement (like *BattleTech* mechs) or which have mechanical control systems that limit the range of movement by limiting the range of controls.

Linear top speed is another restriction upon mechas, as they would be limited both in how quickly their legs could cycle while running, and by the amount of stress the legs could take from impacts on the ground while doing so (to say nothing of how the ground would react!). This restriction could be mitigated by the use of an alternate mode of travel, but the frequent depiction of flying as this secondary mode would likely turn a battlefield into a trap shoot for opposing units. Another solution would be the use of a secondary means of locomotion (in addition to walking), such as feet mounted wheels or treads, as seen in Front Mission and Ghost in the Shell: Stand Alone Complex, or the SMS, or Secondary Movement System of Heavy Gear.

Another proposed advantage is the higher clearance a mecha has compared to the relatively low profile tank. Hypothetically, the higher vantage point allow it to see farther into the horizon, shoot farther, and at better angles. However, this is also a huge disadvantage, as a mecha presents a much larger target profile as a result of its stance. Raising a mech's clearance increases its frontal projection area, making it a very obvious, and easy to hit target especially by aircraft. The stance of a mecha also means that the use of armour for protection-by-deflection would not be of use, as armour plates are more likely to be "square on" to incoming fire from the ground. Oddly, the opposite could be said to be true of incoming fire from the air. However, a tank firing directly at a mecha could very easily take out the lower limbs, but would have a hard time firing "square-on" at higher portions of the body.

It is also pointed out that a mech's leg drive system would be far too complex and costly to be practical on the battlefield. Simply destroying a leg in combat, (a relatively easy thing to do, considering its size compared to a tank's tread), would also render the mecha immobile. This is in contrast to a tank's tread system, which is easy to repair and replace should the need arise. Unlike a tank, however, a damaged mech could easily pass on its weaponry and ammunition to another working unit. Another criticism involves a mecha's inherently poor stability. A tank is very low, and close to the ground which not only makes it harder to hit, but makes it very stable. A mecha is tall and can easily fall down, making it extremely vulnerable if not completely useless. Because of this, recoil becomes a serious factor when mounting high caliber weapons on a mech. The M1 Abrams tank mounts an M256 120 mm gun which produces considerable recoil. Such a weapon mounted on the chassis of a mech could possibly knock it down. This limits the potential arsenal a mech can carry, which is in stark contrast to mecha depicted in fiction where their arsenals are usually more varied and powerful than their tank counterparts. Depending on how weapons on a

mecha are mounted, the mech could dynamically adapt leg and body posture and body weight distribution to absorb the recoil energy progressively and dynamically (ie. laying down prone or bracing the recoil with a wide stance). However this solution means the mecha typically can not move while bracing for recoil, unlike a tank which can shoot and move at the same time, putting the mecha in a severe tactical disadvantage. These problems with recoil effectively removes the possibility of mounting large caliber weapons on a mecha, leaving it unable to outrun, or outgun a main battle tank. The only weapons a mecha could mount are small caliber armor piercing weapons such as a 20-40mm (approx .66 caliber - 1.30 inch) cannon, though these weapons are typically reserved for light armored vehicles or troops and are ineffective against tanks.

Mecha as aerospace combat vehicles

Another use for mecha, as opposed to replacing tanks would be for them to function in a similar manner to aerospace or conventional fighters, as is depicted in various Gundam shows or Macross. The notion of a "flying robot" is sometimes considered absurd, until mecha enthusiasts point out the Mecha's ability to take advantage of reactionless maneuvering acomplished through a mecha's use of its arms and legs (known as AMBAC in the Gundam UC universe). However the ability to properly debate how such a machine would function in the real world is currently impossible due to an inability to test it. Mecha enthusiasts argue that freeflying, (a derivative of parachuting) is a very similar real world application of humanoid maneuvering in mid air. Using their arms and legs, freeflyers are able to have full control over the three flying axes (roll, pitch, and yaw). While planes are able to do this, it is possible that the movable arms and legs of a mech might be able to perform the maneuvers faster. This is ideal for close ranged air combat where the positioning of forward arc of the machine could mean victory or defeat. This idea of reactionless maneuvering is also useful in space combat where there is no air for an aerodynamic plane to use flaps for maneuvering. In such an environment, changing facing is only possible through thrust vectoring or AMBAC. Despite that, some point out that even if AMBAC were to work, its concept would be better utilized in non-mecha designs. In addition, these advantages are mostly useful at close range which is rare in modern air combat. While it is possible to make a fighter or mecha very fast and maneuverable, it is easier to make a missile even faster and more maneuverable. Utilitarians also argue that creating an atmospheric flying robot is impossible in the first place. Mecha would have to possess fictional technology that allows continuous lift without wings or rotors, which makes debating the points previously mentioned completely irrelevant.

Other proposed uses for mecha

It is also speculated that, rather than replacing tanks, a mech could be used for urban combat scenarios in an infantry support role. Such a mecha would probably only be 5-7 meters tall and would be verging on power armor. The size of such a mecha would enable it to carry heavy weapons such as a chaingun that would otherwise be unavailable to an infantry squad, yet its legs would allow it to maneuver more freely than a tank in the close

confines of an urban environment. Furthermore the presence of actuated arms would allow a mecha to deal with infantry that manage to get into direct physical contact with the mech, something that tanks are currently unable to do. In addition it would grant several enhanced prehensile attributes unavailable to vehicles and improved over infantry capabilities. The paved roads of an urban environment would also negate the problems of weight distribution. Despite this, a mecha in an urban environment faces the difficulty of maneuvering; the sheer amount of clutter that can be present in urban terrain might prove too much for a mech's gyroscopes to handle. And also due to its much smaller size, an urban combat mecha could be blocked by tank traps, and other kinds of barricades.

Another consideration for military use of mecha would be for non-combat support functions. The example in the movie *Aliens* is one such depiction, where the vaguely humanoid shape allows for an unmatched versatility in manual labour tasks. Under these circumstances, where development of such a mecha was undertaken for other reasons, it might be worthwhile for a military service to arm them after the fact. Indeed this is already seen in existing militaries as evidenced by the IDF Caterpillar D9. All of the above issues would be mitigated by the fact that combat would not be the mecha's primary role, but would instead be a secondary function only used when circumstances are dire. This would naturally point us towards the development of mecha for purposes other than military (heavy police action, industrial firefighting, mining, etc.). If this were to take place, no doubt some military service would apply the concept of mechas to a fighting force, were some other sector to take the cost of development upon themselves.

In light of all these disadvantages, many consider the price of even developing a working prototype would be far too costly for something not even practical today.

Notes

1. The related lawsuits were settled out of court, and later products of BattleTech do not use the designs under contention.

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Super Robot

Super Robot is a term used in manga and anime to describe a giant robot or mecha, with an arsenal of fantastic super-powered weapons, sometimes transformable or combined from two or more robots and/or vehicles usually piloted by young, daring heroes, and often shrouded by mystical or legendary origins.

The idea of a robot controlled by a young hero was first used in 1956 with *Iron Man 28* or Tetsujin 28-go (dubbed and released in the US as Gigantor), by manga artist Mitsuteru Yokoyama, which featured a giant robot piloted by remote-control by a young boy named Shotaro Haneda, who used it to fight against evil. However, the first anime to use the phrase **Super Robot** and the one that set the standards for the genre was Mazinger Z, created by Go Nagai and making its debut in manga publications and TV in 1972. The main difference between Mazinger Z and previous robots was that the hero, Kouji Kabuto, would pilot the

robot from the inside in the same manner as one would drive a car. This anime show was hugely popular and spanned numerous sequels and imitations during the 1970s, and revival shows later during the 80s and 90s.

While some other giant robot shows were also shown on US TV in the 70's, the only true impact Super Robot shows made in the States during that time was in the form of the Force Five series, which was a compilation of different Japanese giant robot shows, and with the Mattel Shogun Warriors toyline.

Mega Man is described in the intro of Mega Man 2 as a Super Robot, despite the fact he can't possibly be larger than an average teenager, and only has two anti-personnel weapons. In this case, it was probably the 'common' use of the term. He is a robot with powers beyond that of other robots in the setting, so he is 'super' compared to them. (He can absorb boss weapons, and is the hero.)

Basic characteristics

The **Super Robot** anime shows are usually named after the title robot (Mazinger Z, Getter Robo, Combattler V, etc), and tend to use a "menace of the week" format in that the villains introduce a single antagonist at the beginning of the episode that the heroes usually defeat by its end. While some have levelled criticisms at the super robot shows for having this format, it must be noted that a vast number of series, both Japanese and abroad, engage in exactly the same plot structure, introducing minor antagonists while slightly developing the main struggle between the chief protagonists and the major villains. In the 70s, with a common episode count around 50 (or often, 52) episodes for many series, more if especially popular, a more minor chief conflict would be resolved at the end of the first 'season', around episode 26, with another developing directly afterwards and leading, in the final episodes of the series, to the ultimate confrontation with the chiefest of antagonists. This remains a trend in anime and, despite what casual critics of super robot shows might claim, is not unique to the super robot genre. In fact, many of the criticisms directed towards super robot shows specifically might be better directed at anime in general.

Antagonists tended to come from either outer space or ancient civilizations, with common elements being a monstrous appearance or an entirely strange, occasionally even beautiful, one. Many foes employed robot or cyborg henchmen, whom they often sent against the heroes in their robot. The goals of these antagonists varied, although many were megalomaniacal or outright genocidal in their ambitions.

In the 1980's the Real Robot genre spawned by the Gundam films and the popular Space Battleship Yamato-style space opera films enjoyed a comparatively brief dominance upon trends of the mecha anime in Japan, and new Super Robot shows were less frequent for a time as space opera and militaristic mecha became popular. However, in the 1990's a renaissance in the Super Robot genre occurred, due at least in part to the economic problems of Japan which led many TV stations to rerun numerous series popular in the 70s. Of course this included classic super robot series, which renewed the public's interest in them and spawned rejuvenation of the Yuusha series, as well as progressive attempts at the genre such as the controversial Evangelion. All these may have had some influence upon subsequent anime series and OVAs like Giant Robo which combined the basic concept of Super Robot

shows with storylines rife with attempts at profundity and occasionally philosophical or political messages.

Many remakes and updates of old Super Robot shows, like Getter Robo, Tetsujin-28 go, Mazinger Z and others were produced, sometimes using complex plots while others remained with simple "Good vs. Evil" stories. Super robot shows were not the only ones to receive this attention however, as so many classic series enjoyed a resurgence in popularity due to the reruns leading to a new generation of fans now directly familiar with the material.

Inevitably, there are some types of mecha that are difficult to classify as either a Real Robot or a Super Robot. Some of these include the Aura Battlers from Aura Battler Dunbine, which follow the general motif of Real Robots though their very origin and certain levels of power borderline on Super Robot. The Mortar Headds from Five Star Stories are treated as individual works of art by the fictional society present in the story, and their power often borderlines on that of Super Robots—however, their intricate engineering and the motif of their weaponry is often scientifically explained by series creator Mamoru Nagano which makes them very similar to Real Robots in other ways. The most debated of these uncertain mecha are the Evangelion (or "EVA") Units from Neon Genesis Evangelion. These massive artificial biomechanical lifeforms use weapons and tactics that are very scientific and Real Robot-esque; the United Nations even has an interest in mass-producing the Evangelion units. However, the unit EVA-01's tendency to go berserk, dealing nearly godlike destruction—as well as factoring in the living nature of the mecha and their very creation method—is very similar to that of Super Robots. Mecha which employ both Super Robot and Real Robot principles are referred to as Hybrid Robots; since the production of Evangelion, this approach has gained some popularity and developed into its own niche, as evidenced by shows such as Brain Powerd, RahXephon and Overman King Gainer. Nevertheless, pure Super Robot series continue to be produced to this day, such as Gravion and Godannar.

If examined in depth, the differences between Super Robot and Real Robot series may at times seem purely academic or moot at best. Some critics have voiced the opinion that the only difference between the two is that Real Robot shows are less exciting and the characters less heroic; conversely critics of the Super Robot shows have cited supposedly unrealistic designs and silly situations. The topic remains a lively subject of debate between fans of the two camps.

Merchandise

Possibly the real success expected from a sci-fi giant robot show would be the toys and merchandise sales they can produce. In fact, the Super Robot genre spawned a new type of toys that became the defining items of the genre.

In late 1972, a Japanese toy company called Popy released a die-cast metal version of Mazinger Z, whose series was airing at that time. The figure was 8.5 inches tall, it launched spring-loaded fist like the robot "Rocket Punch" on the TV and was quite heavy, being made of metal. This toy revolutionized the Japanese toy industry, spawning lots of toys for almost every Super Robot show that was aired on Japanese TV. Sometimes the case was the opposite: a TV anime giant robot show was created based on the toys produced. The Chogokin line of robots (the name given by Popy to the toyline), eventually lost its popularity in the early 80's after its rival company, Bandai, took the industry by storm with their

Gundam franchise and their new plastic toy lines. The original die-cast Popy SR toys have become rare collector's items, and those in mint condition reaching thousands of dollars in the collector's market.

Ironically, it was Bandai itself that revived the Super Robot die-cast toys in recent times. Having acquired the Popy toys rights, and due to the renaissance in popularity of the giant robot of the past, Bandai began release a line of solid, highly detailed and quite expensive models made of die-cast metal. This line is called Soul of Chogokin, and is currently producing a fine line of toys that is aimed mostly to collectors. One of them, a super deluxe model of the Super Robot called Grendizer (complete with the die-cast robot, a flying saucer, four ships and other accessories), which currently is out of production, is known to reach over US$400.00 in specialized stores and auctions.

A good quantity of "Soul of Chogokin" toys from different Super Robot series of the past have been produced, like Mazinger (which has over 12 models based of different robots from the anime), Gaiking, Dancougar, Tetsujin 28-go, and a few others. Another notably addition to the Bandai SOC line are the EVA units from the more recent Evangelion anime series.

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Seinen

Seinen (Rt, ***Seinen***[?]) (not to be confused with "adult" (t, ***"seinen"***[?])) is a subset of anime or manga that is generally targeted at an 15 - 30 year old male audience, but the audience can be much older with some comics aimed at businessmen well into their 40s. Sometimes it is classified as shojo or shonen, but it has distinct features, usually classified by a wider variety of art styles (particularly in manga) and more variation in subject matter, ranging from the avant garde to the pornographic. The female equivalent to seinen manga is josei manga. The genre is comparable to the English terms and genre "Young Adult" or "Teen".

A common way to tell if a comic is seinen is by looking at whether or not furigana is used over the original kanji text. A lack of furigana would imply that the title is intended for a mature audience. The title of the magazine it was published in is also an important indicator. Usually Japanese manga magazines with the word young in the title (Young Jump for instance) are seinen. Other popular seinen manga magazines include Ultra Jump, Afternoon, and Big Comic. Many of these manga were published in English in the now defunct PULP.

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Shojo

Shojo or **shoujo** is a term used in English to refer to manga and anime aimed at a young, female audience; the term being a transcription from the Japanese **s**, literally 'girl'. The genre is stereotyped as melodramatic stories of romance with a female protagonist, and drawn in a flowing style where beautiful characters with huge, intricately drawn eyes become spontaneously surrounded by flowers, stars, and bubbles. Shojo works, however, cover a huge range of subjects, from historical drama to science fiction and by no means all adhere to the same artistic sensibilities or conventions. It is, in the end, not a style or a genre (as the closest American equivalent, the "chick flick," would be), but a demographic.

Shojo manga has its roots in Meiji era reforms, and then the manga expansion in the 1950s, with titles like Princess Knight by Osamu Tezuka. However it took off with a new wave of female authors beginning in the 1970s - centered around the Year 24 group, named as such because they were all born in the 24th year of the Showa period (1949). In particular, Moto Hagio, Keiko Takemiya and Yumiko Lshima were instrumental in redefining manga from a female perspective, and inventing the shonen-ai genre. Around the same time but not as conveniently born in the same year, Suzue Miuchi, Riyoko Ikeda and A-ko Mutsu have created equally influential manga.

Shojo anime has been a part of television animation from its beginnings, Toei Doga starting the 'magical girl' emphasis with Maho Tsukai Sally and Himitsu no Akko-chan in the second half of the 1960s. Also active at the turn of the 1970s were Tokyo Movie Shinsha with sports anime Attack No. 1 and Ace o Nerae!, and the 1979 historical drama Versailles no Bara has been highly influential. The 'World Masterpiece Theatre' series by Nippon Animation, based on classic works of Western literature, began in 1975. While not aimed solely at female viewers, it had a huge impact, running for two decades from and widely syndicated outside Japan. Magical girls were everywhere in the 1980s, notably with the various Maho no... series by Studio Pierrot, but the genre became recognized in the west through Toei's Sailor Moon, begun in 1992.

Meaning and spelling

As shojo just means 'girl' (s) in Japanese, the equivalent of the western usage will generally include the medium: girls' manga (s+; shojo manga), or anime for girls (sQ¢Ëá *shojo-muke anime*). The parallel terms shonen (t lit. 'boy'), seinen (Rt lit. 'young man'), and josei (s' lit. 'woman') are also used in the categorisation of manga and anime, and are qualified the same way. Though the terminology originates with the Japanese publishers, cultural differences with the West means application in English tends to vary wildly, with the types often confused and misapplied.

Due to the vagaries involved in the romanization of Japanese, s (written W‡FX‡ in hiragana) may be transcribed in a wide selection of ways. By far the most common is shoujo, largely because it follows English phonology, preserves the spelling, and requires only ASCII input. The Hepburn transcription shojo uses a macron for the long vowel, though the prevalence of Latin-1 means a circumflex is often substituted instead, shôjo. It is also common practice to just ignore long vowels, shojo, however this is sometimes discouraged

due to potential confusion with æs (shojo, lit. 'virgin'). Finally Nihon-shiki type mirroring of the kana spelling may be used, syôjyo, or syoujyo. None of these many variants are any more 'correct' than the rest, unless a particular style guide is expected to be followed.

History

Western adoption

Fans in the west have adopted a wide range of Japanese anime and manga terminology, however the strong stylistic and thematic similarities between a sector of shojo works has lead to the term being thought of as a genre or style, sometimes with an attempt to assign it by degrees. This has lead to a wide variety of titles that would be classified as something else by their Japanese creators labeled shojo by western fans. Anything non-offensive and featuring female characters may be referred to as shojo, such as the light seinen comedy manga and anime *Azumanga Daioh*.[1] Similarly, as romance is common element of many shojo works, any title with romance, such as the shonen *Love Hina*[2] or the seinen *Oh! My Goddess* are liable to be mislabeled. In addition westerners often declare that particularly violent, gory, or sexually explicit works "can't possibly" be shojo, or disbelieve that shonen-ai titles are aimed at girls rather than homosexual men.

This confusion is by no means limited to the fan community, the terms are also widely misrepresented in articles aimed at the mainstream. In an introduction to anime and manga, Jon Courtenay Grimwood writes:

"'Maison Ikkoku' comes from from Rumiko Takahashi, one of the best known of all 'shôjo' writers. Imagine a very Japanese equivalent of 'Sweet Valley High' or 'Melrose Place'. It has Takahashi's usual and highly-successful mix of teenagers and romance, with darker clouds of adolescence hovering."[3]

Takahashi is a famed shonen mangaka, though *Maison Ikkoku* is one of her few seinen titles: serialised in Big Comic Spirits, aimed at males in their 20s. Matt Thorn, who has successfully made a career out of studying girls' comics, attempts to clarify the matter by explaining that "shôjo manga are manga published in shôjo magazines (as defined by their publishers)".[4]

The US comics industry in particular has struggled with understanding, let alone competing with, shojo manga. Having historically failed to produce anything that appeals to female audiences, they had to cope with Sailor Moon vastly outselling all domestically produced graphic novels aimed at their core young, male market. [5]

As such publishers and stores have problems retailing shojo: unsure of the 'right' way to spell the word, licensees such as Dark Horse Comics misidentifying several of the seinen titles, and in particular manga and anime aimed at a younger audience in Japan is often considered 'inappropriate' for minors in the US.[6] As such, titles are often either voluntarily censored or remarketed towards an older audience. In the less conservative European markets, content that might be heavily edited or cut in an English release is often present in French, German and other translated editions.

One effect of this conflict has been a move by US companies to use the borrowed words that have gained name value in fan communities, but separate them from the Japanese

meaning. In their shojo manga range, publisher VIZ Media attempt a reappropriation of the term, providing the definition:

shô·jo (sho'jo) *n.* **1.** Manga appealing to both female and male readers. **2.** Exciting stories with true-to-life characters and the thrill of exotic locales. **3.** Connecting the heart and mind through real human relationships.[7]

The desire to disassociate the word from it's meaning, 'girl', seems largely in fear of putting off potential new readers, particularly male ones.

Manga and anime labeled as shojo need not only be of interest to young girls, and some titles gain a following outside the traditional audience. For instance, Frederik L. Schodt identifies Banana Fish by Akimi Yoshida as:

"...one of the few girls' manga a red-blooded Japanese male adult could admit to reading without blushing. Yoshida, while adhering to the conventions of girls' comics in her emphasis on gay male love, made this possible by eschewing flowers and bug eyes in favor of tight bold strokes, action scenes, and speed lines."[8]

Such successful 'crossover' titles are the exception rather than the rule however, for archetypal shojo manga magazine *Hana to Yume*, 95% of readers are female, and a majority are aged 17 or under.[9]

Shojo Magazines in Japan

The strict definition of shojo being that a story is serialized or published in a magazine designated as shojo, here is a list of past and current Japanese shojo manga magazines, separated by publisher. These can be published on a variety of schedules, the most common being bi-weekly (Margaret, Hana to Yume, Sho-Comi), and monthly (Ribon, Betsuma, Betsu Fure, Lala).

Notes

1. ^ *Azumanga Daioh* mistakenly identifed as 'shojo comedy' on the MIT Anime Club website, last modified August 19, 2004
2. ^ Chobot, Jessica Shojo Showdown, defending choice of Love Hina as #5 in the 'Top Ten Shojo Manga', *IGN*, December 2, 2005
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Shonen

Shonen (t, ***Shonen***?) (sometimes transliterated as ***shounen***, literally " few years") is a Japanese word used in English to refer to anime and manga primarily intended for boys, although there can be crossover appeal to men and females as well (e.g., Mobile Suit Gundam, Dragon Ball, Shaman King, One Piece, Eureka seveN, and Naruto).

Shonen anime and manga is characterized by high-action, often humorous plots featuring male protagonists. The camaraderie between boys or men on sports teams, fighting squads, etc. is often emphasized. Unrealistically attractive female characters are also common, but are not a requirement — *Dragon Ball Z* for example has only a few remarkable female characters. The art style of shonen is generally less flowery than that of shojo, although this varies greatly from artist to artist, and some artists draw both shonen and shojo.

In contrast to shonen, anime and manga for men (university age and up) is called seinen. Despite a number of significant differences, many Western fans don't make a distinction between shonen and seinen. This is due to the fact that very few seinen manga have been published outside of Japan. On the other hand, many older men in Japan read shonen magazines because of their ease of reading during commutes to and from work on trains. Consequently shonen magazines (including Shonen Jump) are the most popular manga magazines in Japan.

Several series have notorious female audiences, who predominantly included them in non-canonical yaoi (and even shota-con) fanwork and dojinshi.

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Anime composer

An **anime composer** is a composer who mainly composes music for anime productions.

There have been many anime composers over the years, and plenty of good anime music, but there have been surprisingly few notable, long-term composers of anime music until the 2000's.

One notable exception is Joe Hisaishi, best-known for his collaboration with Hayao Miyazaki beginning in the mid-1980's. Since most of Hisaishi's anime music has been for Miyazaki, his influence has been somewhat muted compared to later composers.

Another early, notable anime composer was Shigeaki Saegusa, composer for Mobile Suit Zeta Gundam in 1985. He was a classical composer who produced a symphonic score for this series, and the series went on to be extremely popular (one of the foundation successes of the Gundam franchise). While Saegusa produced only a little more anime music, his *Zeta Gundam* soundtrack is still considered a classic among otaku. For many of them, Saegusa and Hisaishi were the first to inspire the idea that anime music could be of very high quality.

Meanwhile, Kenji Kawai was producing scores for series such as Blue Seed, Patlabor, and Ranma 1/2. While few of these scores were groundbreaking, they were almost all solid works of music. Kawai was arguably the first composer to produce a number of anime soundtracks and achieve at least a modicum of popularity within the otaku community while doing so.

During the 1990's, Yoko Kanno garnered some interest with her soundtracks for Escaflowne and Macross Plus, but it was her soundtrack for Cowboy Bebop in 1998 that made her extremely popular among anime fans. Kanno is by far the most popular composer in the anime field today.

Meanwhile, Taku Iwasaki (the Rurouni Kenshin OVAs, Witch Hunter Robin, Read or Die TV) and Yuki Kajiura (Noir, .hack//SIGN) have both produced several well-respected soundtracks in the late 1990's and 2000's.

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Anime convention

Anime conventions are gatherings of the community of fans (commonly called otaku) of various forms of anime and manga. Historically the focus has been on the written form rather than audiovisual media representations, but this may be changing. People in attendance at an anime convention are traditionally known as *members* of the convention; invited celebrities including authors are commonly known as *guests* of the convention, though many professionals including authors will simply attend as members.

Anatomy of a typical anime convention

Getting Started

Although wide variations exist between different conventions, there is a general pattern that most adhere to. The typical convention is held on a holiday weekend where three or four days can be devoted to events.

The first night of the convention "Opening Ceremonies" are held, where organizers and marquee guests are introduced.

Program

Panel-led discussions, or *Panels*, usually fill up the daytime hours of most conventions with typically one-hour discussions of topics related to anime, manga, cosplay and fandom in general. Some larger conventions, such as Anime Expo and Otakon, have had well-attended, scheduled panels starting as late as midnight.

Evening entertainment often includes a combination of official and unofficial events, including dances, formal invitational dinners, and fandom themed room parties. A *bid party* includes advertising for the location of future conventions.

Many conventions also feature an anime music video (AMV) contest, where AMVs submitted to the contest are screened for the public and judged, usually by both a judging panel as well as the general public. Videos are usually (though not always) grouped into categories, such as "Drama," "Comedy," and "Action/Adventure," and prizes are awarded to the best video in each category, as well as an overall "Best of Show" video. These prizes typically include anime DVDs and box sets, anime soundtracks, and various other anime/manga collectibles.

A costume contest called a cosplay contest is often held where persons go on stage and compete for nominal prizes based on their skill in assembling and presenting genre-inspired outfits. This is truly more a "talent show" rather than the "fancy dress ball" that the term suggests. Science fiction fans might refer to cosplay as a masquerade, but there are notable and subtle distinctions between the terms.

Specific Rooms

A *Dealer's* or *Huckster's Room* is available, where merchants sell wares of interest to fans. These include books, action figures, prop replicas and t-shirts. Similarly, there is often an *Art Show* where genre-inspired art is displayed and usually made available for auction or purchase. Smaller conventions may simply have an informal *Dealer's Row*, a section of hotel rooms from which dealers sell goods, while larger conventions may have both an official dealer's room and an unofficial dealer's row.

Many conventions have *video rooms* in which genre-related audiovisual presentations take place, typically anime series and movies; in some cases, similar genres such as Japanese live-action films may be shown as well. If there are multiple media rooms, each one may have themed content.

Typically, *Game Rooms* are also available for attendees to play a variety of genre collectible card games like the Yu-Gi-Oh! Trading Card Game or role-playing games like Big Eyes, Small Mouth. Anime-related video games are also popular.

The Convention Hospitality Suite or *Consuite* is often provided as a room reserved for light refreshments, a quiet conversation, and a place to briefly rest. The refreshments typically include coffee, tea, juice or soda, and light meals appropriate for the time of day. Depending on local liquor distribution and liability laws, the suite may serve alcohol. At conventions in the United Kingdom, the provision of cask ale is generally considered essential.

Ending the event

Often the "Closing Ceremonies" on the convention's last day are dispensed with entirely. This omission is because such ceremonies would logically be held after scheduled events are over, and convention members are occupied with packing up and checking out of the hotel.

Ceremony or not, a *dead dog party* or *post-con party* is usually held. This is the traditional winding-down party where few of the attendees are likely to have huge amounts of energy. This party is an attempt to ease people back into the real world outside of convention and can be an effective method of warding off the depression, which is often associated with the

end of a major event. Analogies can be drawn to the decompression parties following large events such as Burning Man.

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Dojin

Dojins (º; often romanized as **doujin**) are self-published Japanese works, including but not limited to comic books (manga), novels, fan guides, art collections, music and games. They are most often done by amateurs, but some professional artists participate as a way to publish material outside the regular publishing industry. The term basically means "literary group", "coterie", or "clique". Groups of dojin artists refer to themselves as a **circle.**

Dojins are made by artists who prefer to publish their own materials. Avid fans of dojins attend regular dojin conventions, the largest of which is called Comiket (short for "Comic Market") held in the summer and winter in Tokyo's Big Sight. Here, over 20 acres of dojin materials are bought, sold, and traded by attendees. Dojin creators who based their materials on other creators' works normally publish in small numbers to maintain a low profile from litigation. This makes a talented creator's or circle's products a coveted commodity as only the fast or the lucky will be able to get them before they sell out. Many Dojin creators also sell their products from their own websites and can also publish their works from distribution site and, in the case of dojinshi creators, through online downloads and print-on-demand services. Others are even beginning to distribute their works through American channels.

Over the last decade, the practice of creating dojins has expanded significantly, attracting thousands of creators and fans alike. Advances in personal publishing technology have also fueled this expansion by making it easier for dojin creators to write, draw, promote, publish, and distribute their works.

Perception

In Western cultures, dojin is often perceived to be derivative of existing work, analogous to fanfiction. To an extent, this is true: many dojins are based on popular manga, anime or game series. However, many dojins with completely original content also exist. It is also important to note that among the numerous Dojin categories, dojinshis are the ones getting by far the most exposure outside of Japan. It is also true to a certain extent in Japan itself, as dojinshis are by tradition the most popular and numerous dojin products.

Dojin Categories

- Dojinshi (ºŒ): Manga, Comic Books. A sub-category would be Dojin CG (ºCG) for CG artworks.
- Dojin soft (º½ÕÈ / º²üà): Games, Software
- Dojin Music (ºó}): Music

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Dojin soft

Dojin soft, º½ÕÈ short for "software", also sometimes called *dojin games* º²à) are video games created by Japanese hobbyists or hobbyist groups (referred to as **circles**), more for fun than for profit; essentially, the Japanese equivalent of fangames. Most of them are based on pre-existing material, but some are entirely original creations. They are almost always exclusive to the PC, but a few notable exceptions also exist for the Dreamcast, because of its very weak copy protection.

Like other shareware games, dojin soft are typically available in "demo", "trial", or "SH" form for free on the internet, with full versions available for purchase. It should be noted, however, that oftentimes these games are of high enough caliber that they rival commercially made products: one such game, French-Bread's brawler Ragnarok Battle Offline, a homage/spoof of the MMORPG Ragnarok Online so impressed Gravity Corp. (the original game's designers) that it has been given an official release outside of Japan.

While most dojin soft sales occur at anime and video game or anime conventions (such as Comiket), there is a growing number of specialized internet sites that sell them. Some titles sell well enough that their creators can make a full-time job out of their "amateur hobby". One particular circle, TYPE-MOON, has since become a commercial videogame developer and anime studio.

Dojin soft companies

07th Expansion: specializes in visual novels.
Easy Game Station: produces a wide variety of games, primarily brawlers.
French-Bread: produces a wide variety of games.
Orange Juice: specializes in curtain fire scrolling shooters
Takase: specializes in 2D fighting games.
Team Shanghai Alice: specializes in curtain fire scrolling shooters
Twilight Frontier: specializes in 2D fighting games.
TYPE-MOON: former dojin studio that specializes in visual novels.

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Dojinshi

Dojinshi (ºŒ; often romanized as **doujinshi**) are self-published Japanese works, including but not limited to comic books (manga), novels, fan guides, art collections, and games, though this term usually refers to manga and novels only. They are often drawn by amateurs, but some professional artists participate as a way to publish material outside the regular publishing industry. The term is derived from *dojin* (º), meaning "literary group", "coterie", or "clique", and *shi* (Œ) which means "magazine" or "distribution". Groups of dojinshi artists refer to themselves as a **circle.**

Dojinshi are made by artists or writers who prefer to publish their own materials. Avid fans of dojinshi attend regular dojinshi conventions, the largest of which is called Comiket (short for "Comic Market") held in the summer and winter in Tokyo's Big Sight. Here, over 20 acres of dojinshi are bought, sold, and traded by attendees. Dojinshi creators who based their materials on other creators' works normally publish in small numbers to maintain a low profile from litigation. This makes a talented creator's or circle's dojinshi a coveted commodity as only the fast or the lucky will be able to get them before they sell out.

Over the last decade, the practice of creating dojinshi has expanded significantly, attracting thousands of creators and fans alike. Advances in personal publishing technology have also fueled this expansion by making it easier for dojinshi creators to write, draw, promote, publish, and distribute their works. For example, some dojinshi are now published on digital media. Furthermore, many dojinshi creators are moving to online download and print-on-demand services, while others are beginning to distribute their works through American channels such as anime shop websites and specialized online direct distribution sites.

Perception

In Western cultures, dojinshi is often perceived to be derivative of existing work, analogous to fanfiction. To an extent, this is true: some dojinshi are parodies or alternative storylines involving the worlds of popular manga or anime series. However, many dojinshi with completely original characters and storylines also exist.

Categories of dojinshi

There are a few prevalent categories of dojinshi. *Seinen* (Rt, "young man") dojinshi usually contain adult material and target adult males over 18. *Yaoi* and *shonen-ai* dojinshi feature male homosexuality and usually target adult heterosexual women and homosexual men; *yuri* and *shojo-ai* feature female homosexuality. Yaoi and yuri manga tend to include graphic depictions of sexual acts, whereas shonen-ai and shojo-ai are often milder in graphical content. Dojinshi involving sexual themes is often referred to by fans as *H-dojinshi*; the "H" is pronounced *ecchi* in Japanese and thus a homophone of a slang term for sexual activity. *Ippan* (,, meaning "general") dojinshi do not contain adult material and are usually suitable for a broader range of audiences.

Famous dojinshi authors

CLAMP started out as a dojinshi group of 11 girls known as CLAMP Cluster. Today, they are a well-known group among manga fans, and have their works regularly serialized in major publications in several countries, such as Japan and the United States. They also publish individual manga volumes, and many of their titles have been converted to anime.
Ken Akamatsu, creator of popular manga such as Love Hina and Negima, continues to make dojinshi which he sells at Comiket under the pen-name Awa Mizuno.
Rikdo Koshi, creator of the popular manga Excel Saga, originally started out as a dojinshi artist.
Nanae Chrono, creator of the manga Peacemaker Kurogane, has published multiple Naruto dojinshi, most of a yaoi nature.
Maki Murakami, creator of Gravitation & Gamers Heaven. Her circle Crocodile Ave. created the popular Remix Gravitation aka Rimigra & Megamix Gravitation is one of the most graphic hard yaoi doujinshis to be found.
Monkey Punch, creator of "Lupin III" began as a dojinshi artist.
It should be noted that the following are famous artists, however because of their works they are not primarily known as manga-ka. Even so, this continues to be disputed amongst many.
Bleedman, creator of the online PowerPuff Girls Doujinshi.
Fred "Piro" Gallagher, creator of the online Megatokyo series, as well as the in-development series Warmth. His Megatokyo co-creator and former writer, Rodney "Largo" Caston, can also be considered one, though Caston has since left the business.

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H dojinshi

H dojinshi are non-professional comics, animation, and video games with content that is sexual in nature. The term is most often used to refer to H manga, H anime and H games produced by amateur authors.

Derivative works of H dojinshi

Anime

Anime Fiction
Mania: Secret of the Green Tentacle (spoof of Nadia: The Secret of Blue Water)
Sailor Moon and the Seven Ballz (spoof of Dragon Ball, and Sailor Moon)
StarBallz (spoof of Dragon Ball, Sailor Moon, and Star Wars)

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Hentai

Hentai (K or x"_D, ***Hentai***[?]) is a Japanese word that means "transformation" or "aberration" and is used in biology to refer to metamorphosis. However, in colloquial situations it often means "perverted" and is subsequently used in many other countries to refer to anime, manga, and computer games with explicit sexual or pornographic content (see Japanese pornography). The word is not used this way in Japanese; commonly used terms include **"jk hachi kin"** (18; prohibited for sale to persons under 18), **"ecchi/H anime"** (sexual/pornographic anime) **"eroanime"** (¨í¢Ëá; derived from *erotic anime*), or **"seinen"** (t; adult, not to be confused with *Rt young adult*).

The term **"hentai"** may also be used outside of Japan to refer to pornographic animation in general that is not necessarily anime or manga. This is most often the case if the said animation is an imitation of a pre-existing cartoon or character (e.g. Princess Jasmine hentai).

Background

H anime is an artistic expression of pornography in Japan. As opposed to photographic pornography, they allow full use of the imagination as well as scenes that run counter to accepted society and culture. Elements of sexual fantasy are represented in ways that would be impossible to film, even with a dedicated special effects budget.

This is not without precedent in Japan. During the Edo Period, which was the heyday of ukiyo-e wood-block prints, ukiyo-e had a pornographic variant, called shunga, which also had scenes that were sometimes surreal.

Each culture will have a different understanding about the line between pornographic content and mainstream works. It's important to understand ways that the Japanese line might be different from that in other cultures. Children's anime can depict nude characters, for example in Sailor Moon it is implied that the girls are nude during their transformation. Many artists add nudity as fanservice. However, H material tends to use explicit erotic content.

As a form of expressing sexual fantasy, depictions can include those that are unacceptable in society, or run counter to social norms. Such fantasies can be depicted in the extreme, often demonstrating subconscious desires or purely carnal motivations. This contrast between accepted—and in some cases *legal*—behavior and primal sexuality is a primary motivation for many works of pornography, and H art is no exception.

This form of Japanese culture acquired some popularity in the West thanks, to a large extent, to the Internet. Although there have been many pornographic comic books and animations produced in the West, they never were as popular as H manga is today. Comic book artists who focus on provocative female figures often use their talent for mainstream comic companies rather than adult works, and may fear ridicule for working on niche adult titles that are not as widespread, compared to Japan where a large group of artistic talent draws pornography.

In comparison to other forms of pornography, H art often portrays women as regular people in society who end up in some kind of sexual encounter, and are often aroused by the encounter to the point of no return. Characters may be portrayed as shy or have no conscious thoughts about sex, until placed in a situation where they are stimulated and aroused. While there is a common theme of a male stranger convincing a woman to become aroused

physically by her own body and whatever the male desires, there are also depictions of consensual sex between couples, as well as assertive women who initiate sex.

Often, H artists try to portray situations in the most extreme manner possible, in order to break the boundaries of the viewer's comfort zone. This results in artists competing to show successively more excessive situations over time. An example would include bukkake and group sex, which demonstrates extreme sex that isn't usually performed by the average person. Other forms of demonstrating extreme sexual activity include bondage, tentacles, or other fetishes. Some artists may prefer to do the opposite, and focus on lighter titillation and nudity, or on character relationships and story.

Meaning of the word

In Japanese, the word hentai is a kanji compound of (*hen* meaning "unusual" or "strange") and K (*tai* meaning "attitude" or "appearance"). It is never used to refer to pornographic material, only to a person. The terms *18-kin* (18, literally "18-prohibited") meaning "prohibited to those not yet 18 years old", and *seijin manga* (º+; "adult manga") are used when referring to pornography.

Compare *otaku* for another word altered somewhat in this transition. The English use is compared to the Japanese slang ¨ÃÁ (*H*, etchi, often spelled ecchi), which refers to any sexually explicit content or behavior — or simply a lewd comment. Etchi is simply the spelling-out of the Japanese pronunciation of the letter H; and is believed to be a shortened form of hentai used as a polite codeword in the 1960s. (Note that even in Japan the origins of etchi are unclear — one playful suggestion is that an H is someone who always follows a G, or girl.) Another possibility is that etchi is not a pronunciation of anything; it simply means "dirty". On forums and chat rooms "ecchi" is used to refer to pictures that are softcore pornography, showing nothing more explicit than women's breasts.

Exactly how the term *hentai* came to refer to all sexually explicit content in American anime fandom is unknown. With the rise of the World Wide Web, however, the term was extensively promoted by pornographic sites selling access to (frequently bootlegged) erotic manga. Banner ads promoting these sites might, for instance advertise "live girls and hentai", with the latter meaning erotic manga as opposed to photographs. In addition, many people outside of anime and manga fandom had come to associate anime with a particular genre of extreme pornography (e.g., tentacle rape) which could easily be called *hentai* in Japanese as well.

"H" in Japan is now broadly used to refer to all sexual content or activity, so "H manga" are manga with sexual content—however, "H" and "hentai" are no longer interchangeable. Also, the term "ero" (¨í), short for "erotic" but closer in meaning to "porn", is now used more often instead of "H".

Hentai classification

There are two main categories of hentai: works that feature mainly heterosexual interactions (often abbreviated "het" by its users), and those that feature mainly homosexual interactions. This second group can be further split into yaoi and yuri styles. *Yaoi* refers to homosexual male pairings, and yuri to lesbian pairings.

Yaoi commonly features males of ambiguous gender in both physical appearance and mannerisms. These males are called "bishonen," which literally means "pretty boy." The traditional "bear" of gay porn in other countries is very rare in Japan. Yaoi also exists outside of the hentai genre, since it is an ambiguous term that is applied to any form of anime that includes male homosexuality. However, it is different from shonen-ai (literally, "boy-love"), in which two males simply express romantic feelings for each other and never actually have sexual relations.

Yuri is very similar to yaoi, except that the focus is on homosexual female interactions, and the females in a typical yuri illustration or animation tend to be far less realistic than the males in yaoi. The females in yuri are known as "bishojo," which, predictably, translates as "pretty girl." Shojo-ai ("girl love") is the female equivalent of shonen-ai.

The scope of hentai encompasses the entire range of sexual fetishes, including:

- Bakunyuu, the depiction of women with large breasts. Literally translated to "busty".
- BDSM, focusing on domination through use of ropes, tools, sex toys, and elaborate devices. Themes can include empowerment, restriction, and submitting to sexual urges.
- Bukkake, a common representation of a female being used to service as many males as physically possible, who then ejaculate on her. Often depicted in public or in areas with a large number of males present.
- Catgirls (also known as "nekos" - Japanese for "cat" - in online slang) and other anthropomorphic characters, who display animal attributes such as ears, claws, and a tail. Generally, skin is made completely visible and not covered entirely by fur, a distinction from furries.
- Coprophilial and urolagnial
- Deformity
- Ecchi, focusing on nudity, partial nudity, and provocative clothing rather than pure sex.
- Futanari, a depiction of females who naturally have male genitalia, often exaggerated beyond normal proportions.
- Guro, focusing on imaginative gore and mutilation.
- Incest
- Lolicon, depicts prepubescent girls.
- Maiesiophilia
- Milk fetishism
- Science Fiction, Fantasy and Horror
- Shotacon, the depiction of young boys having intercourse with other boys, men or women.
- Tentacle sex, the depiction of tentacled creatures or monsters (imaginative or otherwise) engaging in sex or rape with girls.

Hentai media

- Adult anime, or H anime, is anime that relies primarily on sex.

- 3D rendered graphics, a more recent development that has evolved with graphics technology. Styles tend to emulate drawn art as well as video game art. Can be in image, game, or animation form.
- Adult manga, or H Manga, is manga designed for purely pornographic purposes. Plot is still used to develop character and setting, but the ultimate goal is to show scenes of sexuality. Adult manga is often sold in convenience stores, book stores, and magazine stores in Japan, and also other public places such as airports, and is far more prolific and accessible than the US adult comic book market. It is usually distributed in digest format, containing several stories by different artists.
- Adult CG artwork includes individual drawings by artists. Art can be available on websites, CD-ROMs, or in printed art books. CG artwork is used frequently in adult video games.
- Adult video games, or eroge, are games with a pornographic element. They can include bishoujo games that involve character driven plots, can exist as sex simulations.
- Adult Dojinshi, or H dojinshi, refers to a type of work that uses copyrighted characters presented in sexual situations. It usually refers to printed manga, but can also refer to any type of visual work depicting copyrighted characters, including video games, animation, and CG artwork. Familiarity with a particular character or setting can add a sense of relating to the character over a generic character used in mainstream hentai, making dojinshi more appealing to fans of a particular work. Despite not representing characters and licensed properties as intended, companies often view these works as a free form of license recognition and advertising through dedicated fandom. Some mangakas create hentai dojinshi with characters from their own mangas. Like Kazushi Hagiwara who create himself Bastard - Expansion, a pornographic dojin with characters from Bastard!!.
- In Western fanfiction circles, hentai-based works are popularly referred to as lemon, based on a more popular hentai title called Cream Lemon. Fictions referred to as "Lime" are ones in which the characters do everything short of having sexual intercourse with each other. In Japan, the works may be referred to as "lemon" or "pink" ("pink" having sexual connotations similar to the term "blue" in the west).
- Hobbyists often add an extreme adult element to sculptures, models, figures, dolls, mannequins, or outfits.

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Yaoi

Yaoi is a controversial term of Japanese origin for a publishing genre that originated in Japan, that often encompases manga, doujinshi (self-published comics) anime, or fan art that always focuses on sexual homosexual relationships between male characters and is

generally created by women artists and marketed to a straight female audience. Male Japanese artists who create homosexual-themed material for male audiences operate in another genre. Some consider yaoi to be synonymous with shonen-ai, which focuses on the same topic, but shonen-ai is (typically) not as graphic in its portrayal of homosexuality. Others insist shonen ai is an older genre that must be considered completely separately from yaoi. Both categories are now commonly referred to as Boys' Love in Japan.

Overview

The word **Yaoi** is an acronym of Japanese origin, which has come to be used in America and elsewhere to describe the Japanese publishing phenomenon of sexual gay-themed comics, animation, and prose created by women for women. The phenomenon has spread beyond Japan, with examples of what is called "American yaoi" coming into being. Exactly what the term means and what it encompasses is a subject of debate. At least one anthropologist has suggested that yaoi is a product of the intersection of two fairly universal cultural taboos: women's freedom of sexual expression and homosexuality.

Etymology

The English letters form an acronym derived from the Japanese phrase äÞjWªÁjWsjW (***ya**ma nashi, **o**chi nashi, **i**mi nashi*), that is often translated into English as, "no climax, no punch line, no meaning." A variant English translation, "No peak, no point, no problem," is often prefered as a translation that "works." The term appears to be used in Japan originally (perhaps as long ago as the 1970's) for any doujinshi that was a bizarre, playful parody, and came to be applied to sexually explicit homosexual material, but only that created by female artists and marketed to female consumers.

Pronunciation

In Japanese, each vowel is prononced separtely, making the prefered prononciation, three syllables, **yah-oh-ee** „JD . However, to hear the Japanese artists who create yaoi say it, and people who speak Japanese and market yaoi, too, it sounds more like two syllables, "yow-ee".

Usage

Some people have a very narrow definition of what consititutes yaoi, others insist on much broader definitions. Yaoi is often thought of as less "story-based" than heterosexual hentai manga or anime; as there are often pairings between mortal enimes or rivals. (Goku and Vegeta, Inuyasha and Sesshomaru, etc.) however, a broad spectrum of "intensity" exists in the genre. Themes range from ordinary themes and mild adult situations to extreme fetish-oriented works, including anthromorphism, cosplay, nonconsensual sex ("non-con"), and even monsters, incest, orgies, and assorted other highly taboo depictions of homosexuality.

Doujinshi

Some purists insist that yaoi as a term be only applied properly to doujinshi, Japanese for "same people zine," meaning the "same people" create and publish it. Typical yaoi doujinshi features male-male "pairings" whose names are always joined with an "x" never with the "/" of slash. Most, but not all doujinshi, are done by amateurs who often work in "circles." CLAMP started as a doujinshi circle. However, professional yaoi artists including Kodaka Kazuma and Maki Murakami make their own doujinshi as well. Just about any work of literature can be turned into a doujinshi. Collectors often focus on the doujinshi for a particular comic. There are doujinshis of "Yu-Gi-Oh," "Naruto," "Trigun," and even material that has nothing to do with comics, such as "Harry Potter" and "Pirates of the Carribean." Some common subjects of doujinshi include the boys of Trigun, Cardcaptor Sakura, Dragon Ball, Final Fantasy, Megaman Battle Network (aka Megaman Nt warrior, axcess,stream,etc..)Gundam Wing, Naruto, Prince of Tennis, Weiss Kreuz, Yu-Gi-Oh!, YuYu Hakusho, Rurouni Kenshin, Fruits Basket, Saiyuki, Wolf's Rain, DNAngel, and One Piece. Generally speaking, if a series features attractive male characters, it will attract yaoi fans. Thus a large amount of doujinshi material, and therefore yaoi material, actually comes from male-oriented shounen and seinen demographics. This sometimes causes conflict because many fans dislike such themes, especially when inserted as fanon.

BL vs. yaoi for professionally published material

Commercially published manga, anime, and novels that fit the yaoi genre are often referred to as "yaoi" in America but as "Boys' Love" or "BL"(the English words, shortened to the acronym "BL") in Japan. This is how the Japanese publishing community distinguishes the current professionally published works from both the doujinshi and the older "shonen ai" genre, which is no longer created or marketed in Japan.

Some people who know yaoi insist that the term be restricted to material originally published by Japanese publishers who specialize in yaoi. Until recently the Japanese publisher Biblos, and their Be X Boy magazine, was considered the major source of professionally published Japanese yaoi. However, that company's recent bankruptcy (due to failure in the company's non-yaoi ventures) means that Biblos' competitors will be taking up a larger share of the market for professional yaoi or BL manga. In recent years, several popular Japanese yaoi or BL works have been commercially translated and imported to English-speaking countries by companies such as TokyoPop, Be Beautiful, and Digital Manga Publishing (DMP).

In Japan at present all homosexual-themed manga (written mostly by and aimed at females) is generally referred to as BL or Boys' Love. This is the way Japanese publishers list the genre for Japanese markets, and the way the anime are described by the voice actors who play the roles. However, professional Japanese artists themselves often use the term "yaoi" at least when writing or speaking in English or to English-speaking audiences. Kodaka Kazuma, for example, who has been described as being to yaoi what the Sex Pistols are to punk, calls her work yaoi, and is careful to distingish her work as being yaoi, not gay. Whether a narrow or broad definition is applied, yaoi is usually of a more sexually explicit nature than

the now-obsolete shonen-ai. Little is known about Shounen-ai's predecesor Tanbi. In this context, the three terms are often compared to American slash.

American Yaoi

Over the years, gay-themed comic strips inspired by and referred to as yaoi have been adapted as a sub-culture in North America, with writings and art displayed on websites devoted to it. Notable American yaoi comics include the webcomic Boy Meets Boy by K. Sandra Fuhr, and its successor Friendly Hostility hosted on Keenspot. Professional yaoi or yaoi-related manga created by American artists for the American market includes the implicit "Off-Beat" by Jen Lee Quick, published by TokyoPop, and the explicit "Incubus" by Yayoi Neko, published by Bang. There are also some instances where any literary material with male-male homosexual content, including movies and novels, especially that created by female artists or writers, is referred to as yaoi. However, this definition is so overly broad as to generally be considered a misuse of the term.

Seme and Uke

Two of the most remarkable terms familar to yaoi fans are "seme" and "uke." They are borrowed from martial arts, but they have apparently been used in a sexual context for centuries and apparently do not carry any degrading connotations.

"Seme" comes from the Japanese verb "semeru" (to attack) and "uke" from the Japanese verb "ukeru" (to receive). Sometimes the words are translated into English as "top" and "bottom" but that is not accurate. The American slang terms "pitcher" and "catcher" are similar but "seme" and "uke" are not slang.

The "seme," (;) the "attacker," tends to be depicted as the standard male of anime and manga culture: restrained, physically powerful, protective. The "uke" (×Q), the "receiver," may be more androgynous or feminized in appearance and demeanor. Certain authors and works exploit and re-invent these stereotypes; anthologies published by Be x Boy, for example, feature sets of stories centered around themes such as "younger seme" or "reversibles". The infamous "height rule"-- referencing height as a measure of power-- also relates to this element of yaoi culture.

Typically the men of yaoi art, whether seme or uke, are drawn with a soft metrosexual look. (This is one way the genre differs from gay manga, where the men tend to be much harder and more muscular-looking.) However, there is also an uprise of Muscle yaoi where adult men are featured with strong muscles and usually less feminine behaviors.

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Yuri

Yuri (~, ***Yuri***[?]) and **shojo-ai** (æs, ***shojo-ai***[?]) are jargon terms amongst otaku for lesbian content, possibly sexually explicit, in anime, manga, and related fan fiction. In Western media, the term femmeslash is used instead.

Girl-love (or *GL*) is a similar term used to refer to lesbian content, used primarily by commercial publishers, as an analog of the "Boy Love" genre.

Definition and semantic drift

Much like the term *otaku*, yuri, although originally a Japanese loanword, has undergone significant semantic drift. The precise difference between "yuri" and "shojo-ai"' ranges from large to none, depending on the speaker.

In Japanese, the term is typically used to mean any attraction between girls in entertainment media, whether sexual or romantic, explicit or implied. For example, Futaba Channel's "yuri" board includes both hentai and non-hentai content rather than separating them. The term *shojo-ai* is not usually found in this context outside of Western fandom. Neither term is generally used by Japanese lesbians describing themselves.

American use of yuri has broadened in recent years, picking up connotations from the Japanese use, but the historical usage differed: in America, yuri has typically been used to denote only the most explicit end of the spectrum, being effectively a variety of hentai; while shojo-ai — an independently-coined term, following the logical connection to shonen-ai — described anything without explicit sex. The term likely stayed popular because many fans wanted to remove the direct connotation of pure pornography, which is still often associated with anime as a whole in some circles.

On the Internet, "shojo-ai" is sometimes used instead of "yuri" solely because the latter produces too much unrelated material in search engines.

Etymology

The word *yuri* literally means "lily", and is (like many flower names) a relatively common Japanese feminine name. In 1971, Itou Bungaku, as editor of *Barazoku*, a magazine geared primarily towards gay men, named gay men the "Barazoku," ie., "rose tribe" and lesbians "Yurizoku," the "lily tribe." From this, many doujinshi circles incorporated the name "Yuri" or "Yuriko" into yuri hentai dojinshi. The "-zoku" or "tribe" portion of this word was subsequently dropped. (Variants of this theory may name specific characters, often Yuri of the Dirty Pair.)

In 2005 at Yuricon in Tokyo, Itou Bungaku spoke about the creation of the term "yuri". He, and the mangaka and writers who attended as guests spoke of reclaiming the term from a primarily hentai connotation to once again describing all media that represent love, desire, attraction and intimate emotional connections between women.

Yuri as story

Many fans enjoy yuri for its skewing of the classic gender roles in anime, which are often quite stereotyped in nature and sometimes have a female character take a slightly more 'submissive' role if a significant other is introduced or appears. Conversely, yuri content is often criticized as never going anywhere, with the majority of the more dramatic stories ending tragically (even by comparison with the melodrama of romance in manga in general).

Young same-sex affection is considered natural in real-life Japan to a much later age than in the West. The relationships may extend to infatuation complete with gift-giving, kissing (among girls) and other touches many Westerners would consider overtly romantic/sexual. That said, sociological studies conclude that this does not lead to widespread youthful sexual experimentation (especially compared with the US/UK). Homosexuality in Japan still faces social disapproval despite the relative abundance of representations of same sex relationships in mainstream media. Marrying someone of the opposite gender and having children is seen in Japan as the proof that you have become a responsible adult; unmarried adults, homosexual or not, are seen as having character problems and face job discrimination. (The level of social conformity in general in Japan is considered very high as well.) On the other hand, homosexuals who do marry, even if they are out, even if they have same sex lovers, are not officially discriminated in any way. It is noteworthy that sexual identity in anime and manga often has less to do with a character's sexual tastes and more to do with the current interactions with other characters. (Shojo in particular is known for frequently featuring bisexual characters without explicitly specifying their orientation.)

Other yuri stories may involve characters with no previous romantic experience or who are otherwise depicted as straight, but are attracted to a single particular female, such as Yoshida Chizuru from HEN or Utena Tenjou from Revolutionary Girl Utena.

Many archetypical stories exist, such as the schoolyard not-quite-romances between sempai and kouhai (senior and junior), where the former is an older looking, more sophisticated woman and the latter is her younger, more awkward admirer. This is famously depicted in Marimite, which has a large yuri fandom. In other stories, some characters have bishonen characteristics and are considered handsome rather than beautiful. Lady Oscar from The Rose of Versailles and Asaka Rei from Oniisama e are famous examples, though the most famous is Haruka Tenoh from Sailor Moon.

Yuri in shonen is stereotyped as more blunt or explicitly sexual in depiction than it is in shojo, although some argue this is more according to males' tastes in relationships in general than to simple fanservice. Many critics of the sometimes evasive nature of shojo in regard to sex suggest that yuri is more easily found in shonen because it is depicted in a healthy, sexual manner. Generally, relationships are still depicted as between a junior and a senior, but these roles are often related to the age or maturity of a character rather than the appearance of the character. However, many of the design archetypes as in shojo are used; most often, one character appeals to the bijin aspect, and the other to the moé aspect. This sometimes causes couplings from different series to strongly resemble each other. In recent times, the most notable example of this is the stunning similarities between Himemiya Chikane and Kurusugawa Himeko of Kannazuki no Miko and Azuma Hatsumi (adopted) and Azuma Hazuki of Yami to Boushi to Hon no Tabibito; Chikane and Hazuki in particular look and act almost exactly alike, and would very likely be identical if both series had the same artist.

One should note that much of what is presented as "subtext" is subjective. For example, younger girls who seem to adore older girl characters may not have any romantic notions whatsoever, and are simply behaving as the author has observed young girls in his or her environment. Many of the suggestions of relationships in anime and manga between characters is often wishful thinking on the part of fans.

Famous yuri pairings

While many series have had implied yuri, the most famous "out" yuri pairing appeared in Sailor Moon. Haruka Tenoh (Sailor Uranus) and Michiru Kaioh (Sailor Neptune) first appear in the third season, and it is almost immediately obvious that they are a couple. Haruka makes it a point to dress and act in a masculine manner in the anime; she has short sandy blonde hair and wears the boys' uniform at her school. By contrast, in the manga Haruka was more gender-ambiguous, wearing the clothes of both sexes and even seeming to change appearance slightly depending on what she wore. At first glance this pairing appears to be the traditional dom-butch/sub-femme dynamic, but closer inspection shows that neither one can be considered "dominant" and that they are perfect complements to one another. It may even seem that Michiru is the one who "holds the whip" at times but truthfully neither dominates the other. In the English dub, their relationship was changed to that of "cousins". One example of a scene that was changed to fit this new relationship is when Serena and her friend Elizabeth were discussing their first kiss, Amara and Michelle say that the first kiss was Adam and Eve. A short scene with two figures, one with short hair and the other with long hair are supposed to be Adam and Eve in the English dub, but in the original version, these figures were Haruka and Michiru. In the fifth season of the show, it is hinted that Michiru may be bisexual, as she shows interest in Seiya Kou (*Sailor StarFighter*), who is male in his non-senshi form.

Seiya (an alien who switches between male and female when transforming) has a stated romantic interest in both Usagi Tsukino and the leader of his people, Princess Kakyuu. Seiya's relationships are complicated because of his dual gender. However, his form as *Sailor StarFighter* is his true self, making her a female at her core. Therefore, Seiya's love is another canon example of yuri in the show. True to stereotype, Seiya's love for Usagi is one-sided and ends with a parting. *Sailor Moon* as a series has large helpings of yuri overtones among the other characters as well, particularly in the anime.

Utena Tenjou and Anthy Himemiya from *Revolutionary Girl Utena* are most likely the second most famous yuri couple. Similarly to Haruka and Michiru, Utena appears to be the more "masculine" of the two, also insisting on wearing the boys' uniform and participating in the surrealist duels at Ohtori Academy. However, she is naive and overly pure-hearted at times; Anthy's jaded, cynical worldview stands in sharp contrast to Utena, and, like Michiru to Haruka, serves as a moderating and calming influence over her. It can be argued that Utena/Anthy shows more of the dominant/submissive pattern, since it is in Anthy's character (superficially, at least) to be submissive.

Unrequited love also features heavily in shojo-ai and yuri. One of the most well-known (and controversial) examples is Sakura Kinomoto and Tomoyo Daidouji from Cardcaptor Sakura. In this case, there is what appears to be a one-sided love, that of Tomoyo for Sakura. What makes this controversial with Westerners is that the characters are still in grade school.

In recent years, the trend has been toward yuri being more out in the open. Yami to Boushi to Hon no Tabibito (2003), or "YamiBou", was the most notable example of this; the main characters, Hazuki and Hatsumi, were quite obviously in love, and the story centers on Hazuki's journey through time and space to find Hatsumi after the latter departs her world

on the midnight of her sixteenth birthday. The series can be thought of as an attempt to bridge the gap between shojo and shonen anime; its story is very deep and nearly entirely character-driven, yet it contains large amounts of fanservice and is based on an H-game.

Despite some flaws, *Yami to Boushi to Hon no Tabibito*'s influence can be keenly felt in what many consider to be its spiritual successor, *Kannazuki no Miko* ("Shrine Maidens of the Godless Moon"). This is another attempt to cross genres, featuring a plot-driven storyline. It makes heavy use of mecha (giant robots), but these and even the plot itself (saving the planet from the Orochi) is just a backdrop to the real story: the love between Himemiya Chikane and Kurusagawa Himeko, reincarnations of the Lunar Miko and Solar Miko, respectively, whose job it is to combat the Orochi. Chikane and Himeko resemble Hazuki and Hatsumi extremely closely, though Himeko is much more outgoing than the spooky, selectively-mute Hatsumi. *Kannazuki no Miko* is considered difficult to watch by many shojo-ai fans; the show features brutally melodramatic twists and turns, and no concrete conclusion is reached until *after* the end credits of the last episode. Though exceedingly brief, that final snippet is interpreted by many fans as confirmation of a happy ending for the pair, albeit a vague one.

Another important example of shojo-ai and yuri is Maria-sama ga Miteru, or "Marimite". Unlike Yami to Boushi to Hon no Tabibito and Kannazuki no Miko, Marimite is an entirely character-driven shojo anime with little to no action or drama in the plot. Marimite follows the students at Lillian Jogakuen, an all-girls Catholic school somewhere in Japan. It focuses on the relationships between the girls, set against the backdrop of the Student Council, known as the Yamayurikai. While most of the shojo-ai is subtext, Sato Sei (Rosa Gigantea) is quite obviously a lesbian and two entire episodes of the first season are devoted to the story of her and a former lover, Kubo Shiori. Shimazu Yoshino and Hasekura Rei act in many ways as if they are already married, having known one another since early childhood and being distant cousins. Todo Shimako, mysterious and aloof, seems to be growing a relationship with the small but fiery new first-year Noriko in the second season as well. As of 2005, the most popular pairing in the fandom (Sachiko/Yumi) is still at the subtext level, and some fans believe it may never progress beyond that.

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Original Video Animation

Original Video Animation (ªê¸ÊëûÓÇªû¢Ëáü·çó, *Orijinaru Bideo Animshon*[7]), abbreviated **OVA** (ªüÖ¤¨ü, *Lbui*[7]), is a term used in Japan for anime titles that are released directly to retail sale, without prior showings on TV or in theaters. OVA titles were originally available on VHS, though they later became available on other media such as Laserdisc and DVD. OVA is sometimes used, perhaps inappropriately, to refer to any extremely short anime series or special regardless of its release format.

OAV or **Original Animated Video** is sometimes used in place of OVA, and the meaning is generally accepted to be the same. According to source[1] the abbreviation OAV was too similar to AV ("Adult Video"), causing OAV to be misinterpretated as *Original Adult Video*, resulting in a shift towards the OVA abbreviation.

The OVA format

Like anime made for television broadcast, OVAs are broken into episodes. OVA media (tapes, Laserdiscs, or DVDs) are usually sold with just one episode each. Episode length varies from title to title, and might be anywhere from a few minutes to two hours or more per episode. An episode length of 30 minutes is quite common, but this is by no means the rule. In some cases, the length of episodes in a speciffic OVA may vary greatly (in GaoGaiGar Final, the first 6 episodes last around 30 minutes, while the last 2 episodes last 40 and 50 minutes respectively and The OVA Key the Metal Idol consists of 15 separate episodes, ranging in length from 20 minutes to nearly two hours each.) An OVA series can run anywhere from just one episode (essentially a direct-to-video movie) to dozens in length. Probably the longest OVA series ever made was Legend of the Galactic Heroes, which spanned 110 main episodes and 52 gaiden episodes.

Many popular anime began as Original Video Animation, and later grow to become popular television series or movies. Tenchi Muyo!, for example, began as an OVA but went on to spawn several TV series, three movies, and numerous spinoffs. Other OVA releases are made as sequels, side stories, music video collections, or bonus episodes that continue existing TV series or films, such as Love Hina Again.

OVA animation is well regarded for its high production quality. OVA titles generally have high budgets and therefore the technical quality of animation is almost always superior to TV series and may equal or exceed the quality of movies.

OVA titles are also known for detailed plots and well developed characters. Probably the most significant reason for this is that the format offers the writer and director much greater creative freedom than other formats. Since OVA episodes and series can be any length, the director can use however much time he likes to tell the story. There is a great deal of time available for significant background and character/plot development. This is in contrast to TV episodes that must begin and conclude an episode in 22 minutes, or films which rarely last more than two hours. There is likewise no pressure to produce "filler content" to extend a short plot into a full TV series. There are other reasons as well: OVAs are more likely to be scripted for artistic reasons, rather than mass-market appeal. Many OVA titles are targeted to a specific audience, whereas mass-market films and TV series are written for a more general audience. As well, OVA releases are not bound by content restrictions or censorship (such as violence, nudity, or language) that are often placed on television series.

Most OVA titles run 4-8 episodes and tend to have a complex and continuous plot which is best enjoyed if all episodes are viewed in sequence. This is in contrast to TV series, which generally have many short "mini-stories" that happen to be related somehow, rather than a unified plot. Many OVA titles can be thought of as "long films" that just so happen to be released in parts. Release schedules vary, as some series may progress as slowly as 1-2 episodes per year. Some OVA titles with a lengthy release schedule ended up unfinished due to lack of fan support and sales.

History

OVAs originated during the late 1970s. As the VCR became a widespread fixture in Japanese homes, the Japanese anime industry grew to behemoth proportions. Demand for anime was massive, so much so that consumers would willingly go directly to video stores to buy new animation outright. While "direct-to-video" was a pejorative in the United States for works that could not make it onto TV or movie screens, in Japan the demand was so great that direct-to-video became a necessity. Many popular and influential series such as Bubblegum Crisis and Tenchi Muyo! were released directly to video as OVAs.

Although direct-to-video anime had appeared earlier, the first actual OVA series to be billed as such was 1983's Dallos, directed by Mamoru Oshii and released by Bandai. Another famous early OVA, premiering shortly thereafter, was the original Megazone 23. Other companies were quick to pick up on the idea, and the mid-to-late 1980s saw the market flooded with OVAs. During this time, most OVA series were new, stand-alone titles.

As the Japanese economy worsened in the 1990s, the flood of new OVA titles drained to a trickle. OVAs were still made, but in smaller numbers. Many anime series ran an economical 13 episodes rather than the traditional 26. New titles were often designed to be released to TV if they approached these lengths. In addition, the rising popularity of cable and satellite TV networks (with their looser censorship rules) allowed many new titles to be broadcast directly to the public when previously that would have been impossible. Therefore many violent, ecchi, and fanservice series became regular TV series. During this time period most OVA content was limited to that related to existing and established titles.

However, in 2000 and later, a new OVA trend has begun. Many TV series are released in a fashion in which not all of the episodes are broadcast normally--some are released in OVA fashion: they are only available if one purchases the video (generally, a DVD). Examples of this include Love Hina: the 25th episode was DVD-only, and Oh! My Goddess: several episodes of the TV series are DVD-only. The popular anime and manga series Hellsing has also begun an OVA series, this time more heavily based on the manga. This trend is becoming quite common, with many new titles offering DVD-only episodes. Further more, many recent OVA series pre-broacast the episodes and release the DVD with unedited and revised for better quality of animations.

References

1. ^ OAV versus OVA: what's the difference?, *Lawrence Eng*; December 10, 2004

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Otaku

In English, **otaku** refers to a variety of geek or fanboy/fangirl obsessed with anime and manga.

While in Japanese the term *otaku* has negative connotations, in English the term is more flexible; some fans believe it has positive connotations, while other fans believe it has negative connotations. Japanophile is a word sometimes used to describe an *otaku*. Wapanese is a derogatory term that is sometimes used, while others feel many cultures have their own equivalents.

Currently the term *otaku* is often used as self-description by anime fans with a minute and detailed knowledge. They use it to rally those who have recently begun to watch anime or read manga, and encourage questions on shows and Japanese culture in general.

In Japan

The word *otaku* is derived from an honorific term for another's house or family (J…, *otaku*) that is also used as an honorific second-person pronoun (roughly equivalent to *vous* in French). Another story goes that it was derived from Maurice de la Rie, an old Japanese Leipo. The modern slang form, which is distinguished from the older usage by being written only in hiragana (J_O) or katakana (ª¿¯ or ò¿¯), appeared in the 1980s; it appears to have been coined by the humorist and essayist Akio Nakamori (-î+, Nakamori Akio) in the 1983 series "An Investigation of Otaku" (J_Onv, otaku no kenkyk), who observed that this form of address was unusually common among geeks and nerds. It entered general use in Japan around 1989, and may have been popularized by Nakamori's publication in that year of "The Age of M" (MnBã, M no jidai), which applied the term to the (then) recently caught serial killer Tsutomu Miyazaki, who turned out to be a loner obsessed with pornographic anime and manga (which is often called hentai in the Western hemisphere) and who lived out his rape fantasies on living young girls, attaching a huge taboo to a formerly innocuous term.

In modern Japanese slang, an *otaku* refers to an overly obsessive fan of any one particular theme, topic, or hobby. Perhaps the most common uses are *anime otaku* (one who sometimes enjoys many days of excessive anime watching with no rest) and *manga otaku* (a fan of Japanese graphic novels). The term otaku used by itself just means "fanatic". Japanese culture has many other varieties, such as *psokon otaku* (personal computer geeks), *gmu otaku* (playing video games), and otaku that are extreme fans of idols, heavily promoted singing girls. Sometimes the term would be used for some hobbies of mechanical or technological area such as tetsudo otaku (metrophiles) or *gunji otaku* (military geeks), too. While these are the most common uses of *otaku*, the word can be applied to anything (music otaku, martial arts otaku, cooking otaku, etc). The word *maniakku* or *mania* (from English "maniac") is sometimes used to indicate someone whose interest is strong, but not obsessive or unhealthy: *anime maniakku*, *gmu mania*, etc.

The name for a female *otaku* is *otome*, which translates as "maiden." A small alleyway of Tokyo's Higashi Ikebukuro district is known as "Otome Road." Otome Road's *otome* (female otaku or geekettes) are a cross-section of Japanese womanhood, with ages ranging from teenage junior high school girls to housewives in their late 40s. A feature of the area is that

there are so many bookstores devoted to comics and books filled with stories about homosexual men, in a genre called Boys' Love or BL. Dojinshi, manga produced by amateur fans, dominate the shelves along Otome Road, with a significant chunk of the comics' stories about more famous cartoons that imitate, parody or develop on characters who are usually household names in Japan.

An interesting, modern look into the *otaku* culture has surfaced with an allegedly true story surfacing on the famous internet bulletin board 2ch.net: "Train Man", a love story about a geek and a beautiful woman who meet on the train. The story has enjoyed a compilation in novel form, several comic book adaptions, a movie film released on June 2005 and a television series which aired on Fuji TV from June to September 2005. The drama has become another hot topic in Japan, and the novel, film and television series give a closer look into the *otaku* culture.

A subset of otaku are the Akiba-kei, men who spend a lot of time in Akihabara in Tokyo and who are mainly obsessive about anime, idols and games.

Sometimes the term is used to describe something pertaining to the subculture that surrounds anime, idols and games in Japan. This subculture places an emphasis on certain services (see fanservice) and has its own system for judgment of anime, dating simulations ("dating sim") and/or role-playing games and some manga (often dojinshi) based upon the level of fanservice in the work. Another popular criterion—how ideal the female protagonist of the show is—is often characterized by a level of stylized cuteness and child-like behavior (see moé). In addition, this subculture places great emphasis on knowledge of individual key animators and directors and of minute details within works. The international subculture is influenced by the Japanese one, but differs in many areas often based upon region. (See also: Superflat, Hiroki Azuma.)

Since anime in Japan is not as widely accepted as manga, the otaku subculture has much influence over the mainstream anime industry in Japan. The area where otaku have the most influence in manga tends to be with dojinshi. Manga published in the United States are more influenced by their respective otaku subculture than they are in Japan. This is because most people who read manga have some ties to the subculture in the US, whereas in Japan manga reading is more widespread.

In English/Internationally

The word is a loanword from the Japanese language, but in the English/international sense it is used to refer specifically to a fan of anime and manga, though it can sometimes refer to any "geek," in general. The term serves as a label not unlike the term Trekkie or fanboy. However, use of the label can be a source of contention among older or more moderate anime fans, particularly those who are aware of the negative connotations the term has within some subcultures. As in Japan, unpleasant stereotypes about otaku prevail in worldwide fan communities, and some anime fans express concern about the reputations these more extreme fans can earn their hobby (not unlike sentiments in the comic book and science-fiction fandoms). Non-Japanese otaku won't necessarily know Japanese, either, though there are some who do to one degree or another.

To indicate that one is talking about the Japanese definition rather than the English loanword, the spelling *wotaku* (ò¿¯) is sometimes used. On Japanese forums such as

2channel, however, *otaku* (ª¿¯) and *wotaku* (ò¿¯) are used interchangeably, depending on the mood and personal style of the poster.

Otaku is increasingly being used outside of Japan to refer to an individual that is obsessed with technology, a pre-occupation stereotypically assigned to Japanese teens in the early 1980s. For example, demanding U.S. technology consumers are sometimes referred to as American Otaku. This group first reached noticeable prominence in the widespread blogosphere critique of Apple and Microsoft in the aftermath of two disappointing product releases in February and March of 2006.

Fictional works about otaku

As otaku make up a good portion of the creative forces behind anime and manga, it is only natural that several works of manga and anime on otaku culture have appeared, often as a light-hearted pastiche. Some of the more famous works include:

- ***Otaku no Video***: A pair of films that follow a young college student as he is introduced into the world of the otaku by a high school friend and soon spends the next several years trying to become the greatest otaku, the Otaking. The work also serves as a semi-autobiographical account of the formation of Gainax, and is inter-cut with several live-action mock interviews with several different types of otaku.
- ***Comic Party***: Originally a series of dating sims which was then adapted into various anime and manga series, *Comic Party* follows a rejected art student as he is enthusiastically thrust into the dojinshi scene by a crazed otaku friend. He then creates several of his own dojinshi works while interacting with other artists and dealing with his girlfriend who is at first less than enthusiastic about his new passion.
- ***Genshiken***: A manga later adapted into an anime series which follows a "catch-all" otaku college club and the various activities they become involved in. Much of the story is told from the perspective of two characters: a freshman who grows into his otaku identity; and the girlfriend of another member who disapproves the passions of her attractive, but clueless, otaku boyfriend.
- ***Densha Otoko***: Densha Otoko (ûÊ7, literally "Train Man") is the story of a Japanese geek in his early 20s who saves a beautiful woman ("office lady"), Hermès, from a drunken groper on a train, and then chronicles his subsequent dates with the woman and requests for help on the Japanese mega-BBS 2channel (in the TV series referred to and remodelled into the semi-fictitious "Aladdin Channel").
- ***Welcome to NHK!***: Originally a novel written by Tatsuhiko Takimoto and illustrated by Yoshitoshi Abe, which was adapted in manga form by Kenji Oiwa. An anime series is coming in 2006.
- ***Metal Gear***: A reoccuring character in the *Metal Gear* video game series is a man named Dr. Hal "Otacon" Emmerich. He is a lover of Japanese anime and entered into the field of engineering and techology because of it (namely because of the mecha genre.) His nickname "Otacon" comes from the the word "Otakon" (short

for "otaku convention"), which is a convention focusing on the art of anime and manga, East Asian culture, and its fandom. It is held in Baltimore, Maryland ever since 1994. Konami (the company which created the *Metal Gear* series) was given permission by Otakorp, Inc. to use the name "Otacon" for any title of the series.Home | Up | Dojin

Anime and manga terminology

Anime and Manga fandom in the west (especially the U.S.) has adopted many Japanese words and phrases. Some of these words have been misinterpreted, reinterpreted or undergone significant drift in meaning. In addition, a variety of terms relating to Anime and Manga and the associated fandom have arisen either by translation/transliteration from Japanese, or as part of the subcultures shared slang or jargon.

In some cases English and Japanese have contributed in complex ways to the formation of new words in either or both languages. (e.g. Hentai - 'H' - Ecchi)

Other subcultures have also adopted Japanese loan-words through contact with Anime and Manga media and fans.

In addition there are a great many Japanese words and phrases that fans and the curious will come across in relation to Anime and Manga.

Contents

A

- Ai () — love
- Anime (¢Ëá) — Animation originating in Japan. Not a genre and contrary to popular misconceptions widely varying in style.

B

- beddo shiin — /bed scene/
- bishie (bishi or bish) — fan term for androgynous and/or effeminate males of all ages derived from bishonen, also applied to similar (beautiful but somewhat butch) females.
- bishonen (Žt) — beautiful boy — Japanese aesthetic concept of the ideally beautiful young man. Androgynous, effeminate or gender ambiguous. In Japan it refers to youth with such characteristics, but in the west has become a generic term for attractively androgynous males of all ages.

C

- Catgirl — character with cat ears and a cat tail, but an otherwise human body.
- Chapatsu — "brown hair" The once-rebellious & trendy, now mainstream, style of bleaching (and occasionally dying) hair, found among Japanese teens.
- CM — *Comics Market* (see Comiket)
- Comiket — *Comics Market* — world's largest comic convention held biannually in Tokyo, Japan for producers and fans of Dojinshi. (see Comic Party)

D

- Dojinshi — amateur comic/zine
- doseiaisha — *same-sex-loving person*

E

- ecchi — perverted — from 'H' for Hentai
- enjo kosai — "compensated dating" which may at times border on quasi-legal prostitution. High school girls are paid by older men to take them out for a night on the town, possibly with sex included.

F

- Fuku — (»üéü sr-fuku) — "sailorsuit" style Japanese girls school uniform.

G

- gakuran (féó) — Uniform for middle school and high school boys in Japan. The Gakuran is derived from Prussian army uniforms.
- Ganguro (TÒ) literally "black face" — Fashion trend among Japanese girls. The look consists of bleached hair, a deep tan, both black and white eyeliners, false eyelashes, platform shoes, and brightly colored outfits.
- Ganbare - good luck or "you can do it"
- gei — transliteration of gay
- glomp — a hug in the manner of a small child, similar to a bearhug but often including one or both legs as well as arms. Also* A hug in which the hugger jumps and catches the *victem* by surprise or off gaurd.
- Gothloli — Gothic Lolita — A fashion trend where girls and young women dress in the style of elaborate porcelain dolls.

H

- Hentai — "abnormal" or "perverted" — Used by Western Audiences to refer to pornographic anime or erotica. However, in Japan the term used to refer to the same material is typically Poruno or Ero.

I

- Iincho - Short for Gakkyk Iincho, the class representative in a Japanese school.

L

- Lemon — material with explicit sexual content (not to be confused with the slang term for Lesbian in some English speaking cultures)
- Loli-Goth — Gothloli — Gothic Lolita

K

- Karawayo — phrase a Japanese girl utters before entering sexual intimacy (*shall I take my clothes off*?)
- Kemono (c or Q,n) — "beast" — A genre of Japanese art and character design that prominently features animal-like fictional characters in human-like settings (Anthropomorphism) and situations. (see The Cat Returns, c.f. Furry)
- Kemonomimi — characters with animal features such as ears and a tails, but have a human body. Catgirl also falls under this concept.
- Kogal (^{3}®ãë *kogyaru*) — A subculture of girls and young women, the kogal "look" roughly approximates a sun-tanned California Valley girl.
- komiketto — genericised form of Comiket (*Comics Market*)

O

- OAV — Original Animated Video, see OVA.
- okama — (pejorative) homosexual — (literally *cooking pot*)
- omake — Some kind of add-on bonus on an anime DVD, like a regular 'extra' on western DVDs.
- orijinaru — /original/
- otaku — A big fan of something, in most cases anime/manga. The word is Japanese, and has a negative meaning associated with it in Japan. However, in other countries, anime fans likes to refer themselves as otaku.
- OVA — Original Video Animation, or OVA is a type of anime, which is intended to be distributed on VHS tapes or DVDs, and not to show in movies, or television.

- owari — "End" in Japanese, used by some fanfiction authors at the end of their works.
- oyaji (ª6, J„X, ªä¸) — *Daddy* — older male such as a teacher or other role model. Often slightly perverted, but usually portrayed affectionately.

P

- parodi — /parody/

N

- nanshoku — *male love* — a deprecated term for homosexuality

R

- rezu / rezubian — transliteration of lesbian

S

- shojo (s) — "young woman" is, in western usage, a style of anime and manga intended for girls
- shojo-ai — Otaku neologism coined following the form of shonen-ai, denoting lesbian content, typically for material without explicit sex, in anime, manga, and related fan fiction. (q.v. yuri)
- shonen (t) — "young boy" is, in western usage, a style of anime and manga intended for boys. These works are characterized by high-action, often humorous plots featuring male protagonists, and unrealistically endowed female characters providing fanservice.
- shota -
- shudo — abbreviation for wakashudo — *The Way of Young Men* age structured homosexuality in Samurai society
- suki — "to love" in Japanese

V

- Visual Kei — a Japanese form of rock music defined by bands featuring performers in elaborate costumes but whose musical style varies.

W

- wakashudo — *The Way of Young Men* age structured homosexuality in Samurai society

Y

- yaoi — Japanese acronym from ''No climax, no point, no meaning'' (Yama nashi, Ochi nashi, Imi nashi) — Male-on-male sexual content. Sometimes used for all male/male romantic and sexual content.
- Yuri — Otaku jargon term for lesbian content, typically used to denote only the most sexually explicit end of the spectrum, in anime, manga, and related fan fiction. (q.v. shojo-ai)

Z

- Zettai Ryoiki

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Alternative manga

Alternative manga are Japanese comics that are published outside of the more commercial manga market, or also manga that have different art styles, themes, and narratives, then commonly found in the most popular manga magazines.

Alternative manga got its start through the Lending Libraries in post-war Japan which charged a small fee for borrowing books. This market was essentially its own marketplace with many manga being made exclusively for this market. This market was notorious amongst parental groups for containing more lewd content than the normal mainstream manga publishers would allow. Consequently the market tended to appeal to a slightly older adolescent audience, versus the child-dominated audience of the mainstream magazine anthologies at the time.

In 1958 in this market an author named Yoshihiro Tatsumi decided to do comics that were more realistic and darker. He didn't like calling these works *manga* (which in Japanese

means "frivolous pictures") he instead called these comics *gekiga* (which in Japanese means "dramatic pictures"). This is very much akin to the term graphic novel being advocated by American alternative cartoonists over the term comics.

As gekiga gained popularity, the lending libraries gradually fell apart due to the better economic conditions that existed in Japan during the 1960s. As a result many gekiga artists left the lending libraries and began to set up their own magazine anthologies. One of these anthologies (Garo) was designed to showcase the newest talent in the manga business. Garo started out as being a gekiga magazine but would eventually grow to a new style with the work of Yoshiharu Tsuge. Tsuge is widely credited with bringing a more personal stance to manga, allowing for manga to be an abstract reflection of his own experiences. Some critics have gone as far as to call his work the comics equivalent to an I novel.

As Garo gained popularity particularly with the youth movements of the 1960s, many other magazines followed in its footsteps. At around the same time gekiga elements began appearing in maintream manga magazines, with Tezuka fully embracing the style and doing more work aimed at older audiences. Eventually Tezuka would start up a magazine called COM, as his answer to Garo. With Gekiga being integrated into mainstream manga, and manga being accepted as an artform by the masses around this time period, some people go as far as to call it the Golden Age of Manga.

After the golden age as comics became more commercialized into the 1980s, alternative manga began to take different routes from the mainstream. Currently the biggest thing going on is influence from abroad. Many mangaka not wanting to follow japanese art conventions are looking to European and even sometimes American comics for influence. The first artist to start this look abroad was Katsuhiro Otomo who had a profound effect on both mainstream seinen oriented and alternative cartoonists in Japan.

List of Movements:

- Manga Lending Libraries (1950s-1970s)
- Gekiga (late 1950s-1980s)
- Garo (1960s-1990s)
- La nouvelle manga (late 1990s-present).
- Superflat (1990s-present).

List of Important People:

- Yoshihiro Tatsumi
- Yoshiharu Tsuge

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Amerimanga

Amerimanga, (also "Ameri-manga" or "AmeriManga,") is a comic influenced by Japanese anime and manga, created by an American, Canadian, European or Asian comic artist outside of the so-termed "CJK Triangle", particularly Japan. While "Amerimanga" is the oldest term for these works, other terms are now often used instead, due to the America-centric origin of the word and the increasing number of new series appearing that are influenced by Japanese manga, but are made for an English-speaking audience. The terms "Western Manga" or "World Manga," as well as "Pseudo-Manga" or "Emulation Manga" can occasionally be heard as substitute names, but the term "OEL Manga," or Original English Language Manga, is more commonly used instead.

However, "OEL Manga" has also received criticism from some quarters. According to some Western anime and manga otaku, this word would be an oxymoron, since the word "manga," being a Japanese word, would inherently mean that the comic was published in Japan. Some of these people refer to "Amerimanga" instead as "Manga-Influenced Comics" (usually abbreviated to MIC) in an effort to disambiguate the use of the word "manga" to refer to works created outside of Japan. Fandom news site Anime News Network currently uses the term "World Manga" to describe these works in their column entitled Right-Turn Only.

Amerimanga, like its predecessor, often features an artistic style characterized by large eyes, exaggerated hairstyles, body types, and other features found in popular japanese manga. However, it is important to note that the term does not necessarily refer to one artistic style.

AmeriManga magazine

Briefly before its closing, American manga publisher Studio Ironcat published a magazine series called AmeriManga. A few of the titles in the compilation have since moved on to be published in other formats by other companies, most notably TOKYOPOP.

Other Amerimanga magazines are still in publication today, including EigoManga's *SakuraPakk* and *RumblePakk* titles; Purrsia Press's *Manga Maximum*; *Mangazine*; and *Shoujo*. International magazines of the same type include Britain's *MangaMover* and *Sweatdrop*; the Australian publications *Xuan Xuan* and *Oztaku*; and the Canadian magazine *Kitsune*.

Notable Examples of Amerimanga

Dreamwave's Transformers
eigoMANGA's Rumble Pakk link and Sakura Pakk link series
Ben Dunn's Ninja High School
Fred Gallagher's Megatokyo
Marvel Comics' "Mangaverse" imprint
Fred Perry's Gold Digger
Jill Thompson's Death: At Death's Door, based on Vertigo's Sandman series
Adam Warren's Dirty Pair series
Tommy Yune's Speed Racer

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Amerime

Amerime, sometimes **americanime**, is a term referring to a style of animation that emulates the ubiquitous Japanese anime style. Though most of these works are created by and primarily shown in the U.S. (hence the name), it should be noted that not all Amerime is of American origin; for example, one recent series, Totally Spies!, is created by French company Marathon. In some cases, Amerime can also refer to "true" anime works done by Japanese studios but based on American content (i.e., the 2006 Witchblade anime, Demashita! Powerpuff Girls Z). In a few cases, amerime will refer to original anime works edited drastically enough that it has essentially become an entirely different series.

The term is sometimes used as a derogatory by critics and fans of anime and limited animation alike, for a number of reasons, among them the idea that the "Americanization" of anime is untrue to original works, or that original "amerime" works are insulting to "true" anime (that made in Japan). This view is not held by all fans.

History

As predecessors, Amerime owes to Amerimanga and La nouvelle manga, due to manga influences affecting the American and Franco-Belgian comic book industries; at the same time, the increasing amount of Japanese anime series coming into the US, starting mainly with Robotech (possibly the first series labeled as "amerime", though other Americanized anime series were broadcast as early as the 1950s) impacted a generation of writers, animators and artists. On a similar level, Japanese cinema, such as jidaigeki, also influenced directors and others. As the Japanese artforms created an impact, creators within the two regions began to emulate the styles, dynamics, and cliches of the Japanese forms.

Visually, there are still some differences between true anime and Amerime, and in some cases, enough so that it can be spotted by most fans of the genre, this could be considered somewhat ironic, as the very presence the same demographic behind anime is the driving force behind Amerime. While anime from Japan tends to immerse the characters, actions and settings in a Japanese context due to the experiences of the creators, Amerime tends to place

little stock in these or will sometimes leave such devices out entirely. This has caused critics of the style to refer to Amerime as nothing more than retrofitting anime styling to western plotlines. Additionally, Amerime is recut for US television and audiences, and will oftentimes have a different pace than its Japanese counterparts. Another difference is fanservice; where it may be present to some degree or other in most anime works, Amerime will often forgo this.

Going the other way, at least two American animated television series have singled out anime styling with sarcastic intent in single episodes: South Park (with "Chinpokomon" and "Good Times With Weapons") and The Angry Beavers. South Park has a notable drawing style, which was itself parodied in "Brittle Bullet", the fifth episode of the anime FLCL, released several months afer "Chinpokomon" aired. Furthering the cycle is Teen Titans, an Amerime that references *FLCL* on multiple points[1].

Examples of Amerime

Aeon Flux
Avatar: the Last Airbender
Ben 10
Code: LYOKO (Although, this series was created in France)
Hi Hi Puffy AmiYumi
Jackie Chan Adventures
Kappa Mikey
Martin Mystery
Megas XLR
Samurai Jack
Super Robot Monkey Team Hyperforce Go!
Teen Titans
The Boondocks (TV series)
W.I.T.C.H.
Totally Spies!
Xiaolin Showdown

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Bishojo

Bishojo (Žs; sW‡FX‡; literally, "beautiful young girl"), also spelled **bishoujo**, is a Japanese term used to refer to young and pretty girls, usually below college age.

Bishojo in manga and anime

Bishojo are seen in almost all genres of anime and manga, ranging from shojo to mecha, but especially renai games and so-called harem anime. It is sometimes considered the most mild form of fanservice, particularly if older women would be more appropriate characters. A "bishojo series" is a series directed towards a male audience predominantly featuring such

characters, and usually a single token male character, if any. The main draws for this audience are typically the art and the attractive female characters, and the term is sometimes itself perceived negatively as a "genre" solely depending on its marketability of cute characters.

It is distinguished from the similar sounding shojo demographic by referring to the gender of the characters, not the intended audience. Shojo is manga/anime *for* girls; bishojo is manga/anime *about* pretty girls, usually targeted towards a male audience.

Moé style

A style called "moé style" is often used on (but not limited to) drawing bishoujo. It is very common in manga and anime. Moé style features are:

1. Big eyes
2. Big pupil and Iris
3. Short body figure
4. Slim limbs
5. Small simple nose
6. Flat face
7. Slim body frame

Further more, the transparent feeling of pupils and the "stars" like reflection in eyes are often exaggrated, regardless of surrounding lighting.

Bishojo contests

Singing star Aya Ueto first became famous through a televised national *bishojo* beauty contest at the age of twelve. Model and actress Ryoko Yonekura also won one in 1992.

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Bishonen

Bishonen (Žt, ***Bishonen***[?] also transliterated **bishounen**, is a Japanese term literally meaning "beautiful youth." It describes an aesthetic widely shared in Asia—a young man whose beauty (and sexual appeal) transcends the boundary of sex. Recently, it has shown strongest manifestation in Japanese and Korean pop culture, but it has roots in ancient Japanese literature, the homosocial and homoerotic ideals of the medieval Chinese imperial court and intellectuals, and Indian aesthetic concepts carried over from Hinduism, imported with Buddhism from China, and Korea.

Today, bishonen is very popular among girls in Japan. Reasons for this social phenomenon may include the unique male/female social relationships found within the genre. Some have theorized that bishonen provides a non-traditional outlet for gender relations. Moreover, it breaks down stereotypes surrounding effete characters. These are often depicted with very strong martial arts abilities, sports talent, high intelligence, or comedic flare, traits that are usually assigned to the hero/protagonist. Although they were depicted as homosexual in manga, most of them in reality are heterosexual.

Origin

The prefix *bi* (Ž) specifically refers to feminine beauty, and bijin, literally "beautiful person", is used to refer to a beautiful woman. The bishonen is typically slender, with a tapered chin, stylish hair, and a facial structure likened to that of a woman, while retaining a male body. (His androgynous appearance is akin to the depiction of angels in Western renaissance art, with similar social roots for this aesthetic.) Occasionally biseinen (literally beautiful man) is seen as a synonym, but biseinen usually refers to a handsome man older than a bishonen, with *bishota* referring to a beautiful, pre-pubescent male child. These terms do not appear in Japanese, but are conjunctions created by Western fans from Japanese loan-words. In the west, bishonen is the most popular of the three terms, and has become the generic term for all beautiful boys and young men.

The aesthetic of the bishonen is first recorded in Lady Murasaki Shikibu's Tale of Genji, written in about the year 1000 C.E. Genji concerns the exploits and romances of a young prince, the son of an emperor and beloved concubine, who is not in line to inherit the throne, and follows his intrigues through the court as he comes of age. It is a classic novel, typifying the Heian age of Japanese history - a period when culture's obsession with romance, and a sense of refined aesthetics pervaded society. Prince Genji's beauty is described as transcendental, so much so that "one could have wished him a woman", with a bewitching attraction that is acknowledged by men and women alike; however, with one brief, comical exception, Genji's sexuality is only manifested towards women.

The aesthetic of the bishonen began as an ideal of a young homosexual lover, likely arising from the effeminate male actors who played female characters in Kabuki theater. It is perpetuated today in anime and manga, especially shojo manga and anime, shonen-ai, and yaoi.

Usage

Some western anime and manga fans use the term to refer to any handsome male character regardless of age, or any homosexual character. In the place of bishonen, some fans prefer to use the slightly more sexually neutral *bishie* or *bijin*, but these terms remain less common. The term *binanshi* was popular in the 1980s. Bishonen is occasionally used to describe some androgynous female characters (such as Lady Oscar in *The Rose of Versailles*, Karou no Kimi and Hana no Saint Juste in *Oniisama e*), or any women with traits stereotypical to bishonen.

Bishonen is sometimes also depicted as an anime or manga character that is drawn as if a female, but has male components.

Examples

Examples of Bishonen drawing styles are included in Castlevania, Gravitation, Peach Girl, Yami no Matsuei (or Descendants of Darkness), Loveless, Kingdom Hearts, Final Fantasy, Sukisho, and Kyo Kara Maoh!.

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Catgirl

A **catgirl** is a woman or girl with cat ears, a cat tail, or other feline accouterments on an otherwise human-shaped body; they are found semi-commonly in anime and manga either as a form of cosplay or actual body parts, as well as in a few video games (Dark Cloud, for example). Catgirls wishing to look especially cute will wear over-sized mittens and shoes that look like paws. "Catgirl" can sometimes be modified to refer to other woman/animal combinations that are sometimes found, usually mammals like bunnygirls, foxgirls and (more rarely) doggirls; see *kemonomimi*.

Catgirls are typically not considered furry because they most often resemble humans with cat-like embellishments rather than being an anthropomorphic cat, though this is not always the case, as the definition and appearance of catgirls vary from country to country, person to person. Eastern catgirls are usually depicted as having minimal feline characteristics such as slitted eyes, tails, and ears (with different color ear-fur than their hair), while Western catgirls are more often portrayed as more feral, with full body fur and claws being their most prominent aspects. Of course, this is only a very general rule of thumb and not true for all cases. For example, some Japanese examples of catgirls include characters such as Escaflowne's Merle, the Puma Twins from Dominion: Tank Police, or Aisha Clan-Clan from Outlaw Star, who are more feline in mannerisms than they initially appear to be. In some shonen series, however, a (usually villainous) catgirl may be portrayed as the leader of a band of anthropomorphic animals.

Ordinary humans, such as Hikaru Shidou from Magic Knight Rayearth, will sometimes sprout cat ears or a tail in order to illustrate their excitable personalities. This is similar to the phenomenon of becoming chibi and is mostly a stylistic quirk from manga artists. In Japanese, catgirls are usually called *nekomimi* (+3)—literally, "cat ears"—rather than the literal term *nekomusume* (+). Sometimes characters do not actually feature cat-like ears or such an accessory but their hair sticks out and resembles cat ears.

Characters in anime and manga may momentarily develop a catlike mouth. This is usually used to emphasize mischievous thoughts or comments by a character. Rebellious boys are more often compared to dogs (InuYasha being a popular example) or wolves. The "lone-wolf" characterization is very common for brooding, aggressive, socially isolated males, while comparisons to dogs usually refer to adorably rebellious but ultimately harmless boys. However, in certain anime and manga series, such as Loveless, a boy may be compared to a cat in a similar way catgirls are. In those occasions, they are sometimes referred to as **catbois** (or catboys). Understandably, Bishonen catboys are typically associated with Shojo and yaoi.

In some circles, *catgirl* is a disparaging term for a stereotypical hyperactive and obnoxious fangirl, who might wear cat ears as an accessory while at conventions.

List of catgirl characters

Catgirls who always have real ears and a tail

Aruruu, Eruruu and the rest of their species from Utawarerumono
Chen from Perfect Cherry Blossom.
Fancia (and her catgirl friends) from manga and game series Kitty Kitty Fancia.

Miruru from Tenshi ni Narumon
Mithra, the race of cat-like humaniods from the video game Final Fantasy XI
Mitsue, a catgirl merchant NPC from Atelier Iris 2: The Azoth of Destiny
Nia from DearS
Sanada (and her underlings) from UFO Ultramaiden Valkyrie
Yoriko from Da Capo
Koto from YuYu Hakusho. (Koto is often mistaken for being a foxgirl due to her red hair and tail, but she has referred to herself as being feline.)

Nekomusume

Katt (Rinpoo in the Japanese version) from Breath of Fire 2
Natsuki from Hyper Police
Nyara from Mercedes Lackey's Valdemar Series (She is the result of her father's blood magic. She has pointed ears, slitted eyes, and retractible claws. Thus, it could be argued that she is a true nekomusume instead of a catgirl.)
Felicia from Darkstalkers (actually an actual mythological nekomusume despite the fact she is portrayed as American)
Xiao from Dark Cloud (because she is a cat turned into a human, it could be argued that she is a true nekomusume.)
Daena from Legend of Mana. She is a full-blown catgirl complete with ears, tail, and fur.
Cheetara, Wilykit, Pumyra, and Jagara from ThunderCats.
Tigress from Gauntlet Legends.
Mirri the Cat Warrior from Magic: The Gathering.

Girls who always have real cat ears

Kizna Towryk from Pilot Candidate (she is not actually a catgirl, but has implanted cat ears)
Mao from the PlayStation2 game Shining Tears (no tail, but natural cat ears and catlike agility)

Girls who transform into catgirls

- Ichigo Momomiya (Zoey Hanson in the English adaptation) from Tokyo Mew Mew (The English version is titled *Mew Mew Power*)
- Sumire Shoda from *Gakuen Alice*

Girls who are seen wearing catgirl costumes regularly

Cham Cham from Samurai Shodown II
Dejiko (aka Princess Chocolla, Digiko, or Di Gi Charat) and Puchiko (aka Petit Charat or Cappuccino), stars of Di Gi Charat
Hazuki from Tsukuyomi - Moon Phase
Koboshi from Pitaten
Meek and Rinna from Panyo Panyo Di Gi Charat
Nya from To-Y

Catboys

Kyo Sohma from Fruits Basket.
Most characters from Loveless.
Schrödinger from Hellsing
Takuto from Full Moon O Sagashite

Live action catgirls

Cat Lady in the motion picture Star Trek V: The Final Frontier (1989), portrayed by stuntwoman Linda Fetters.

Kitty from the movie Monkeybone played by Rose McGowan

Webcomic catgirls

Aevy Eye from Impy and Aevy (link)

Anya from Tsunami Channel (link)

Kate from Anime Arcadia (link)

Kitten from Underpower (cat/human cyborg) (link)

Yuki, Maya and Tina from Caribbean Blue (link)

Three numbered catgirls from Bonobo Conspiracy (link)

Others

Aisha Clan-Clan from Outlaw Star

Annapuma and Umipuma from Dominion: Tank Police (Also androids.)

Aria and Lieze Lotte from Magical Girl Lyrical Nanoha A's

Captain Amelia from Treasure Planet.

Cheetah (comics) from Justice League Unlimited.

The Cheshire Cat from Miyuki-chan in Wonderland

Chinami and Yuriko from Ground Defense Force! Mao-chan

Fam from Ruin Explorers

Feral (comics) from X-Force.

Hojo no Ruri from Onmyou Taisenki

Kagaya-hime from the novel Fudoki (book) by Kij Johnson. Kagaya-hime is a tortoiseshell cat that transforms into a woman and assumes the role of a warrior.

Dr. Katherine "Kat" Manx (Cat Ranger) from Power Rangers SPD A feline alien and head of research and design at the SPD Academy. She created the Delta Morphers alongside the parents of the B-Squad Rangers. Unlike most catgirls, Dr. Manx does not have a tail (or if she does, it was never shown on the program). (Portrayed by Michelle Langstone)

Kohaku from Melty Blood (she has several animations as a catgirl)

Kuaru from Lunatic Night (cat or dog? All that's said is that she can transform into a "Furry Beast")

Lethe from Fire Emblem: Path of Radiance

Maya from Geobreeders (she can look like a catgirl, though she usually chooses not to)

Merle, Naria and Erya from Vision of Escaflowne

Mia and Maha from .hack and .hack//SIGN respectively (although Maha is male)

Miau from Little Monica (she behaves like a catgirl, wearing cat ears and a tail as well)

Miss Nyako and her neice, Konyako, from Eden's Bowy

Myao, a witch from the Playstation game Rhapsody:A Musical Adventure

Lt. M'ress, a Caitian communications officer (voiced by Nichelle Nicols), from Star Trek Animated Series

Nei and Fal (a.k.a. Rika) from Phantasy Star II and Phantasy Star IV respectively.

Neko (a staff member) and the species Kera'sha from the book series Dragon Tamers, appearing from the second book onwards.

Nina from Words Worth

Atsuko Natsume a.k.a. Nuku Nuku from All Purpose Cultural Cat Girl Nuku Nuku (she is a cat/human cyborg, with human appearance)
Norn from Atelier Iris
Pink from Dragon Pink
Ray Kon from "Beyblade"
Sera from Sonic the Hedgehog
Shader from Chrono Crusade
Shina from Bloody Roar 2 and subsequent games.
Taruto and others from Magical Nyan Nyan Taruto
Thornn from X-Force.
Uriko from Bloody Roar 2 and subsequent games. (Uriko was not a catgirl in the first game.)
White Tiger X Team from Beyblade and Beyblade G-Revolution
Win 2K-tan. She is not actually a catgirl but she wears cat-ear-shaped computer speakers on her head

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Face fault

A **face fault** is an anime-specific property of cartoon physics, usually limited to comedy anime. It can also mean any over-exaggerated facial expression that breaks the normal character design.

List of common face faults

- Facefault (spelled as one word): A character falling over (usually flat on their face) with a loud thud or crash from another character saying something anticlimatic or stupid. This is one of the most common and best-known variations of the face fault.
- A super deformed face, which normally includes the disappearance of the nose, the oversimplification of the eyes, and a mouth bearing a simple triangular shape showing either no teeth (red) or all teeth (white). This is often included with other forms of facefaults.
- Giant sweat drop: May indicate a response to a stupid or inane action or spoken line.
- Multiple smaller sweatdrops: May indicate nervousness or fear.
- Nosebleeds: Indicates lust.
- Blushing of the cheeks or bridge of the nose: Indicates embarrassment, or love.
- Pulsating crossed forehead veins: Indicates anger, or rage.
  - If viewed from behind, veins can be viewed through hair, no matter how thick.
- Large, shining eyes: Indicates "cute" excitement.
- Flames in eyes: Indicates immense passion, usually accompanied by scared characters in background

- Rivers of tears underneath the eyes indicate comedic anguish or discontent.
- Eyes shaped like half-moons with very tiny pupils:
  - Indicates a devilish intent, usually accompanied by a toothy grin, a flash on the corner of one of the eyes and sometimes the flat side of the eyes will form a V.
  - Indicates anger, usually the flat side of the eyes will form a V parallel to the eyebrows (if any).
  - The character is totally uninterested in the situation, usually accompanied by a flat small line as his/her mouth or simply having no mouth at all.
- The sudden appearance of vertical lines on the face, indicates embarrassment or speechlessness in response to some absurdity.
- Character does a *The Scream* pose, indicating fear or great anguish.
- Character turns into a cracked stone statue or a sand pillar (having part of the body being blown away), indicating great emotional shock.
- Character is frozen by ice can either indicate:
  - Someone just said something out of extreme stupidity.
  - One of the characters told a joke (usually an old pun) that is not funny anymore.
  - Occasionally, one of the characters singing is awfully bad.
- Character turns much smaller and cartoonish, looking like a doll; this is called "chibi" mode.
  - A body scaled as 4~5 times the height of the head indicates the situation is still similar to normal.
  - A body scaled as about 3 times the height of the head indicates the situation is greatly comical.
  - A body scaled as about 2 times the height of the head (the main body is equal to or smaller than the main body), indicates the situation is only for comical effects.
- Character becomes monochrome during states of extreme stress or shock.
- Character becomes a wavy paper doll and undulates, indicating shock or playful bliss.
- Character shakes his arms with her/his hands closed in fists, and they are shown as multiple flesh-colored balls with motion lines and no arms.
- When the character hears something very interesting or shocking behind his/her back, his ear instantly becomes much bigger and moves.
- Character's head becomes giant as it screams its anger at somebody else.
- Jaw drops all the way down to the floor. Another version of this is when the jaw is detached from the head and falls downs as a separate object after dangling. This is usually accompanied by buggy eyes or eyes falling out.
- Pupils disappear, indicating shock, anger, or a bad pun.
- When eating some very spicy food, the character's lips turn swollen and red and occasionally breathes fire.
- When nervously talking with someone, a character may push his/her index fingertips together.

- Characters sometimes fly off into the distance and finally disappear as a star in the sky when defeated in a duel.

This list is not comprehensive.

Effects accompanying a face fault

The background may change to suit the mood of the scene, usually disregarding the physical setting of the scene. For instance:

- The background of a romantic scene or the introduction of a beautiful and attractive character may be a motif of flowers.
- A scene where one character is in a rage may have a distorted, jagged background showing flames.
- A sudden gust of wind (and/or a loud crow flying in the background in a very straight line, the sound of the crow is a pun to its sounding like *a-ho* which means *stupid*) accompanying a bad joke or embarrassment.
- An expression of disbelief is commonly accompanied by a single-color background with prominent vertical black lines at the top of the frame.
- A lone spotlight shining on a character comically dramatizes despair.
- A Kyokujitsu-ki war flag appears behind the character when he feels extremely and unreasonably proud or determined.
  - Alternatively, he might be standing near a sea with giant powerful waves.
- Hitodama appear floating near the character when he feels depressed or scares other characters with his dark attitude.
- Very anguished character falls down in a very dark void with other objects circling him.

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Gekiga

Gekiga (‡;) is Japanese for "dramatic pictures." The term was coined by Yoshihiro Tatsumi and adopted by other more serious Japanese cartoonists who did not want their trade to be known as manga or "irresponsible pictures". It's akin to Will Eisner who started calling his comics "Graphic novels" as opposed to "comic books" for the same reason.

Tatsumi began publishing "gekiga" in 1957. Gekiga was vastly different from most manga at the time which were aimed at children. These "dramatic pictures" emerged not from the mainstream manga publications in Tokyo headed by Osamu Tezuka but from the lending libraries based out of Osaka. The lending library industry tolerated more experimental and offensive works to be published than the mainstream "Tezuka camp" during this time period.

By the late 1960s and early 1970s the children who grew up reading manga wanted something aimed at older audiences and gekiga provided for that niche. In addition this particular generation came to be known as the manga generation and read manga as a form of rebellion (which was similar to the role rock and roll played for hippies in the United States). Manga reading was particularly common in 1960s among anti US Japan Security

Treaty and Labor oriented student protest groups at this time. These youth became known in Japan as being the "manga generation".

Because of the growing popularity of these originally underground comics, even Osamu Tezuka began to display the influence of gekiga cartoonists in works such as Hi no Tori (Phoenix), produced in the early 1970s, and especially in Adolf, produced in the early 1980s. *Adolf* has heavy influences from Tatsumi's artwork, with more realistic styling and darker settings than most of Tezuka's work. In turn Tatsumi was influenced by Tezuka though storytelling techniques.

Not only was the storytelling in gekiga more serious but also the style was more realistic. Gekiga constitute the work of first generation of Japanese alternative cartoonists. Despite the original goals of gekiga to provide more realistic more mature stories, some authors abused this original defintion to produce works that only contained shock factor.

As a result of Tezuka adopting gekiga styles and storytelling, there was an acceptance of a wide diversity of experimental stories into the mainstream comic market commonly referred to critics as being the Golden Age of Manga. This started around 1970s and continued into the 1980s. It gradually ended as mainstream shonen magazines became increasingly more commercialized.

More recently the most mainstream shonen publications have lost a lot of gekiga influence and these kinds of works are now found in slightly more underground publications (usually seinen magazines). In addition other artistic movements have emerged in alternative manga like the emergence of the avant-garde magazine Garo around the time of gekiga's acceptance into the mainstream manga market and the much later Nouvelle Manga movement. These movements have superseded gekiga as alternative comics in Japan.

A few Examples of Mangaka who Draw in Gekiga Style

Yoshihiro Tatsumi
Ryoichi Ikegami
Hirohiko Araki
Tetsuo Hara
Takao Saitou (of Golgo 13 fame)

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Hammerspace

Hammerspace is a fan-envisioned, extradimensional, instantly accessible storage area in fiction. The concept is jokingly used to explain how characters in animation, comics and games are capable of producing objects out of thin air.

While this practice is best known from Warner Bros.' Looney Tunes/Merrie Melodies and Disney animated cartoons, the term itself both originates in and is generally associated with Japanese entertainment.

Origins

Hammerspace draws its name from a semi-common cliché in humorous anime and manga: Male character Y offends or otherwise angers female character X. X then draws a wooden mallet—ranging in size from large to downright ludicrous—out of nowhere and bashes Y with it. The act is purely for comic relief, and neither advances the plot nor causes permanent damage. The term was largely popularized by fans of Ranma ½, as character Akane Tendo is famous as a particularly vigorous malleteer.

Hammerspace does have parallels in western animation. Inexplicable production of items dates back to the very beginning of animated shorts, predating anime, and was a fairly common occurrence during the golden age of animation. Warner Bros. cartoon characters are particularly well-known for often pulling all sorts of things—guns, disguises, umbrellas, bombs, anvils, hammers (mallets), from behind their backs. Indeed, these inexplicable productions of items from thin-air are generally considered the inspirations for the later anime analogues. The Toon role-playing game refers to this space as the *back pocket*.

Hammerspace in games

Hammerspace is also useful in explaining the peculiarities of many video games. This explains why a game character wielding a sword bigger than himself does not appear to be carrying one until he actually enters combat, why Everquest characters can carry up to eight backpacks and have none of them visible, etc. In fact, Hammerspace is prevalent in First-person shooters, where protagonists often have implausible carrying capacities.

Adventure games are the best example of hammerspace, as the player can often carry all the items he can pick up. The Monkey Island games are among the most notorious, involving various hilarious situations in which the hero, Guybrush Threepwood, would put humongous objects inside his pants, and later take them back out. Other notorious adventure games were Space Quest III ("You take the ladder and jam it in your pocket. Ouch!"), Simon the Sorcerer (Simon stored sizeable objects, such as a ladder, in his wizard hat), and the cartoonish Sam & Max. The Legend of Zelda is also well-known for this phenomenon, with the hero Link being able to somehow stash a bag of large bombs within his apparently pocketless tunic, as well as very numerous other tools and weapons.

Analogies

Some fiction settings feature spatial compression, extradimensional storage spaces or teleportational item retrieval. These aren't Hammerspace, but in practice work much the same way.

- TV-shows like Highlander have characters who regularly carry swords over 3 feet long under waistcoats and sports-jackets.
- Oscar the Grouch's garbage can on the television program Sesame Street holds seemingly impossible items like a swimming pool, Oscar's pet elephant, a hippopotamus and the like.
- The 2006 movie Ultraviolet features technobabble "flat-space technology".
- In the Black Jewels Trilogy by Anne Bishop, the characters are able to carry items in a magical fold of space-time. The mass of the items they are able to carry depend on their magical ability, and maintaining the fold consumes a constant trickle of power from them.
- In Transformers, the similar concept of "subspace" is used to explain where the additional mass goes when a Transformer switches forms.
- In the Warner Bros cartoon "Animaniacs" Wakko has a "Gag bag" which he can pull almost any item from at any time.
- Several mecha from PlayStation 2 RPG series Xenosaga are capable of teleporting in weaponry or equipment when needed. Some fans have theorized that these weapons may be composed of highly advanced nanomachines that rapidly assemble and dissassemble these devices on command.

Properties

Not much of the nature of Hammerspace is known, beyond the surmise that it contains blunt objects in vast amounts. It's clear that the Hammerspace laws of physics are fairly peculiar. This can be observed in, for example, the way that many Final Fantasy heroes are able to carry 99 Potions and 99 Hi-Potions with no trouble, but have no room to carry a 100th Potion no matter how many other items they have.

It's not certain whether a person must have personally put an item into Hammerspace to remove it, or whether they simply need to know that it is existent in Hammerspace to reach for it. The large variety of signs produced by the *Ranma ½* character Genma Saotome whilst in giant panda form suggests the latter possibility, although it can also be argued this is due to foresight and careful planning, since he is occasionally seen writing the signs at an uncanny speed.

Pockets of Hammerspace, or something similar, exist behind some trees, tent-strings, rocks, and other small or narrow objects, allowing cartoon characters to hide behind things much smaller than themselves.

Notes

- Hammerspace is often used synonymously with a magic satchel; the difference however is hammerspace is an actual extra dimension where items are stored, whereas a magic satchel uses magic to either contain these items or to access hammerspace itself—similar to how Doctor Who uses science in his space-time machine TARDIS to achieve the same results.

- More often than not, other non-animated occurrences in film or television are explained as a plot hole in the actual film or television show, rather than the ability of a character to access hammerspace, and are dismissed due to suspension of disbelief. Examples include the live-action Highlander series, where the sword-wielding Immortals often have their weapons readily available despite their lack of a suitable container or article of clothing in which to carry a concealed sword.
- Hammering has spread to a number of Japan-influenced webcomics, such as El Goonish Shive and Okashina Okashi. The latter spoofs traditional manga by acknowledging Hammerspace and, for example, having characters ask others if they have a particular item in there.
- Hammerspace should not be confused with Hammertime.

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Kemonomimi

Kemonomimi (c3 *animal ears*) is an anime and manga terminology that describes characters that possess animal like features. The characters will be predominately human and any real animal characteristics are minimal, unlike kemono characters who possess a large percentage of animal parts in ratio with their human parts. Generally kemonomimi characters have ears and a tail which is animal like. Often this is just part of their attire and can be removed at will.

The term is used both in Japan and in some western subcultures, the term is used on the TAOchan/idlechan imageboard [1] for example.

List of kemonomimi characters by animal

Rabbits, typically called bunnygirls.

Arisu Arisugawa and the other bunnygirls from Kagihime Monogatari Eikyuu Alice Rondo
Berry Shirayuki from Tokyo Mew Mew (also part mountain cat)
Delmo from Cosplay Complex
Komugi Nakahara from The SoulTaker and Nurse Witch Komugi
Meroko from Full Moon O Sagashite
Mimika and the other bunnygirls from Usagi-chan de Cue
Mint Blancmanche from Galaxy Angel
Rami Nana-Hikari from the Keio Flying Squadron series
Reisen U. Inaba from Imperishable Night
Tei (Tewi) Inaba from Imperishable Night
Usada Hikaru from the Di Gi Charat series
Usahara from Damekko Doubutsu

Dog

Inuyasha from Inuyasha
Kotaro Inugami from Negima
Yoko from Inukami!

Fox

Firefox-tan, from the Moezilla group - a personification of Mozilla Firefox.
Foxxy Love from Drawn Together.
Youko Kurama from YuYu Hakusho
Lisa from Tsunami Channel
Meirin and Tamamo-no-Mae from Yami to Boshi to Hon no Tabibito
Ran Yakumo (kyubi foxgirl) from Perfect Cherry Blossom.
Sakura (kyubi foxgirl) from Hyper Police
Youko from Tactics

Wolf

Arf from Magical Girl Lyrical Nanoha
Zafiira from Magical Girl Lyrical Nanoha A's
Liru from Renkin 3-kyk Magical ? Pokn
Ouka from .hack//Legend of the Twilight
Zakuro Fujiwara from Tokyo Mew Mew
Uruno from Damekko Doubutsu

Other

Bagi from Bagi, the Monster of Mighty Nature (1984) (half mountain lion)
(Although many debate that Bagi is a *Furry* instead of a catgirl).
Chiiko from Damekko Doubutsu (cheetah)
Grace from El Goonish Shive (shapeshifter with squirrel-girl and cat-girl forms, either with or without body fur; also, several other cast members, both female and male, have appeared in non-canon art as catgirls or bunnygirls, and the character of Ellen uses a catgirl avatar online)
Kumaneesan from Damekko Doubutsu (bear)
Lettuce Midorikawa from Tokyo Mew Mew (Finless Porpoise)
Mink (red dragon) from Dragon Half
Mint Aizawa from Tokyo Mew Mew (lorikeet)
Mystia Lorelei from Imperishable Night (sparrow)
Peganosuke from Damekko Doubutsu (pegasus)
Pudding Fong from Tokyo Mew Mew (Golden lion tamarin)
Takaoka from Damekko Doubutsu (eagle)
Wriggle Nightbug from Imperishable Night (firefly)
Yunihiko from Damekko Doubutsu (unicorn)

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Progressive anime

Progressive anime is a subset of progressive animation that is produced in Japan. The term was first promoted by the Hayao Miyazaki Mailing List back in the early 1990s. Like the

broader term progressive animation, progressive anime refers to anime that truly breaks boundaries and goes in the face of cliches in the medium. Again this is a very ambiguous definition, but people who tend to use this label are the kinds of people who appreciate artistically groundbreaking works in film. Due to the ultimate subjectivity of what is classified as "progressive", however, the genre is exceedingly hard to define. Anime itself, in fact, is hard to define in terms of genre, because there are nearly as many "types" of anime as there are anime themselves. There is considerable prejudice, for example, when a fan of only dramatic anime, which could be considered progressive, such as Only Yesterday, refuses to accept Neon Genesis Evangelion as such- and vice-versa. The following, therefore, should be understood as a list of what only some people consider as "progressive"- it should be kept in mind that the determination of what qualifies as "progressive" is almost entirely subjective and dependent on the tastes and artistic sensibilites of the individual.

Examples

Angel's Egg
Boogiepop Phantom
Cat Soup
Cowboy Bebop
Dead Leaves
Digital Juice
Earth Girl Arjuna (aka Chikyuu Shoujo Arjuna)
Ergo Proxy
FLCL (aka Furi Kuri)
Gankutsuou (aka The Count of Monte Cristo)
Ghost in the Shell (aka Koukaku Kidoutai)
Gilgamesh
Grave of the Fireflies (aka Hotaru no Haka)
Haibane Renmei
Key the Metal Idol
Kakurenbo
Katsuhiro Otomo's Memories
Manie Manie (aka Labyrinth Tales, aka Neo-Tokyo)
Mindgame
Neon Genesis Evangelion (aka Shin Seiki Evangelion)
Noiseman Sound Insect (aka Onkyou Seimetai Noizuman)
Now and Then, Here and There
Only Yesterday
Paranoia Agent
Phantasmagoria and its spin-off, Glassy Ocean
Revolutionary Girl Utena (aka Shoujo Kakumei Utena)
Royal Space Force: The Wings of Honneamise (aka Oneamisu no Tsubasa - Ouritsu Uchuu-gun)
Serial Experiments Lain
Tamala 2010

Texhnolyze
Winter Days

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Super deformed

In anime and manga, characters which are drawn in a highly exaggerated manner are said to be **super deformed** (**SD**) or **chibi**. Super deformed characters are typically small and chubby with stubby limbs and oversized heads, and may be used in brief interjections in order to show extreme or exaggerated emotion, especially in the cases of anger or surprise, that would be difficult to portray, or would seem out of character if expressed on the more realistic visage. They are meant to be cute and are often used in humorous diversions from the storyline.

Many amateur anime artists enjoy drawing super deformed characters because the style is considered cute and is relatively easy to draw. The head-to-body ratio of a super deformed character is normally anywhere between one half and one quarter, with the eyes taking up a majority of the space on the head. Some artists may use alternate proportions.

Examples

Some series are animated completely in the SD style such as The Adventures of Mini-Goddess, featuring characters from the well known Oh! My Goddess manga.

Other anime series have entire SD parody series running alongside the main series, such as Super Deformed Gundam, Maria-sama ga Miteru, and Kimi ga Nozomu Eien. These parody series are often packaged as DVD-only specials.

A western example of SD character usage can be seen in the American Teen Titans animated series.

Appearances in other media

The Capcom fighting games Puzzle Fighter and Pocket Fighter featured characters from various Capcom fighting games, all portrayed in the SD style.
Mortal Kombat: Deception's Puzzle Kombat copies the concept introduced by Puzzle Fighter, including the super deformed characters.
Sega's Virtua Fighter Kids is Virtua Fighter 2 with the characters in the SD style.
Final Fantasy VII was the first in the Final Fantasy series to implement three-dimensional super deformed character models. However, in the battle mode and in the pre-rendered cinematic sequences, the characters were much more realistic. It is argued, though, that the use of SD animation in the game was not intentional, but instead necessary because of technological constraints on the polygon count.
The not-so-popular Nintendo 64 fighting game, Flying Dragon, created by Natsume and Culture Brain, features two playing modes, one of them being the "SD Mode", where all the fighters are super deformed, showing happiness when they win or land a super move successfully, and showing pain when they are hit.

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Anime industry

The anime industry has grown significantly in the last few years, especially outside of Japan. Various series, movies, and OAVs have been licensed at an increased rate and anime can be regularly found in more and more non-specialty stores.

Licensors

Because anime is produced mainly by Japanese companies, it has to be licensed in other areas of the world by companies in order to be legally released. Licenses are extremely expensive and it is not uncommon to find that companies are paying at rates of up to $20,000 an episode to license a series for release. Here are some major licensing companies for their respective regions.

Region 1 (North America)

Geneon
ADV Films
AN Entertainment
Animeigo
Bandai Entertainment
FUNimation Entertainment
Media Blasters
Central Park Media
Manga Entertainment
The Right Stuf
TOKYOPOP
Viz Media
Walt Disney Pictures
4Kids Entertainment
Urban Vision

Region 2 (Europe)

Beez
ADV Films
MVM Entertainment
Manga Entertainment
Optimum Releasing

Region 3 (Asia)

Hero TV (Subsidiary of ABS-CBN)
Odex

Region 4 (Australia)

- Madman Entertainment

Bootlegs, fansubs, and legal issues

Bootlegs and fansubs are illegal because they bypass the act of licensing. There is a huge controversy in the fandom over *fansubs* (versions with fan-produced on-screen-translation (hence "fan-subtitled")) and bootlegs (illegal copies). Fansubs are episodes of anime subtitled by fans which are either released for download through BitTorrent or are distributed in video format for no profit. Anime bootlegs are commonly DVDs that are exact rips of fansubs or the Region 1 DVDs and are sold for profit. Bootlegs commonly originate in China and Southeast Asia and feature horrendous "English" subtitles. The fandom is torn over fansubs. Some believe that fansubs are necessary to promote series in other countries and that fansubbing is a "labor of love" by fans. Others see fansubs as a major problem that is seeping profits away from legitimate companies. Bootlegs are frowned down upon much more, as it is impossible to argue for bootlegging as a "labor of love". Only one company in Japan asked that its fansubs products cease to be transmitted on BitTorrent networks.

Current state of the industry

The anime industry is currently going through what the companies call a "market correction", or, less charitably, a "recession". From 2001 to 2003 the anime industry exploded in terms of what it licensed compared to before. Because companies licensed so much, the industry found itself stretched thinly. Many series failed to earn back their licensing and production costs, because there were too few consumers to support the amount of shows being licensed. While the anime industry did grow markedly, its consumer base had not grown fast enough to be able to cover its expenditures. The anime industry is slowing down as a result. Far less is being licensed, and what is being licensed tends to be series that are sure to be a success. The only anime company that is still licensing more than they did in past years is Geneon. Time remains to see how this "market correction" will fare.

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Manga

Manga (+;, ***Manga***[7]) is the Japanese word for comics and print cartoons. Outside of Japan, it usually refers specifically to Japanese comics. Manga developed from a mixture of ukiyo-e and foreign styles of drawing, and took its current form shortly after World War II. It comes mainly in black and white, except for the covers and sometimes the first few pages.

Popular manga is often adapted into anime (Japanese for animation) once a market interest has been established. (Manga is sometimes mistakenly called "anime" even when

not animated.) Adapted stories are often modified to appeal to a more mainstream market. Although not as common, original anime is sometimes adapted into manga (such as Neon Genesis Evangelion and Cowboy Bebop).

Origins

Literally translated, *manga* means "random (or whimsical) pictures". The word first came into common usage in the late 18th century—with the publication of such works as Suzuki Kankei's "Mankaku zuihitsu" (1771) and Santo Kyoden's picturebook "Shiji no yukikai" (1798)—and in the early 19th century with such works as Aikawa Minwa's "Manga hyakujo" (1814) and the celebrated Hokusai manga containing assorted drawings from the sketchbook of the famous ukiyo-e artist Hokusai. However, gi-ga (literally "funny pictures") drawn in the 12th century by various artists contain many manga-like qualities such as emphasis on story and simple, artistic lines.

Manga developed from a mixture of *ukiyo-e* and foreign art movements. When the United States began trading with Japan, Japan tried to modernise itself and catch up with the rest of the world. Thus, they imported foreign artists to teach their students things such as line, form and colour (things which were never concentrated on in ukiyo-e as the idea behind the picture was normally considered more important). Manga at this period was known as Ponchi-e (Punch-picture) and, like its British counterpart Punch magazine, mainly depicted humour and political satire in short 1 or 4 picture format.

Tezuka Osamu

Manga as people know it in the 20th and 21st centuries only really came into being after Dr. Osamu Tezuka, widely acknowledged to be the father of story-based manga, became popular. In 1945, Tezuka who was studying medicine, saw a war propaganda animation film called Momotarou Uminokaihei whose style was largely influenced by Disney's Fantasia. Though a war propaganda film, it was also a children's film, so the main theme of the film was peace and hope in the time of darkness. Tezuka was greatly inspired by the film and later decided to become a comic artist, which at the time (and somewhat even now) was an unthinkable choice for a qualified medical doctor. He later commented that a part of reason he went to medical school was to avoid conscription and he actually did not like seeing blood.

Tezuka introduced film-like story telling and character in comic format in which each short-film like episode is part of larger story arc. The only text in Tezuka's comics was the characters' dialogue and this lent the comics a cinematic quality. Tezuka also adopted Disney-like facial features where a character's eyes, mouth, eyebrows and nose are drawn in a very exaggerated manner to add more distinct characterisation with fewer lines which made his prolific output possible. This somewhat revived the old ukiyo-e like tradition where the picture is a projection of an idea rather than actual physical reality.

Initially, his comic was published in a children's magazine. Soon, it became a specialised weekly or monthly comic magazine, which is now the foundation of the Japanese comic industry. Tezuka adapted his comic to almost all film genres at the time. His manga series cover from action adventure (for example Kimba the White Lion (Jungle Emperor Leo)) to serious drama (Black Jack) to science fiction (Astro Boy), horror (for example Dororo, The

Three-eyed One.) It is often commented that any manga genre which Tezuka did not create was done by someone who was desperately trying to find something Tezuka wasn't doing. Though he is known in the West as a creator of the children's animation Astro Boy, many of his comics had some very mature and sometimes dark undertones. Most of his comics' central characters had a tragic background. Atom (Astro Boy) was created by a grieving scientist trying to create an imitation of his dead son, and who later abandoned the boy. Kimba's father was killed by human hunters and the conflict between man and nature was a recurring theme for the comic. Hyakkimaru in Dororo was born severely crippled because his father offered 48 parts of Dororo's infant body to 48 demons. Some criticise Tezuka's somewhat excessive use of tragic dramatisation in his stories. As the manga generation of children grew up, the market for comics expanded accordingly and manga soon become a major cultural force of Japan. Tezuka also contributed to the social acceptance of manga. His qualification as a medical doctor as well as the holder of Ph.D in medical science as well as his serious storylines were used to deflect criticism that manga was vulgar and undesirable for children. He also mentored a number of important comic artists, such as Fujiko Fujio (creator of Doraemon), Fujio Akatsuka and Shotaro Ishinomori.

Gekiga

Another important trend in manga was gekiga ("Dramatic Pictures"). Between the 1960s and the 1970s, there were two forms of comic serialisation. One, the manga format, was based on the sales of anthology magazines which contained dozen of titles. The other, gekiga, was based on a rental format of an individual manga "book" of single title. Manga was based on weekly or biweekly magazine publications, so production was prompt, and the deadline was paramount. Consequently, most manga artists adopted Tezuka's style of drawing, where characters are drawn in a simpler but exaggerated manner, typified by the large round eyes regarded abroad as a defining feature of Japanese comics. In contrast, gekiga typically had more complex and mature story lines, with higher production value per page. For this reason, gekiga was considered to be artistically much superior. However, gekiga's rental business model eventually died out in the 1970s, while manga artists significantly improved their graphic quality. Eventually, gekiga was absorbed into manga and now is used to describe a manga style which does not use cartoonish drawing. The gekiga-style manga most famous abroad is probably *Akira*.

However, gekiga did not only influence the art style of manga: after the 70s, more mature-themed pictures and plotlines were used in manga. Many had significant depictions of violence and sex, and were marketed at teenagers: unlike in Tezuka's time, children in the 70s had more disposable income, so they could directly purchase manga without asking their parents to buy it for them. Thus, manga publishers did not need to justify their products to the parents. Moreover, the dominance of the serialised manga format on a weekly basis meant that manga was increasingly becoming "pulp fiction", with large amounts of violent content and some nudity (especially, although not exclusively, in manga aimed at boys). Representative titles of this genre were Harenchi Gakuen by Go Nagai and Makoto-chan by Kazuo Umezu, both of which had copious amounts of gore, nudity, and vulgar (often scatological) jokes. Much like in the United States, teachers and parents loathed manga, but unlike the U.S. no attempt was made to create an oversight board like the Comics Code

Authority. Interestingly, manga magazines "for children" in the 70s arguably had more vulgar themes (due to the fact that it was the only major publishing format available), but by the 80s and 90s, new magazines catering to teenagers and young adults had come into play.

A wealth of topics

Having an immense market in Japan, manga is known to encompass a very diverse range of subjects and themes, satisfying many readers of different interests. Popular mangas aimed at mainstream readers frequently involves sci-fi, action, fantasy and comedy. There are notable manga series based on corporate businessman (the Shima Kousaku series), Chinese cuisine (Iron Wok Jan), criminal thriller (Monster) and military politics (The Silent Service).

Cultural importance

Though roughly equivalent to the American comic book, manga holds more importance in Japanese culture than comics do in American culture. In economic terms, weekly sales of comics in Japan exceed the entire annual output of the American comic industry. Several major manga magazines which contain about a dozen episode from different authors sell several million copies each per week. Manga is well respected both as an art form and as a form of popular literature though it has not reached acceptance of "higher" art genres like film or music. Like its American counterpart, some manga has been criticized for being violent and/or sexual. For example, a number of film adaptation of manga such as Ichi the Killer or Old Boy were rated Restricted or Mature in the States. However, there have been no official inquiries or laws trying to limit what can be drawn in manga, except for vague decency laws applying to all published materials, stating that "overly indecent materials should not be sold." This freedom has allowed artists to draw manga for every age group and for about every topic.

The manga style

Characteristics

There are several expressive techniques staple (and some of them unique) to the manga art form:

Expressive dialogue bubbles: The borders of the speech/thought bubbles changes in pattern/style to reflect the tone and mood of the dialogue. For example, an explosion-shaped bubble for an angry exclaimation.

Speed lines: Often in action sequences, the background will possess an overlay of neatly ruled lines to protray direction of movements. Speed lines can also be applied to characters as a way to emphasis the motion of their bodies (limbs in particular).

Mini flashbacks: Many artists employ copies of segments from earlier chapters (sometimes only a single panel) and edit them into the story panels to act as a flashback (also applying an overlay of darker tone to differentiate it from current events). This can be considered a convenient method to evoke prior event(s) along with visual imagery. In situations where a character's life events flash across his/her mind, a splash page maybe used with the entire background consisting of segments from earlier chapters.

Abstract background effects: These involve elaborate hatching patterns in the background and serve to indicate or strengthen the mood of the plot. It can also illustrate a character's state of mind.

Symbols: Certain visual symbols have been developed over the years to become common methods of denoting emotions, physical conditions and mood. The following is a brief list of representative manga symbols and usage:

- Sweat drops, usually drawn on the head region, commonly indicates bewilderment, nervousness and mental weariness. On a sidenote, actual physical perspiration in manga is signified by even distribution of sweat drops over the body.
- A round swelling, sometimes drawn to the size of baseballs, is a visual exaggeration of swelling from injury.
- A character suffering from profuse nosebleeding indicates sexual excitation when it follows exposure to stimulating imageries or seduction. An explanation is that the character's blood pressure has risen so dramatically from the excitement that blood leaks from the nostrils. Put simply, nosebleed in mangadom is a comical euphemism for an erection.
- Throbbing veins, usually depicted as a cruciform in the upper head region, indicates anger or irritation.
- Hatchings on the cheek represents blushing. While oval "blush dots" on the cheeks represents rosy cheeks.

The popular and recognizable style of manga is very distinctive. Emphasis is often placed on line over form, and the storytelling and panel placement differs from those in American comics. Impressionistic backgrounds are very common, as are sequences in which the panel shows details of the setting rather than the characters. Panels and pages are typically read from right to left, consistent with traditional Japanese writing.

While the art can be incredibly realistic or cartoonish, it is often noted that the characters have large eyes (female characters usually have larger eyes than male characters), small noses, tiny mouths, and flat faces. Large eyes have become a permanent fixture in manga and anime since the 1960s when Osamu Tezuka (see above) started drawing them in this way, mimicking the style of Disney cartoons from the United States.

Further more, inside the big eyes, the transparent feeling of pupils and the glares, or small reflections in the corners of the eyes are often exaggerated, regardless of surrounding lighting, although they are only present in living characters: the eyes of characters who have died are the colour of the iris, but darker. (See also: Bishoujo)

Being a very diverse artform, however, not all manga artists adhere to the conventions most popularized in the States through anime such as Akira, Sailor Moon, Dragon Ball Z, and Ranma ½.

A fair number of manga artists do not feel that their stories and characters are set in stone. So a set of characters may build relationships, jobs, etc. in one set of stories ("story arc") only to have another story arc run where the same characters do not know each other. The Tenchi series in particular is known for this; there are more than thirteen different unrelated story arcs based around Tenchi and his friends. There is also the case of JoJo's Bizarre Adventure where the protagonist changes depending on the story arc following new generation of characters.

Manga symbols

The following is a non-exhaustive list of artistic conventions used in mainstream manga.

- A white cross-shaped bandage symbol denotes pain.
- A large sweat-drop on the side of the face denotes embarrassment or exasperation.
- A scribble on the cheek shows injury.
- A red cheek denotes embarrassment or blushing.
- A throbbing vein, sometimes comically simplified to an "+" shape on the head, represents anger or irritation.
- A balloon dangling from one nostril indicates sleep.
- Hammerspace.
- A common artistic pun are nosebleeds, usually caused by shocking sights - especially those with a sexual undertone.
- There are many eye symbols such as love-hearts, crosses, and spirals.
- A character suddenly falling onto the floor is a typically humorous reaction to something ironic happening.
- The eyes becoming huge and perfectly round with tiny pupils and no iris and going beyond the reach of the face, plus the mouth becoming like a stretched semicircle, the point of which extends past the chin, symbolises extreme excitement.
- All facial features shrinking, the nose disappearing, the character lifting off the floor and the limbs being multiplied as if moving very fast symbolises panic; if the same but with larger facial features it symbolises comic rage.

Manga format

Manga magazines usually have many series running concurrently with approximately 20–40 pages allocated to each series per issue. These manga magazines, or "anthology magazines", as they are also known (colloquially "phone books"), are usually printed on low-quality newsprint and can be anywhere from 200 to more than 850 pages long. Manga magazines also contain one-shot comics and various four-panel yonkoma (equivalent to comic strips). Manga series can run for many years if they are successful. Manga artists sometimes start out with a few "one-shot" manga projects just to try to get their name out. If these are successful and receive good reviews, they are continued.

When a series has been running for a while, the stories are usually collected together and printed in dedicated book-sized volumes, called tankobon. These are the equivalent of American comic's trade paperbacks. These volumes use higher-quality paper, and are useful to those who want to "catch up" with a series so they can follow it in the magazines or if they find the cost of the weeklies or monthlies to be prohibitive. Recently, "deluxe" versions have also been printed as readers have gotten older and the need for something special grew. Old manga have also been reprinted using somewhat lesser quality paper and sold for 100 yen (approximately one US Dollar) each to compete with the used book market.

Manga are primarily classified by the age and gender of the target audience. In particular, books and magazines sold to boys (shonen) and girls (shojo) have distinctive cover art and are placed on different shelves in most bookstores.

Japan also has manga cafés, or manga kissaten. At a manga kissaten, people drink coffee and read manga.

Many things appear in manga format, including wanted posters for criminals.

Traditionally, manga are written from right to left. Some publishers of translated manga keep that format, but some switch the direction to left to right, so as not to confuse foreign readers. This pratice is known as "flopping" and is often scrutinized by the readers and even the artists themselves, sighting that it goes against their original intentions (for example, if a person wears a shirt that reads "may" on it, and gets flopped, then the word is altered to "yam".

Dojinshi

Some manga artists will produce extra, sometimes unrelated material, which are known as *omake* (lit. "bonus" or "extra"). They might also publish their unfinished drawings or sketches, known as *oekaki* (lit. "sketches").

Dojinshi is produced by small amateur publishers outside of the mainstream commercial market in a similar fashion to small-press independently published comic books in the United States. Comiket, the largest comic book convention in the world with over 400,000 gathering in 3 days, is devoted to dojinshi.

Unofficial fan made comics are also called *dojinshi*. Some dojinshi continue with a series' story or write an entirely new one using its characters, much like fan fiction.

Types of manga

Many of these genres apply equally well to anime (which very often includes adaptations of manga) and Japanese computer games (some of which are also adaptations of manga).

By target audience

- *Josei* (or *redikomi*) women
- *Kodomo* children
- *Seinen* men
- *Shojo* young and teenage girls
- *Shonen* young and teenage boys

Genres

- Alternative (See also: Garo)
  - Gekiga (dramatic pictures)
  - La nouvelle manga (Franco-Belgian/Japanese artistic movement)
  - Semi-alternative (popular publication individualistic style)
- Battling companion (not an official name)
- Dojinshi Fan-art or self-published manga
- Magical girl (*maho shojo*)
- Mecha (giant robots)
- Moé (also *maho kanojo* or magical girlfriend)
- Shojo-ai (or Yuri, lesbian romance)
- Shonen-ai (or Yaoi, gay romance)

International influence

Manga has long had an influence on international comics and animation the world over.

American artist and writer Frank Miller has been heavily influenced by Manga and in particular by Kazuo Koike's 28 volume samurai epic Lone Wolf and Cub. Miller was one of the first American comic artists to make use of decompression, a style prevalent in manga.

Other American artists such as Becky Cloonan (Demo, East Coast Rising), Corey Lewis (Sharknife, PENG) and Canadian Bryan Lee O'Malley (Lost At Sea, Scott Pilgrim) are heavily influenced by the mainstream manga style and have received acclaim for their work outside of anime/manga fan circles. These artists have their roots in the anime/manga subculture of their particular regions (as well as the Internet and webcomics), but incorporate many other influences that make their work more palatable to non-manga readers.

American artist Paul Pope worked in Japan for Kodansha on the manga anthology Afternoon. Before he was fired (due to an editorial change at Kodansha) he was developing many ideas for the anthology that he would later publish in the U.S. as Heavy Liquid. As a result his work features a strong influence from manga without influences from international otaku culture.

In France there is a "Nouvelle Manga" movement started by Frédéric Boilet which seeks to combine mature sophisticated daily life manga with the artistic style of traditional Franco-

Belgian comics. While the movement also involves Japanese artists, a handful of French cartoonists other than Boilet have decided to embrace its ideal.

In addition, there are many amateur artists who are influenced exclusively by the manga style. Many of these have their own small publishing houses, and some webcomics in this style have become very popular (see Megatokyo). For the most part, these artists are not yet recognized outside of the anime and manga fan community. Many people outside of those circles view those works as being too focused on the American anime subculture, and not focused enough on telling stories that resonate with a wider audience.

The manga style has influenced not only writers and artists but musicians as well. Turkish rock band maNga has not only its name derived from the style; their videos and album cover feature manga-style animation and the members of the band have their own manga characters, drawn by award-winning artist Kaan Demirçelik.

Manga outside Japan

Language notes

- Because nouns in Japanese do not have a plural form, *manga* is the form for both plural and singular. It is also commonly called ³ßÃ¯(*komikku*, from *comic*) in Japanese.
- *Mangaka* (+;¶) Literally "Manga professional" is a Japanese term for a manga author/artist.

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Notable anime

This article attempts to list the most influential and notable anime ever produced, sorted by category. Following each title, you will find the year of original release and any creator or other references (e.g. "director"). A brief description of *why* the work is considered notable follows (for some entries).

For further reference, please see the following articles:

- Anime

Contemporary classics

Howl's Moving Castle (film) (2004), Hayao Miyazaki (director). The latest masterpiece by master animator Miyazaki. While it makes heavy use of CG, the classic crisp, hand-animated style Studio Ghibli is known for is still clearly evident.
Samurai Champloo (2004), Shinichiro Watanabe (director)
Steamboy (2004), Katsuhiro Otomo (director)

Comedy anime

Urusei Yatsura (1981), Rumiko Takahashi (original manga). One of the quintessential comedy anime of all time. Features a large cast of characters, and the stories are almost always fresh and fun. Many series have copied the comedy style of this series.
Dr. Slump (1981), Akira Toriyama (original manga). Follows the antics of a wacky "mad" scientist who builds a little girl robot so he can have a family. Unfortunately, the robot doesn't always act the way a normal child would or should, and insane comedy ensues.
Highschool! Kimen-gumi (1985), Motoei Shinzawa (original manga). Focuses on a group of "funny-faced" (kimen-gumi means "funny-faced group") misfits as they go through highschool. This series helped launched the careers of two musical groups: Onyanko Club and Ushiroyubi Sasare-gumi.
Ranma ½ (1989), Rumiko Takahashi
Crayon Shin-chan (1992), Yoshito Usui
Dokkiri Doctor (1998), Kazunori Mizuno (Director)
Excel Saga (1999), Rikdo Koshi (original manga). Excel Saga is an insane parody series that lampoons every genre of anime in existence.
Azumanga Daioh (2002), Azuma Kiyohiko (original manga). Azumanga Daioh follow the trials and triumphs of everyday life in a Japanese high school.

Drama anime

Perfect Blue (1997), Satoshi Kon
Revolutionary Girl Utena (1997), Kunihiko Ikuhara (director)
Jin-Roh (1998), Hiroyuki Okiura (director)
Boogiepop Phantom (2000), Takashi Watanabe (director)
Millennium Actress (2001), Satoshi Kon (director)
Fullmetal Alchemist (2003) Seiji Mizushima(director), Hiromu Arakawa (original manga)
Kimi Ga Nozomu Eien (2003) Watanabe Tetsuya(director)

Fantasy anime

Angel's Egg (1985), Mamoru Oshii/Yoshitaka Amano (character design)
Dragon Quest(1989), Yuji Horii
Record of Lodoss War (1990), based on novels by Ryo Mizuno
Oh My Goddess! (OVA) (1993-1994), Kosuke Fujishima (original manga)
Magic Knight Rayearth (1994), CLAMP (original manga)

The Slayers (1995), based on novels by Hajime Kanzaka
The Vision of Escaflowne (1996), Kazuki Akane, based on manga by Katsu Aki and Yuzuro Yashiro
Berserk (1997), Kentaro Miura
InuYasha (2000), Rumiko Takahashi

Groundbreaking anime

Astro Boy (1963), Osamu Tezuka (director and original manga)
Gigantor (1963), Mitsuteru Yokoyama (original manga)
Kimba the White Lion (1965), Osamu Tezuka (original manga)
Speed Racer (1967), Tatsuo Yoshida (director and original manga)
Cyborg 009 (1968), Shotaro Ishinomori (original manga)
Lupin III (1971), Monkey Punch (original manga)
Gatchaman (1972) aka Battle of the Planets, Tatsuo Yoshida (original manga)
Devilman (1972), Go Nagai (original manga)

Harem anime

See also: Harem anime
Ranma ½ (1989), Rumiko Takahashi (original manga)
Tenchi Muyo! (1991), Masaki Kajishima
Love Hina (2000), Ken Akamatsu (original manga)
Green Green (2003), Chisaku Matsumoto

Horror anime

Wicked City (1987), Yoshiaki Kawajiri (director), Hideyuki Kikuchi (original novel)
Doomed Megalopolis (1991), Rintaro (director), Hiroshi Aramata (original story)
Pet Shop of Horrors (1999), Toshio Hirata (director), Matsuri Akino (original story)
Blood: The Last Vampire (2000), Mamoru Oshii (story), Hiroyuki Kitakubo (director)
Vampire Hunter D: Bloodlust (2000), Yoshiaki Kawajiri (director)
Hellsing (2002), Kohta Hirano

Kodomo (children's) anime

Panda! Go, Panda! (1972), Isao Takahata
Doraemon (1979), Fujiko Fujio
Anpanman (1988), Takashi Yanase
Magical Taruruuto-Kun (1990), Tatsuya Egawa
Pokémon (1997), Satoshi Tajiri
Hamtaro (2000), Ritsuko Kawai

Giant Robot (Mecha) anime

See also: Mecha

Tetsujin 28-go (1963), Mitsuteru Yokoyama (original manga)
Mazinger Z (1972), Go Nagai (original manga)
Mobile Suit Gundam (1979), Yoshiyuki Tomino (director)
Patlabor (1983), Mamoru Oshii (director), Masami Ykki (original manga)
Bubblegum Crisis (1987), Kenichi Sonoda (character design)
Neon Genesis Evangelion (1995), Hideaki Anno (director) This show is recognized by many fans as hard to categorize, but a consensus has been reached that it is basically a mecha.
The Big O (1999)
Full Metal Panic! (2001) Koichi Chigira
RahXephon (2002), Yutaka Izubuchi (creator)

Mystery anime

Case Closed (1996), Gosho Aoyama (original manga)
Detective Academy Q (2003), Noriyuki Abe (Director)

Romance anime

The Rose of Versailles (1979), Riyoko Ikeda (original manga)
Maison Ikkoku (1986), Rumiko Takahashi (original manga)
Kimagure Orange Road (1987), Izumi Matsumoto (original manga)
Video Girl Ai (1992), Masakazu Katsura (original manga), Mizuho Nishikubo (director)
Marmalade Boy (1994), Wataru Yoshizumi (original manga)
His & Her Circumstances (1998), Masami Tsuda (original manga), Hideaki Anno (director)
Onegai Teacher (2001) Please! (Author) Shizuru Hayashiya (Art)
Ai Yori Aoshi (2002), Kou Fumizuki (original manga)

Samurai-era anime

Yotoden (1987) Osamu Yamazaki (director)
The Hakkenden (1990), Takashi Anno (director) and Yukio Okamoto (director), Kyokutei Bakin (original novel)
Ninja Scroll (1995), Yoshiaki Kawajiri (director)
Rurouni Kenshin (1996), Nobuhiro Watsuki (original manga)
Tsukikage Ran (2000), Akitaro Daichi (director)
Samurai Deeper Kyo (2002), Akimine Kamijyo (original manga)

Science Fiction anime

Captain Future (1979), Tomoharu Katsumata (director), Edmond Hamilton (original stories)
Ulysses 31 (1981)
Royal Space Force: The Wings of Honneamise (1987), Hiroyuki Yamaga (director)

Akira (1988), Katsuhiro Otomo (director and original manga)
Ghost in the Shell (1995), Mamoru Oshii (director)
Cowboy Bebop (1998), Shinichiro Watanabe (director)
The Irresponsible Captain Tylor (1998)
Serial Experiments Lain (1998), Chiaki J. Konaka
FLCL (2000), Kazuya Tsurumaki and others (director)
Metropolis (2001), Rintaro (director), Osamu Tezuka

Shojo anime

See also: Shojo

Please note that titles listed in this section can fit into other categories on this page. However, they were placed here as they exemplify the traits found in typical "shojo" anime.

Ribbon No Kishi (1967), Osamu Tezuka
Aim for the Ace! (1973), Sumika Yamamoto
Candy Candy (1974), Kyoko Mizuki
Sailor Moon (1992), Naoko Takeuchi
Kodocha (Kodomo no Omocha) (1996), Miho Obana
Cardcaptor Sakura (English anime is known as Cardcaptors) (1998), CLAMP
Fruits Basket (2001), Studio DEEN (by Natsuki Takaya)

Shonen anime

See also: Shonen

Please note that titles listed in this section can fit into other categories on this page. However, they were placed here as they exemplify the traits found in typical "shonen" anime.

Dragon Ball (1986), Akira Toriyama
Saint Seiya (Knights of the Zodiac) (1986), Masami Kurumada
Ronin Warriors (Yoroiden-Samurai Troopers) (1988), Hajime Yatate
Rurouni Kenshin (1992), Nobuhiro Watsuki
Yu Yu Hakusho (1997), Yoshihiro Togashi
Digimon(1997), Akiyoshi Hongo (original manga and anime)
Yu-Gi-Oh! (second series anime, Yu-Gi-Oh! Duel Monsters in Japan) (2000), Kazuki Takahashi (original manga, 1996)
One Piece (1997), Eiichiro Oda
Hikaru no Go (2001), Yumi Hotta (original manga story), Takeshi Obata (original manga artist)
Naruto (2002), Masashi Kishimoto (original manga, 1999)

Space opera anime

Space Battleship Yamato (1974) aka Star Blazers, Leiji Matsumoto (director)
Captain Harlock (1978), Rintaro (director), Leiji Matsumoto (original manga)
The Super Dimension Fortress Macross (1982), Noburo Ishiguro (director)

Gunbuster (1988), Hideaki Anno (director)
Legend of the Galactic Heroes (1988), Noburo Ishiguro (director), Yoshiki Tanaka (original story)
Martian Successor Nadesico (1996), Tatsuo Sato (director), Kia Asamiya (original manga)
Crest of the Stars (1999), Morioka Hiroyuki (original novels)

Sports anime

Ashita No Joe (1970), Osamu Dezaki (director) Tetsuo Chiba & Asao Takamori (original manga creator)
Captain Tsubasa (1983), Yoichi Takahashi
Touch (1985), Mitsuru Adachi (original manga)
Slam Dunk (1993), Takehiko Inoue (original manga)
Battle Athletes OVA (1997), Kazuhiro Ozawa (director)
Initial D (1998), Shuichi Shigeno (original manga)
Princess Nine (1998) Tomomichi Mochizuki (director)
Fighting Spirit (Hajime no Ippo) (2000) Jyoji "George" Morikawa (original manga)
Prince of Tennis (2001), Takeshi Konomi (original manga)

Studio Ghibli anime

Nausicaä of the Valley of the Wind (1984), Hayao Miyazaki (director and original manga)
Castle in the Sky (1986), Hayao Miyazaki (director)
Grave of the Fireflies (1988), Isao Takahata (director)
My Neighbor Totoro (1988), Hayao Miyazaki (director)
Kiki's Delivery Service (1989), Hayao Miyazaki (director)
Porco Rosso (1992), Hayao Miyazaki (director)
Princess Mononoke (1997), Hayao Miyazaki (director)
Spirited Away (2001), Hayao Miyazaki (director)

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Computer animation

Computer animation is the art of creating moving images via the use of computers. It is a subfield of computer graphics and animation. Increasingly it is created by means of 3D computer graphics, though 2D computer graphics are still widely used. Sometimes the target of the animation is the computer itself, sometimes the target is another medium, such as film. It is also referred to as CGI (Computer generated imagery) especially when used in movies.

To create the illusion of movement, an image is displayed on the computer screen then quickly replaced by a new image that is similar to the previous image, but shifted slightly. This technique is identical to how the illusion of movement is achieved with television and motion pictures.

3D Computer animation is essentially a digital successor to the art of stop motion animation; the animated figure is built on the computer monitor and rigged with a virtual skeleton. Then the limbs, eyes, mouth, clothes, etc. of the 3D figure are moved by the animator. Finally, the animation is rendered.

A simple example

The screen is blanked to a background color, such as black. Then a goat is drawn on the right of the screen. Next the screen is blanked, but the goat is drawn slightly to the left of its original position. This process is repeated, each time moving the goat a bit to the left. If this process is repeated fast enough the goat will appear to move smoothly to the left. This basic procedure is used for all moving pictures in films and television.

Explanation

To trick the eye and brain into thinking they are seeing a smoothly moving object the pictures should be drawn at around 12 frames per second or faster (a frame is one complete image). With rates above 70 frames/s no improvement in realism or smoothness is perceivable due to the way the eye and brain process images. At rates below 12 frames/s most people can detect jerkiness associated with the drawing of new images which detracts from the illusion of realistic movement. Conventional hand-drawn cartoon animation often uses 15 frames/s in order to save on the number of drawings needed, but this is usually accepted because of the stylized nature of cartoons. Because it produces more realistic imagery computer animation demands higher frame rates to reinforce this realism.

The reason no jerkiness is seen at higher speeds is due to “persistence of vision.” From moment to moment, the eye and brain working together actually store whatever you look at for a fraction of a second, and automatically "smooth out" minor jumps. Movie film seen in a theater runs at 24 frames/s which is sufficient to create this illusion of continuous movement.

Creating characters and objects on a computer

Computer animation combines Vector graphics with programmed movement. The starting point is often a stick figure in which the position of each feature (limb, mouth etc) is defined by as Avars (animation variable).

The character "Woody" in Pixar's movie Toy Story, for example, uses 700 Avars with 100 Avars in his face alone. Successive sets of Avars control all movement of the character from frame to frame. Once the stick model is moving in the desired way, the avars are incorporated into a full Wire frame model or a model built of polygons. Finally surfaces are added, requiring a lengthy process of Rendering to produce the final scene.

There are several ways of generating the Avar values to obtain realistic motion. Motion tracking uses lights or markers on a real person acting out the part, tracked by a video camera. Or the Avars may be set manually using a joystick or other form input control. Toy Story uses no motion tracking, probably because manual control by a skilled animator can produce effects not easily acted out by a real person.

Equipment

Computer animation can be created with a computer and animation software. Some examples of animation software are: Amorphium (3D), Poser (3D), Ray Dream Studio (3D), Bryce, Maya, Blender, TrueSpace (3D), Lightwave (3D), 3D Studio Max (3D) and SoftImage XSI (3D) and Macromedia Flash (2D). There are many more. Prices will vary greatly depending on target market. Some impressive animation can be achieved even with basic programs; however, the rendering can take a lot of time on an ordinary home computer. Because of this, video game animators tend to use low resolution, low polygon count renders, such that the graphics can be rendered in real time on a home computer. Photorealistic animation would be impractical in this context.

Professional animators of movies, television, and video sequences on computer games make photorealistic animation with high detail. This level of quality for movie animation would take tens to hundreds of years to create on a home computer. Many powerful workstation computers are used instead. Graphics workstation computers use two to four processors, and thus are a lot more powerful than a home computer, and are specialized for rendering. A large number of workstations (known as a render farm) are networked together to effectively act as a giant computer. The result is a computer animated movie that can be completed in about one to five years (this process is not comprised solely of rendering, however). A workstation typically costs $2000 to $16000, with the more expensive stations being able to render much faster, due to the more technologically advanced hardware that they contain. Pixar's Renderman is rendering software which is widely used as the movie animation industry standard, in competition with Mental Ray. It can be bought at the official Pixar website for about $5000 to $8000. It will work on Linux, Mac OS X, and Microsoft Windows based graphics workstations along with an animation program such as Maya and Softimage XSI. Professionals also use digital movie cameras, motion capture or performance capture, bluescreens, film editing software, props, and other tools for movie animation.

Technical details

When an image is rendered to the screen, it is normally rendered to something called a back buffer. There the computer can draw the image, making any necessary changes to it before it is done. While the computer is rendering, the screen is showing the contents of what is called the primary or active buffer.

When the image is completed, the computer tells the screen to draw from the back buffer. This can be done in one of two ways: the contents of the back buffer can be copied to the primary buffer (or active buffer—the buffer which is currently being shown) or the computer can switch where it is drawing from and make the back buffer the new primary buffer. In this case, the primary buffer becomes the back buffer. This process is usually called double buffering or, informally, "flipping," because the computer is flipping its use of primary and back buffers.

This switching should be carried out when it is imperceptible to the user. Therefore it needs to take place during what is called the "v-sync" or vertical retrace. The v-sync, in CRTs, takes place when the electron guns reach the bottom right of the screen and need to reposition the beam to the top left of the screen. This happens very quickly and the image the guns had just projected remain on the screen as they are moving back to their starting position. While the guns are repositioning themselves, the computer has enough time to flip buffers and the new image will be rendered on the screen on the next pass of the guns. The new image will continued to be displayed until the buffers are flipped once more.

When the computer fails to wait for the v-sync, a condition called sprite breakup or image breakup is perceptible. This is highly undesirable and should always be avoided when possible to maintain the illusion of movement.

The future

Some people expect that in the future, the processing power of computers will become so fast as to enable animation in the form of virtual reality; meaning the illusion will be so complete as to be immersive, and rendered in three dimensions which apparently surround the viewer, and the audience will experience and even interact with the artwork as if they were inside it.

One open challenge in computer animation is a photorealistic animation of humans. Currently, most computer-animated movies show animal characters (Finding Nemo), fantasy characters (Shrek, Monsters Inc.), or cartoon-like humans (The Incredibles). The movie Final Fantasy: The Spirits Within is often cited as the first computer-generated movie to attempt to show realistic-looking humans. However, due to the enormous complexity of the human body, human motion, and human biomechanics, realistic simulation of humans remains largely an open problem. It is one of the "holy grails" of computer animation. Eventually, the goal is to create software where the animator can generate a movie sequence showing a photorealistic human character, undergoing physically-plausible motion, together with clothes, photorealistic hair, a complicated natural background, and possibly interacting with other simulated human characters. This should be done in a way that the viewer is no longer able to tell if a particular movie sequence is computer-generated, or created using real

actors in front of movie cameras. Achieving such a goal would mean that conventional flesh-and-bone human actors are no longer necessary for this kind of movie creation, and computer animation would become the standard way of making every kind of a movie, not just animated movies. This is not likely to happen very soon, however such concepts obviously bear certain philosophical implications for the future of the film industry.

Then we have the animation studios who are not interested in photorealistic CGI features, or to be more precise, they want some alternatives to choose from and may prefer one style over another, depending on the movie. For the moment it looks like three dimensional computer animation can be divided into two main directions; photorealistic and non-photorealistic rendering. Photorealistic computer animation can itself be divided into two subcategories; real photorealism (where performance capture is used in the creation of the virtual human characters) and stylized photorealism. Real photorealism is what Final Fantasy tried to achieve and will in the future most likely have the ability to give us live action fantasy features as The Dark Crystal without having to use advanced puppetry and animatronics, while Antz is an example on stylistic photorealism (in the future stylized photorealism will be able to replace traditional stop motion animation as Corpse Bride). None of them are as mentioned perfected yet, but the progress continues. The non-photorealistic/cartoonish direction is more like an extension and improvement of traditional animation, an attempt to make the animation look like a three dimensional version of a cartoon, still using and perfecting the main principles of animation articulated by the Nine Old Men, such as squash and stretch. While a single frame from a photorealistic computer animated feature will look like a photography if done right, a single frame from a cartoonish computer animated feature will look like a painting (not to be confused with cel shading, which produces an ever simpler look).

Detailed examples and pseudocode

In 2D computer animation, moving objects are often referred to as “sprites.” A sprite is an image that has a location associated with it. The location of the sprite is changed slightly, between each displayed frame, to make the sprite appear to move. The following pseudocode makes a sprite move from left to right:

var *int* x := 0, y := screenHeight ÷ 2; **while** x < screenWidth drawBackground() drawSpriteAtXY(x, y) *// draw on top of the background* x := x + 5 *// move to the right*

Modern (2001) computer animation uses different techniques to produce animations. Most frequently, sophisticated mathematics is used to manipulate complex three dimensional polygons, apply “textures”, lighting and other effects to the polygons and finally rendering the complete image. A sophisticated graphical user interface may be used to create the animation and arrange its choreography. Another technique called constructive solid geometry defines objects by conducting boolean operations on regular shapes, and has the advantage that animations may be accurately produced at any resolution.

Let's step through the rendering of a simple image of a room with flat wood walls with a grey pyramid in the center of the room. The pyramid will have a spotlight shining on it. Each wall, the floor and the ceiling is a simple polygon, in this case, a rectangle. Each corner of the rectangles is defined by three values referred to as X, Y and Z. X is how far left and right the point is. Y is how far up and down the point is, and Z is far in and out of the screen the point

is. The wall nearest us would be defined by four points: (in the order x, y, z). Below is a representaion of how the wall is defined.

(0, 10, 0) (10, 10, 0) (0,0,0) (10, 0, 0)

The far wall would be:

(0, 10, 20) (10, 10, 20) (0, 0, 20) (10, 0, 20)

The pyramid is made up of five polygons: the rectangular base, and four triangular sides. To draw this image the computer uses math to calculate how to project this image, defined by three dimensional data, onto a two dimensional computer screen.

First we must also define where our view point is, that is, from what vantage point will the scene be drawn. Our view point is inside the room a bit above the floor, directly in front of the pyramid. First the computer will calculate which polygons are visible. The near wall will not be displayed at all, as it is behind our view point. The far side of the pyramid will also not be drawn as it is hidden by the front of the pyramid.

Next each point is perspective projected onto the screen. The portions of the walls 'farthest' from the view point will appear to be shorter than the nearer areas due to perspective. To make the walls look like wood, a wood pattern, called a texture, will be drawn on them. To accomplish this, a technique called "texture mapping" is often used. A small drawing of wood that can be repeatedly drawn in a matching tiled pattern (like wallpaper) is stretched and drawn onto the walls' final shape. The pyramid is solid grey so sp its surfaces can just be rendered as grey. But we also have a spotlight. Where its light falls we lighten colors, where objects blocks the light we darken colors.

Next we render the complete scene on the computer screen. If the numbers describing the position of the pyramid were changed and this process repeated, the pyramid would appear to move.

Movies

CGI short films have been produced as independent animation since the 1970s, though the popularity of computer animation (especially in the field of special effects) skyrocketed during the modern era of U.S. animation. The very first totally computer-generated animated movie was Toy Story.

Below is a selected list of films that are completely computer animated:

Adventures of Jimmy Neutron: Boy Genius
The Ant Bully
Antz
Barnyard
A Bug's Life
Chicken Little
Finding Nemo

Ice Age
Ice Age: The Meltdown
The Incredibles
Madagascar
The Magic Roundabout
Monsters Inc.
The Polar Express
Robots
Shark Tale
Shrek
Shrek 2
Toy Story
Toy Story 2
Valiant
Waking Life

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Animation software

Animation software is software that is used either for computer animation or to assist animators with the considerable work needed to create more traditional pieces of animation.

Two Dimensional (2D) animation

Two Dimensional (2D) animation software provides animators with the ability to use computers to carry out the time consuming repetitive tasks that are needed when building a sequence of frames. A simple example of this is the software package stopmotion, which as the name implies is used to build sequences of frames from pictures taken by a digital camera connected to a computer.

Three dimensional (3D) animation

Three dimensional (3D) animation is far more complex than 2D for a number of reasons. Firstly, objects in a 3D animation have to be created or rendered in each frame. When either an object moves or the relative viewpoint of the observer changes, as is the case when the animator wants to create the appearance of a camera movement, the program must regenerate all the changes in perspective, lighting, shadows and reflections.

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Computer facial animation

Computer facial animation is primarily an area of computer graphics that encapsulates models and techniques for generating and animating images of the human head and face. Due to its subject and output type, it is also related to many other scientific and artistic fields from psychology to traditional animation. The importance of human faces in verbal and non-verbal communication and advances in computer graphics hardware and software have caused considerable scientific, technological, and artistic interests in computer facial animation.

Although development of computer graphics methods for facial animation started in the early 1970s, major achievements in this field are more recent and happened since the late 1980s.

Computer facial animation includes a variety of techniques from morphing to three-dimensional modeling and rendering. It has become well-known and popular through animated feature films and computer games but its applications include many more areas such as communication, education, scientific simulation, and agent-based systems (for example online customer service representatives).

History

Human facial expression has been the subject of scientific investigation for more than one hundred years. Study of facial movements and expressions started from a biological point of view. After some older investigations, i.e. by John Bulwer in late 1640s, Charles Darwin's book The Expression of the Emotions in Men and Animals can be considered a major departure for modern research in behavioural biology.

More recently, one of the most important attempts to describe facial activities (movements) was Facial Action Coding System (FACS). Introduced by Ekman and Friesen in 1978, FACS defines 64 basic facial Action Units (AUs). A major group of these Action Units represent primitive movements of facial muscles in actions such as raising brows, winking, and talking. Eight AUs are for 3D head movements, i.e. turning and tilting left and right and going up, down, forward and backward. FACS has been successfully used for describing desired movements of synthetic faces and also in tracking facial activities.

Computer based facial expression modeling and animation is not a new endeavor. The earliest work with computer based facial representation was done in the early 1970s. The first three-dimensional facial animation was created by Parke in 1972. In 1973, Gillenson developed an interactive system to assemble and edit line drawn facial images. And in 1974, Parke developed a parameterized three-dimensional facial model.

The early 1980s saw the development of the first physically-based muscle-controlled face model by Platt and the development of techniques for facial caricatures by Brennan. In 1985, the short animated film ``Tony de Peltrie'' was a landmark for facial animation. In it for the first time computer facial expression and speech animation were a fundamental part of telling the story.

The late 1980s saw the development of a new muscle-based model by Waters, the development of an abstract muscle action model by Magnenat-Thalmann and colleagues, and approaches to automatic speech synchronization by Lewis and by Hill. The 1990s have seen increasing activity in the development of facial animation techniques and the use of computer facial animation as a key storytelling component as illustrated in animated films

such as Toy Story, Antz, Shrek, and Monsters, Inc, and computer games such as Sims. The sophistication of the films increased after 2000. Films as Polar Express attempted to to capture realistic faces with motion capture using upwards of 150 data points. Another milestone in facial animation was reached by Lord of the Rings where a character specific shape base system was developed. Through this period large studios created proprietary systems to animate faces.

2006, Face Robot first commercial software has been delevolped to deal with the problem of Facial Animation. Face Robot It approaches the problem using a non linear solver. Can be procedurally applied to a human face and animation retargeted across faces. It can be directly manipulated, hand animated or driven by motion capture data.

Techniques

2D

Two-dimensional methods for facial animation are based on applying image transformation to existing photographs. The most common technique in 2D facial animation is morphing and its variations. Morphing involves a pair of images (morph source and morph target) and creating a series of in-between images that show a transition from source to target (interpolation). Morph source and morph target images are animation keyframes. In the case of facial animation, they can be visemes. A set of such images can allow animating a talking head as shown in the top row of 2D facial animation figure. A more complicated situation is when only one image (e.g. a rest position of face) exists. In such cases, image processing techniques can be used to first create the morph target (see the bottom row of the figure).

3D

Three-dimensional head models provide the most powerful means of generating computer facial animation. One of the earliest works on computerized head models for graphics and animation was done by Parke. The model was a mesh of 3D points controlled by a set of conformation and expression parameters. The former group controls the relative location of facial feature points such as eye and lip corners. Changing these parameters can re-shape a base model to create new heads. The latter group of parameters (expression) are facial actions that can be performed on face such as stretching lips or closing eyes. This model was extended by other researchers to include more facial features and add more flexibility. Different methods for initializing such “generic” model based on individual (3D or 2D) data have been proposed and successfully implemented. The parameterized models are effective ways due to use of limited parameters, associated to main facial feature points. The MPEG-4 standard defines a minimum set of parameters for facial animation [1].

Animation is done by changing parameters over time. Facial animation is approached in different ways, traditional techniques include 1.shapes/morph targets, 2.bones/cages, 3.skeleton-muscle systems, 4. motion capture on points on the face and 5. knowledge based solver deformations.

1. *Shape based systems* offer a fast playback as well as a high degree of fidelity of expressions. The technique involves modelling portions of the face mesh to approximate expressions and visimes and then blending the different sub meshes, known as morph targets or shapes. Perhaps the most accomplished character using this technique was Golum, from Lord of the Rings. Drawbacks of this technique are that they involve intensive manual labor, are specific to each character and must be animated by slider parameter tables.

2. *Skeletal Muscle systems*, physically-based head models form another approach in modeling the head and face. Here the physical and anatomical characteristics of bones, tissues, and skin are simulated to provide a realistic appearance (e.g. spring-like elasticity). Such methods can be very powerful for creating realism but the complexity of facial structures make them computationally expensive, and difficult to create. Considering the effectiveness of parameterized models for communicative purposes (as explained in the next section), it may be argued that physically-based models are not a very efficient choice in many applications. This does not deny the advantages of physically-based models and the fact that they can even be used within the context of parameterized models to provide local details when needed. Waters, Terzopoulos, Kahler, and Seidel (among others) have developed physically-based facial animation systems.

3. '*Envelope Bones*' or '*Cages*' are commonly used in games. They produce a simple and fast models, but are not prone to portray subtlety.

4. *Motion capture* uses cameras placed around a subject. The subject is generally fitted either with reflectors (passive motion capture) or sources (active motion capture) that precisely determine the subject's position in space. The data recorded by the cameras is then digitized and converted into a three-dimensional computer model of the subject. Until recently, the size of the detectors/sources used by motion capture systems made the technology inappropriate for facial capture. However, miniaturization and other advancements by companies such as PhaseSpace Inc. have made motion capture a viable tool for computer facial animation. Facial motion capture was used extensively in Polar Express where hundreds of motion points were captured. This film was very accomplished and while it attempted to recreate realism, it was critisized for having fallen in the 'uncanny valley', the realm where animation realism is sufficient for human recognition but fails to convey the emotional message. The main difficulties of motion capture are the quality of the data which may include vibration as well as the retargeting of the geometry of the points.

5. *Deformation* Solver Face Robot.

Face Animation Languages

Many face animation languages are used to describe the content of facial animation. They can be input to a compatible "player" software which then creates the requested actions. Face animation languages are closely related to other multimedia presentation languages such as SMIL and VRML. Due to the popularity and effectiveness of XML as a data representation mechanism, most face animation languages are XML-based. For instance, this is a sample from Virtual Human Markup Language (VHML):

<vhml>
<person disposition="angry">
First I speak with an angry voice and look very angry,

<surprised intensity="50">
but suddenly I change to look more surprised.
</surprised>
</person>
</vhml>

More advanced languages allow decision-making, event handling, and parallel and sequential actions. Following is an example from Face Modeling Language (FML):

<fml>
<act>
<par>
<hdmv type="yaw" value="15" begin="0" end="2000" />
<expr type="joy" value="-60" begin="0" end="2000" />
</par>
<excl event_name="kbd" event_value="" repeat="kbd;F3_up" >
<hdmv type="yaw" value="40" begin="0" end="2000" event_value="F1_up" />
<hdmv type="yaw" value="-40" begin="0" end="2000" event_value="F2_up" />
</excl>
</act>
</fml>

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Computer-generated imagery

Computer-Generated Imagery (**CGI**) is the application of the field of computer graphics (or more specifically, 3D computer graphics) to special effects. CGI is used in movies, television programs and commercials, and in printed media. Video games most often use real-time computer graphics (rarely referred to as CGI), but may also include pre-rendered "cut scenes" and intro movies that would be typical CGI applications. These are referred to as FMV.

CGI is used for visual effects because it is higher quality and more controllable than other more physically based processes, such as constructing miniatures for effects shots or hiring a cheap deal of extras for crowd scenes, and because it allows the creation of images that would not be feasible using any other technology. It can also allow a single artist to produce content without the use of actors, expensive set pieces, or props.

Recent accessibility of CGI software and increased computer speeds has allowed individual artists and small companies to produce professional grade films, games, and fine art from their home computers. This has brought about an Internet subculture with its own set of global celebrities, clichés, and tech vocabulary.

History

2D CGI was first used in movies in 1973's Westworld, though the first use of 3D imagery was in its sequel, Futureworld (1976), which featured a computer-generated hand and face

created by then University of Utah graduate students Edwin Catmull and Fred Parke. The 2nd movie to use this technology was Star Wars (1977) for the scenes with the Death Star plans. The first two films to make heavy investments in CGI, Tron (1982) and The Last Starfighter (1984), were commercial failures, causing most directors to relegate CGI to images that were supposed to look like they were created by a computer. The first real CGI character was created by Pixar for the film Young Sherlock Holmes in 1985 (not counting the simple polyhedron character Bit in Tron). It took the form of a knight composed of elements from a stained glass window. Photorealistic CGI did not win over the motion picture industry until 1989, when The Abyss won the Academy Award for Visual Effects. Industrial Light and Magic produced photorealistic CGI visual effects, most notably a seawater creature dubbed the pseudopod, featuring in one scene of the film. CGI then took a central role in Terminator 2: Judgment Day (1991), when the T-1000 Terminator villain wowed audiences with liquid metal and morphing effects fully integrated into action sequences throughout the film. *Terminator 2* also won ILM an Oscar for its effects.

It was the 1993 film *Jurassic Park*, however, where the dinosaurs appeared so life-like and the movie integrated CGI and live-action so flawlessly, that revolutionized the movie industry. It marked Hollywood's transition from stop-motion animation and conventional optical effects to digital techniques.

The following year, CGI was used to create the special effects for Forrest Gump. The most noteworthy effects shots were the digital removal of actor Gary Sinise's legs. Other effects included a napalm strike, fast-moving Ping-Pong balls and the feather in the title sequence. With *Forrest Gump*, CGI entered mainstream movies.

2D CGI increasingly appeared in traditionally animated films, where it supplemented the use of hand-illustrated cels. Its uses ranged from digital tweening motion between frames, to eye-catching quasi-3D effects such as the ballroom scene in Beauty and the Beast.

In 1995, the first fully computer-generated feature film, Pixar's (The Walt Disney Company) Toy Story, was a resounding commercial success. Additional digital animation studios such as Blue Sky Studios (Fox), DNA Productions (Paramount Pictures and Warner Bros.), Onation Studios (Paramount Pictures), Sony Pictures Animation (Columbia Pictures) and Pacific Data Images (Dreamworks SKG) went into production, and existing animation companies such as The Walt Disney Company began to make a transition from traditional animation to CGI.

Between 1995 and 2005 the average effects budget for a wide-release feature film skyrocketed from $5 million to $40 million. According to one studio executive, as of 2005, more than half of feature films have significant effects. [1]

In the early 2000s, computer-generated imagery became the dominant form of special effects. The technology progressed to the point that it became possible to include virtual stunt doubles that were nearly indistinguishable from the actors they replaced. Camera tracking software was refined to allow increasingly complex visual effects developments that were previously impossible. Computer-generated extras also became used extensively in crowd scenes with advanced flocking and crowd simulation software. The timeline of CGI in movies shows a detailed list of pioneering uses of computer-generated imagery in film and television.

CGI for films is usually rendered at about 1.4–6 megapixels. Toy Story, for example, was rendered at 1536 × 922 (1.42MP). The time to render one frame is typically around 2–3

hours, with ten times that for the most complex scenes. This time hasn't changed much in the last decade, as image quality has progressed at the same rate as improvements in hardware, since with faster machines, more and more complexity becomes feasible. Exponential increases in GPUs processing power, as well as massive increases in parallel CPU power, storage and memory speed and size have greatly increased CGI's potential.

In 2001, Square Pictures created the CGI film Final Fantasy: The Spirits Within, which featured highly detailed and photographic-quality graphics. The film was not a box-office success, however, and after creating one more film using a similar visual style (Final Flight of the Osiris, a short subject which served as a prologue to The Matrix Reloaded), Square Pictures closed down.

Developments in CGI technologies are reported each year at SIGGRAPH, an annual conference on computer graphics and interactive techniques, attended each year by tens of thousands of computer professionals.

Developers of computer games and 3D video cards strive to achieve the same visual quality on personal computers in real-time as is possible for CGI films and animation. With the rapid advancement of real-time rendering quality, artists began to use game engines to render non-interactive movies. This art form is called *machinima*.

Creating characters and objects on a computer

3d Computer animation combines 3d modeling with programmed movement. Models are constructed out of geometrical vertices, faces, and edges in a true 3d coordinate system. Objects are sculpted much like real clay or plaster, working from general forms to specific details with various sculpting tools. A bone/joint system is set up to deform the 3d mesh ie. to make a humanoid model walk. In a process called rigging, the virtual marionette is given various controllers and handles for an animator to manipulate. The character "Woody" in Pixar's movie Toy Story, for example, uses 700 specialized animation controllers. In the 2003 film The Day After Tomorrow, designers had to completely create forces of extreme weather with only the help of video references and accurate meteorological fact.

Digital Grading

One of the less obvious CGI effects in movies is digital grading. This is a computer process in which sections of the original image are color corrected using special processing software. A detail that was too dark in the original shot can be lit and enhanced in this post-production process.

In Lord Of The Rings they used digital grading to drain the colour from Sean Bean's face as his character died.

For the 2005 remake of King Kong, actor Andy Serkis was used to help designers pinpoint the gorilla's prime location in the shots and used his expressions to model "human" characteristics onto the creature.

Free CGI Tools Available Online for Download

ArtOfIllusion
Blender
Maya (software)

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Flash cartoon

A **Flash cartoon** is an animated film created using Macromedia Flash animation software, usually as a form of limited animation. Flash cartoons are typically distributed via the World Wide Web, in which case it is often called a **Internet cartoon**, **online cartoon**, or **webtoon**. Web flash cartoons may be interactive and are often created in a **series**. Anime-styled animation created using Flash can be called **Flash anime** or **Web anime**. A Flash cartoon is distinguished from a Webcomic, which is a comic strip distributed via the Web, rather than an animated cartoon.

Flash animation is much easier and less expensive to create than using traditional animation techniques. Distribution via the Internet is very easy and cheap compared to television broadcasting; websites such as Newgrounds and UGOplayer host Flash cartoons for free. Many Flash cartoons are created by individual or amateur artists, though it does require enough technical expertise to use Macromedia Flash. Some web Flash cartoons become popular enough to air on broadcast television, on channels such as MTV.

Some professional animated television series are also produced using Macromedia Flash because of the low cost of production, such as Gotham Girls, produced by Warner Brothers. The Critic was the first animated television series to use Flash; after being canceled from both ABC & Fox, Atom Films created net-only episodes in 2000-2001. Some existing television cartoons such as Home Movies (on Cartoon Network's Adult Swim) have switched to Flash from other animation technology, as well as the lesser-known Aaagh! It's the Mr. Hell Show & Queer Duck from Showtime, and Shorties Watching Shorties on Comedy Central.

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Head swap

Head swapping is the act of removing the head from an animated character and replacing it with a different one. This is usually done for one of two reasons: cost and memory constraints (on video game consoles).

Artwork is expensive to produce, so by recycling the characters body and only having to draw a new head, studios can save time and money. Early game consoles also had quite limited amounts of memory and storage space for games, so by reusing the body several characters could be produced with only minimal extra memory requirements. This technique is closely linked to the more common palette swap.

Perhaps the most famous use of the head swap is in Capcom's Street Fighter series. It is used to distinguish between what fans call "Shotokan fighters" or "Shotoclones." This type of head swap is dfferent from other head swaps in that it is used together with the palette swap to differentiate between these similar characters. Characters of this type that exhibit the head swap include Ryu, Ken (see above), Akuma, Dan, and Sean.

Occasionally, head swaps occur by accident. For example, in the beat 'em up Double Dragon, the heads of the two main characters were accidentally swapped (their bodies are identical) between the arcade and home versions.

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Light synthesizer

A **light synthesizer** is a computer program, or other piece of hardware, designed to create attractive animated abstract visuals. The term was coined by Jeff Minter in the eighties to describe his programs *Psychedelia*, *Colourspace*, and *Trip-A-Tron*.

A light synthesizer is distinct from a "visualiser" - as present in many modern media centres - in that it takes all its input directly from the user. Although light synthesizer displays are often accompanied by music, the synthesizer program performs no analysis of the music; indeed, the early light synthesizers mentioned above ran on computers which were not capable of inputting sound samples. The entire show is directed by the user, who "plays" (or "flies") the light synthesizer using the keyboard and mouse to trigger and guide effects; typically, the user will also need to configure the synthesizer in advance of the show by setting up effects that they wish to have occur.

The most recent light synthesizer produced by Jeff Minter is Neon, used as the media visualiser on the Xbox 360 (and due out on the PC in 2006). Although Neon does construct displays automatically in response to music, its operation can be completely overridden by the user who can then take complete control of the images produced. However, the number of inputs is so substantial that doing so requires use of four Xbox joypads at the same time; thus, it is usually controlled by multiple people.

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Morph target animation

Morph target animation (or **per-vertex animation**) is a method of 3D computer animation that is sometimes used in alternative to skeletal animation. Morph target animation is stored as a series of vertex positions. In each keyframe of the animation, the vertices are moved to a different position.

Depending on the renderer, the vertices will move along paths to fill in the blank time between the keyframes or the renderer will simply switch between the different positions, creating a somewhat jerky look. The former is used more commonly.

There are advantages to using morph target animation over skeletal animation. The artist has more control over the movements because he or she can define the individual positions of the vertices within a keyframe, rather than being constrained by skeletons. This can be useful for animation cloth, skin, and facial expressions because it can be difficult to conform those things to the bones that are required for skeletal animation.

However, there are also disadvantages. Vertex animation is usually a lot more time-consuming than skeletal animation because every vertex position would have to be calculated. (3D models in modern computer and video games often contain something to the order of 4,000-9,000 vertices.) Also, in methods of rendering where vertices move from position to position during in-between frames, a distortion is created that doesn't happen when using skeletal animation. This is described by critics of the technique as looking "shaky." Howerver, there are some who like this slightly distorted look.

Not all morph target animation has to be done by actually editting vertex positions. It is also possible to take vertex positions found in skeletal animation and then use those rendered as morph target animation.

Sometimes, animation done in one 3D application suite will need to be taken into another for rendering. To avoid issues in export, animation will often be converted from whatever format it was in to morph target animation. This is sometimes necessary because things such as bones and special effects are not programmed using consistent systems among different 3D application suties.

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Onion skinning

Onion skinning is a 2D computer graphics term for a technique used in creating animated cartoons and editing movies to see several frames at once. This way, the animator or editor can take decisions on how to create or change an image based on the previous image in the sequence.

In traditional cartoon animation, the individual frames of a movie were initially drawn on paper over a light source. The animators (mostly inbetweeners) would put the previous and next drawings exactly beneath the working drawing, so that they could draw the 'inbetween' to give a smooth motion.

In computer software, this effect is achieved by making frames (semi) transparent and projecting them on top of each other. Deluxe Paint was one of the earliest consumer

programs to achieve this effect. Disney's Animation Studio (also for the Amiga) was another (it was even codenamed "Onion" as this was a fundamental feature of the software).

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PowerPoint animation

PowerPoint animation is a form of animation which involves in using Microsoft PowerPoint and similar programs to create a game or movie. The animator uses Custom Animation, drawing tools and slides within PowerPoint, to make a game or movie.

Custom Animation

Custom Animation is a set of effects which can be applied to objects in PowerPoint so that they will animate in the Slide Show. PowerPoint 2000 and ealier versions introduced basic effects such as Appear, Dissolve, Fly In and etc. In PowerPoint 2002/XP and the later versions, the Custom Animation feature is improved, where new animation effects are added and grouped into four categories. The categories include Entrance, Emphasis, Exit and Motion Paths.

Entrance effects can be set to objects so that they enter with animations during Slide Show. Emphasis effects animate the objects on the spot. Exit effects allow objects to leave the Slide Show with animations. Motion Paths allow objects to move around the Slide Show.

Each effect contains variables such as start (On click, With previous, After previous), delay, speed, repeat and trigger. This makes animations more flexible and interactive similar to Macromedia Flash.

Animation Trigger

Animation Trigger is a feature introduced in Microsoft PowerPoint 2002/XP and the later versions. This feature allows animators to apply effects that can be triggered when a specific object on the Slide Show is clicked.

Games

In many middle school and early high school classes, students learn how to use the Microsoft Office PowerPoint Program. Students generally learn how to create slides with simple custom animations for reports. Other techniques such as hyperlinks and Animation Trigger, are used for the next level of animation. A hyperlink can be used within the PowerPoint document to link two pages to a highlighted object, or to a website page.

Using hyperlink and Animation Trigger, one can create games such as Jeopardy, using them to maneuver from question to answer. Taking this same principle, the animator can also make less complex games similar to a dungeon game and Escape the room. In this format, the animator can create a domain where the player must choose to go right or left,

or pick up objects, etc. The process takes time to use, but is generally cheaper and easier than using a professional gaming program.

Movies

Microsoft PowerPoint can also function as a movie maker program. The animator using PowerPoint works similarly to an animator for Disney, using a succession of slides to create the illusion of movement. Many tools within the PowerPoint program can be easily used for maximum effect. Drawing tools such as AutoShapes, contains lines, connectors, basic shapes, block arrows, flowchart, stars and banners, callouts and action buttons, help draw out a slide. Custom Animations and sound tools also help make it feel like a movie and not a report. The process of drawing out multiple slides takes up time, but again is considered easier to use than buying a movie maker.

Using Custom Animation, cartoon or movies similar to those created in Macromedia Flash can be done with PowerPoint. With minimum time, an animator can produce a simple show similar to a stick figure movie, where the body movements are animated using Motion Paths and Emphasis effects.

Shawn Toh, a webmaster of PowerPoint Heaven, has a section called Shadow Fighter series which demonstrates PowerPoint movies here.

Drawback

Though animations can be easily done using Custom Animations provided in PowerPoint, it can be much more tedious to create a movie or game in PowerPoint due to the absence of key frames and tweening found in professional animation programs such as Macromedia Flash.

When effects such as Emphasis Grow/Shrink and Spin are applied to objects, they may appear to be jagged when previewing in the slide show. In addition, excessive use of effects may degrade the slide show performance. These issues can though be resolved by enabling the hardware graphics acceleration feature which requires video card that supports Microsoft Direct3D.

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Squigglevision

Squigglevision is a mode of computer animation in which the outlines of shapes are made to wiggle and undulate. Tom Snyder of Tom Snyder Productions invented the technique, which his animation production company Soup2Nuts subsequently popularized in several successful animated series.

Compared with traditional animation, Squigglevision is relatively fast and easy to produce. The non-stop motion of the "squiggling" outlines reduces the need for more complex animations in order to make a scene feel dynamic; however, some may find the technique irritating. Tom Snyder describes the result as "economy of motion". "There are

almost no disadvantages," Snyder asserts. "It costs just as much to do a helicopter scene as it does to do a living room scene."

In order to create the line oscillation effects that characterize Squigglevision, Tom Snyder Productions' animators loop five slightly different drawings in a sequence called a *flick*. The animators then operate software from Avid Technology to merge the flicks into the scene, and synchronize them with the soundtrack.

Animated series produced in Squigglevision

Dick and Paula Celebrity Special
Dr. Katz, Professional Therapist
Home Movies (cartoon series) (first season only)

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Skeletal animation

Skeletal animation is a technique in computer animation, particularly in the animation of vertebrates, in which a character is represented in two parts: a surface representation used to draw the character (called the *skin*) and a hierarchical set of bones used for animation only (called the *skeleton*).

This technique is used by constructing a series of 'bones'. Each bone has a three dimensional transformation (which includes its position, scale and orientation), and an optional parent bone. The bones therefore form a hierarchy. The full transform of a child node is the product of its parent transform and its own transform. So moving a thigh-bone will move the lower leg too. As the character is animated, the bones change their transformation over time, under the influence of some animation controller.

Each bone in the skeleton is associated with some portion of the character's visual representation. In the most common case of a polygonal mesh character, the bone is associated with a group of vertices; for example, in a model of a human being, the 'thigh' bone would be associated with the vertices making up the polygons in the model's thigh. Portions of the character's skin can normally be associated with multiple bones, each one having a scaling factors called vertex weights, or blend weights. The movement of skin near the joints of two bones, can therefore be influenced by both bones.

For a polygonal mesh, each vertex can have a blend weight for each bone. To calculate the final position of the vertex, each bone transformation is applied to the vertex position, scaled by its corresponding weight. This algorithm is called matrix palette skinning, because the set of bone transformations (stored as transform matrices) form a palette for the skin vertex to choose from.

Strengths and weaknesses

Skeletal animation is useful because it allows the animator to control just those characteristics of the model that are independently moveable. A character cannot move the bottom part of their skin independent of the top part. Typically a visual model for the shin

will have different elements, that the animator would otherwise have to coordinate. Using a skeleton allows the animator to ignore such issues and focus on the large scale motion. Animation is therefore made much simpler: an animation can be defined by simple movements of the bones, instead of vertex by vertex (in the case of a polygonal mesh).

The weakness of the skeletal approach is that it doesn't by itself provide realistic muscle movement. A character flexing an arm will have both large scale bone movement and local skin motion caused by the change in muscle shape under the skin. It is common in animation for the movie industry and increasingly in computer games to have special muscle controllers attached to the bones that mimic this effect.

Applications

Skeletal animation is the standard way to do large scale animation of characters. It is commonly used by computer games programmers and in the movie industry, and can also be applied to mechanical objects and any other object made up of rigid elements and joints.

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Full motion video

Full motion video, usually abbreviated as **FMV**, is a popular term for pre-recorded TV-quality movie or animation in a video game. The first use of FMV was in 1983 with Dragon's Lair, a laserdisc video game by Cinematronics. Another early instance of FMV was Hasbro's unreleased video game system named NEMO. The NEMO home system created games with VHS tapes rather than ROM cartridges or 3.5 disks. In the early 1990s when PCs and consoles moved to creating games on a CD, they became technically capable of utilizing more than a few minutes' worth of movies in a game. This gave rise to a slew of FMV and computer games such as Night Trap (1992), Dracula Unleashed (1993), and Voyeur (1994). These FMV games used B-list movie and TV actors and promised to create the experience of playing an interactive movie. However, the FMV quality in these early games was low, and the game play did not live up to the hype, becoming well-known failures in video gaming. At this time consoles like 3DO, CD-i, and Sega CD borrowed this concept for a slew of interactive games. Nonetheless, two major things kept up the interest in FMV.

The first thing was that the rise of the Internet increased the popularity of FMV as consumers wanted to download various music and video files online. As the technology improved, so did the FMV quality. Popular platforms for FMV include QuickTime, MPEG, Smacker, and Bink.

The second thing was the rise of Sony as a major player in the video game industry with their release of the 32-bit PlayStation. The PlayStation was probably the first console to popularize FMVs (as opposed to earlier usage of FMV which was seen as a passing fad). The FMVs in Final Fantasy VIII, for example, are considered movie-quality. FMVs are still being used, mostly by the PlayStation 2. Square Enix (creators of Final Fantasy, Chrono Trigger, and Kingdom Hearts) has a tradition of designing games with an abundance of FMVs.

FMV differs from real-time cutscenes in that real-time cutscenes render the surrounding environment as it appears in the actual game, whereas FMV is simply a playback of something that was previously recorded, usually rendered by a much more powerful machine. Thus, FMV was traditionally much higher quality than real-time cutscenes, and the two can usually be differentiated by this. With computer games running on more modern hardware, however, the use of FMV for cutscenes has been drastically reduced as similar quality graphics can be produced in the game engine with much less disc space required for the source data. With modern computer hardware, games are rendered at much higher resolutions than typical FMVs, resulting in FMVs being easily spottable as "lower quality" than the game itself. In this case, while a pre-rendered FMV may use more advanced effects than possible in-game, it is considered lower quality due to being seen at a lower resolution. Contrasting examples of this include the Half-Life series, which leaves the player in control during in-game cutscenes, and the Splinter Cell series on PC, which utilizes FMV that is lower resolution than the actual game, yet uses advanced rendering techniques beyond those of a single PC.

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Animated series

An **animated series** or **cartoon series** is a television series produced by means of animation.

A note on usage: The duration of an individual episode varies from series to series. While some series may be produced as complete half-hour programs, many cartoons are produced as short subjects of 15 minutes or less. These cartoons are grouped and mixed together according to network programming demands. Thus a particular animated series may appear in a number of formats, often anonymously, e.g. *The Cartoon Hour*.

Generally, animated programs in the United States are comedies, although action/adventure has, from the 1960s on, has been a popular subgenre; from the 1940s to the 1980s, these programs were generally aimed at children. In the 1990s, the rise of The Simpsons led the way for a new genre of animated comedies, generally aimed at adults.

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Special effects

Special effects (abbreviated **SPFX** or **SFX**) are used in the film, television, and entertainment industry to visualize scenes that cannot be achieved by normal means, such as space travel. They are also used when creating the effect by normal means is prohibitively expensive, such as an enormous explosion. They are also used to enhance previously filmed elements, by adding, removing or enhancing objects within the scene.

Many different visual special effects techniques exist, ranging from traditional theater effects or elaborately staged as in the "machine plays" of the Restoration spectacular, through classic film techniques invented in the early 20th century, such as aerial image photography and optical printers, to modern computer graphics techniques (CGI). Often several different techniques are used together in a single scene or shot to achieve the desired effect.

Special effects are often "invisible." That is to say that the audience is unaware that what they are seeing is a special effect. This is often the case in historical movies, where the architecture and other surroundings of previous eras is created using special effects.

Developmental history

In 1895, when the film industry was just starting out, Alfred Clarke created what is commonly accepted as the first-ever special effect. While filming a reenactment of the beheading of Mary, Queen of Scots, Clarke instructed an actor to step up to the block in Mary's costume. As the executioner brought the axe above his head, Clarke stopped the camera, had all of the actors freeze, and had the person playing Mary step off the set. He placed a Mary dummy in the actor's place, rolled the tape, and allowed the executioner to bring the axe down, severing the dummy's head. “Such… techniques would remain at the heart of special effects production for the next century” (Rickitt, 10). This was the first time an effect was used in film to make the audience believe that something that wasn't happening was. Clarke tricked his audience into believing what they saw was real, and from that moment on, nothing shown in film could be believed to have happened. In 1935, RKO studios produced Becky Sharp, the first commercial film to use Technicolor. The ability to produce color films added to the look of reality of film. During World War II, black and white films were the most common in the new popular war movies, but a new phenomenon had reached filmmakers; the use of miniatures.

To create complex shots of airplanes leaving a ship, or a fleet of aircraft carriers moving across the ocean, the producers of the movie used a large tank of water with model boats and planes and filmed the shot. Using special machines to produce waves, the filmmakers were able to create realistic shots of boats and airplanes. “Films such as Ships with Wings (1942) relied on model ships, planes, and miniature pyrotechnics for their portrayal of war” (Rickitt, 23). This posed a question to audiences; how do we know what is real and what is unreal?

Then, in 1977, a new blockbuster movie hit the market: Star Wars, directed by George Lucas. What made Star Wars unique was that it created so many of its own original effects. The lightsabers that the actors fought with got their glowing effect by drawing directly on

the film stock, and the same technique was later applied to the laser beams the Tie-fighters shot at the X-wings. Lucas' effects shop's biggest innovatios were to use the outdated VistaVision cameras that used larger film cells so that when the effects were composited and transferred to standard film stock the effects looked as clean as the non-effects shots (previously when such bluescreen effects were composited they appeared grainy and blurry compared to the rest of the film). A variety of techniques to shoot the ships in space included running the models down wires and having the models stand still and the camera move. Another big innovation was the perfection of the motion control system enabling a camera to make multiple identical passes. Following success of Star Wars and planning a sequel, Lucas turned the effects shop created for one movie into Industrial Light and Magic for *The Empire Strikes Back*.

In 1993, Lucas' close friend, Steven Spielberg, directed Jurassic Park. This film used computer generated imagery (CGI) to create realistic monsters without the use of stop motion, which was not always successful. What Spielberg did was to film the scene with the actors acting as though their dinosaur counterparts were there, then he scanned the film into a computer, and added the dinosaurs in afterwards. This new technology really pushed special effects to new heights. Two years later, entire films could be made on a computer such as *Toy Story* (1995). Audiences had lost all sense of reality in film, if indeed there had been any since 1896, with the new CGI. Everything on screen now looked so real that it was almost impossible to tell what was a backlot set, or an actor in costume, or what was entirely or mostly produced on a computer. Many fear that we have lost the comfort of knowing that what we see isn't real, due to the ever-changing effect industry.

Special effects animation

Also known as simply effects animation, special effects animation is a specialization of the traditional animation and computer animation processes. Anything that moves in an animated film and is not a character (who are handled by character animators) is considered a special effect, and is left up to the special effects animators to create. Effects animation tasks can include animating cars, trains, rain, snow, fire, magic, shadows, or other non-character entities, objects, and phenomena.

Sometimes, special processes are used to produce effects animation instead of drawing or rendering. Rain, for example, has been created in Disney films since the late-1930s by filming slow-motion footage of water in front of a black background, with the resulting film superimposed over the animation.

Among the most notable effects animators in history are A.C. Gamer from Termite Terrace/Warner Bros.; and Joshua Meador, Cy Young, Mark Dindal, and Randy Fullmer from the Walt Disney animation studio.

Special effects animation is also common in live-action films to create certain images that cannot be traditionally filmed. In that respect, special effects animation is more commonplace than character animation, since special effects of many different types and varieties have been used in film for a century.

Visual special effects techniques in rough order of invention

- practical effects
  in-camera effects
  miniature effects
  Schüfftan process
  matte paintings
- rotoscoping
- Dolly zoom
  optical effects
  travelling matte
  bluescreen
  prosthetic makeup effects
  motion control photography
  Audio-Animatronic models
  digital compositing
  wire removal
  morphing
- computer-generated imagery
- match moving
  Virtual cinematography

CGI versus SFX

Effects that are created via computers, or during editing are known as CGI (Computer generated Imagery) Effects, or Visual effects — not *Special* Effects. *Special* Effects are those effects which are created during filming on-set, such as bullet hits, fire, flame, and explosions, wind, rain, etc. AI refers to "Artificial Intelligence." It is the creation of a computer generated character who has the ability to think and make decisions for itself.

Landmark movies

- The *Lord of the Rings* Trilogy (Created Massive Software, prosthetic work, digital effects)
- *The Day After Tomorrow* (prolonged digital shots, playing with "weather effects")
- *Star Wars* (Creation of original, practical effects)
- *Tron* (Digital Animation)
- *The Terminator* (digital effects)
- *Independence Day* (Digital effects combined with small-scale models)
- *Jurassic Park* (Large animatronics, creating creatures from scratch)
- *Amadeus* (Old age stipple, era effects)
- *The Birds* (Male/Female Matte developments)
- *Titanic* (Model work, scaling water)
- *Toy Story* (Computer Animation)
- *Buddy* (Anamatronics)
- *The Matrix* Trilogy (Digital effects)

- *King Kong* (2005) (Motion Capture)
- *Final Fantasy* (2001) (Full Human Actors Animation)

Special effect software

- Inferno
- Final Cut Pro
- trukor (mac guff)
- symbor (mac guff)
- Shake
- Motion
- Nuke
- Avid
- Sony Vegas
- Pinnacle
- Avid Liquid
- Adobe After Effects
- Combustion

References

- *Special Effects: The History and Technique* by Richard Rickitt

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Sound effect

Sound effects or **audio effects** are artificially created or enhanced sounds, or sound processes used to emphasize artistic or other content of movies, video games, music, or other media.

In motion picture and television production, a sound effect is a sound recorded and presented to make a specific storytelling or creative point without the use of dialogue or music. The term often refers to a process applied to a recording, without necessarily referring to the recording itself. In professional motion picture and television production, the segregations between dialogue, music, and sound effects recordings are quite severe, and it is important to understand that in such contexts dialogue and music recordings are never referred to as sound effects, though the processes applied to them, such as reverberation or flanging, often are.

History

The use of sound effects originated in theater; by some accounts sound effects were already in use in Classical Antiquity. Various devices were used to simulate such sounds as thunder or approaching horse hooves off stage. The repertory of early theatrical sound effects became more elaborate in the early modern era, and various mechanical devices were constructed to produce more and better sounds. Large urban theaters often had large collections of such devices. Samples of such vintage sound effects can occasionally be heard in early audio recordings of Vaudeville acts, although by contemporary accounts the effects in the primitive early recording studios were less elaborate than those in theaters.

The field of sound effects advanced considerably in the 1920s, first with the impetus of radio. Most early radio was live, and featured many live theatrical productions which made much use of sound effects. The better radio studios often employed several sound effects men working at the same time on productions. In the mid 1920s, the advances in recording technology with improved electronic microphones allowed for the practice of having pre-recorded repertories of sound effects on 78 rpm records. Actual recordings of motorcars, airplanes, large crowds laughing or shouting, etc. could then be added to radio dramas via the discs. In the late 1920s motion picture studios switched from silent film to sound, opening up another venue for sound effects.

In film

In the context of motion pictures and television, *sound effects* refers to an entire hierarchy of sound elements, whose production encompass many different disciplines, including:

- *Hard sound effects* are common sounds that appear on screen, such as door slams, weapons firing, and cars driving by.
- *Background* (or *BG*) *sound effects* are sounds that do not explicitly synchronize with the picture, but indicate setting to the audience, such as forest sounds, the buzzing of fluorescent lights, and car interiors. The sound of people talking in the background is also considered a "BG," but only if the speaker is unintelligible and the language is unrecognizable (this is known as walla). These background noises are also called *ambience* or *atmos* ("atmosphere").
- *Foley sound effects* are sounds that synchronize on screen, and require the expertise of a foley artist to properly record. Footsteps, the movement of hand props, and the rustling of cloth are common foley units.
- *Design sound effects* are sounds that do not normally occur in nature, or are impossible to record in nature. These sounds are used to suggest futuristic technology, or are used in a musical fashion to create an emotional mood.

Each of these sound "food groups" are specialized, with sound editors known as specialists in an area of sound effects (e.g. a "Car cutter" or "Guns cutter").

The process of creating sound effects can be separated into two steps: the recording of the effects, and the processing. Large libraries of commercial sound effects are available to content producers (such as the famous Wilhelm scream), but on large projects sound effects may be custom-recorded for the purpose.

Also, if the soundtrack is processed through a foley, it can make the smallest sound look perfect on screen and the audience can never guess how much work went into the making of that specific sound.

In video games

The principles involved with modern video game sound effects (since the introduction of sample playback) are essentially the same as those of motion pictures. Typically a game project requires two jobs to be completed: sounds must be recorded or selected from a library and a sound engine must be programmed so that those sounds can be incorporated into the game's interactive environment. Historically the simplicity of game environments reduced the required number of sounds needed, and thus only one or two people were directly responsible for the sound recording and design. As the video game business has grown and computer sound reproduction quality has increased, however, the team of sound designers dedicated to game projects has likewise grown and the demands placed on them may now approach those of mid-budget motion pictures.

Many games, such as Half-Life include built-in realtime sound effects, so that, for example, a gunshot in a chamber echoes realistically.

Recording effects

The best sound effects originate from original sources; the best sounds of machine-gun fire are original recordings of actual machine guns, as opposed to a synthesized or sampled and sequenced effect of a machine gun. When the producer or content creator demands high-fidelity sound effects, the sound editor usually must augment his available library with new sound effects recorded in the field.

When the required sound effect is of a small subject, such as scissors cutting, cloth ripping, or footsteps, the sound effect is best recorded in a studio, under controlled conditions. Such small sounds are often delegated to a foley artist and foley editor. Many sound effects cannot be recorded in a studio, such as explosions, gunfire, and automobile or aircraft maneuvers. These effects must be recorded by a sound effects editor or a professional sound effects recordist.

When such "big" sounds are required, the recordist will begin contacting professionals or technicians in the same way a producer may arrange a crew; if the recordist needs an explosion, he may contact a demolition company to see if any buildings are scheduled to be destroyed with explosives in the near future. If the recordist requires a volley of cannon fire, he may contact historical re-enactors or gun enthusiasts. People are often excited to participate in something that will be used in a motion picture, and love to help.

Depending on the effect, recordists may use several DAT, hard disk, or Nagra recorders and a large number of microphones. During a cannon- and musket-fire recording session for the 2003 film The Alamo, conducted by Jon Johnson and Charles Maynes, two to three DAT machines were used. One machine was stationed near the cannon itself, so it could record the actual firing. Another was stationed several hundred yards away, below the trajectory of the ball, to record the sound of the cannonball passing by. When the crew recorded musket-

fire, a set of microphones were arrayed close to the target (in this case a swine carcass) to record the musket-ball impacts.

A counter-example is the common technique for recording an automobile. For recording "Onboard" car sounds (which include the car interiors), a three-microphone technique is common. Two microphones record the engine directly: one is taped to the underside of the hood, near the engine block. The second microphone is covered in a wind screen and tightly attached to the rear bumper, within an inch or so of the tail pipe. The third microphone, which is often a stereo microphone, is stationed inside the car to get the car interior. Having all of these tracks at once gives a sound designer or mixer a great deal of control over how he wants the car to sound. In order to make the car more ominous or low, he can mix in more of the tailpipe recording; if he wants the car to sound like its running pedal-to-the-metal, he can mix in more of the engine recording and back off on the interior perspective. In cartoons, a pencil being dragged down a washboard may be used to simulate the sound of a sputtering engine.

The first recorded sound effect was of Big Ben striking 10:30, 10:45, and 11:00. It was recorded on a brown wax cylinder by technicians at Edison House in London. It was recorded July 16, 1890 . This recording is currently in the public domain.

Processing effects

As the car example demonstrates, the ability to make multiple simultaneous recordings of the same subject—through the use of several DAT or multitrack recorders—has made sound recording into a sophisticated craft, and allows the sound effect to be shaped by the sound editor or sound designer, not just for realism, but for emotional effect.

Once the sound effects are recorded or captured, they are usually loaded into a computer integrated with an audio non-linear editing system. This allows a sound editor or sound designer to heavily manipulate a sound to meet his needs.

The most common sound design tool is the use of layering to create a new, interesting sound out of two or three old, average sounds. For example, the sound of a bullet impact into a pig (from the above example) may be mixed with the sound of a melon being gouged to add to the "stickiness" or "gore" of the effect. If the effect is featured in a close-up, the designer may also add an "impact sweetener" from his library. The sweetener may simply be the sound of a hammer pounding hardwood, equalized so that only the low-end can be heard. The low end gives the three sounds together added weight, so that the audience actually "feels" the weight of the bullet hit the victim. If the victim is the bad guy, and his death is climactic, the sound designer may add reverb to the impact, in order to enhance the dramatic beat. And then, as the victim falls over in slow motion, the sound editor may add the sound of a broom whooshing by a microphone, pitch-shifted down and time-expanded to further emphasize the death. If the movie is a science-fiction film, the designer may phaser the whoosh to give it a more sci-fi feel. (For a list of many sound effects processes available to a sound designer, see the bottom of this article.)

Aesthetics in film

When creating sound effects for films, sound recordists and editors do not generally concern themselves with the verisimilitude or true-to-lifeness of the sounds they present. The sound of a bullet entering a person from a close distance may sound nothing like the sound designed in the above example, but since very few people are aware of how such a thing actually sounds, the job of designing the effect is mainly an issue of creating a conjectural sound which feeds the audience's expectations while still suspending disbelief.

In the previous example, the phased 'whoosh' of the victim's fall has no analogue in real life experience, but it is emotionally immediate. If a sound editor uses such sounds in the context of emotional climax or a character's subjective experience, they can add to the drama of a situation in a way visuals simply cannot. If a visual effects artist were to do something similar to the 'whooshing fall' example, it would probably look ridiculous or at least excessively melodramatic.

The "Conjectural Sound" principle applies even to happenstance sounds, like tires squealing or doorknobs turning or people walking. If the sound editor wants to communicate that a driver is in a hurry to leave, he will cut the sound of tires squealing when the car accelerates from a stop; even if the car is on a dirt road, the effect will work if the audience is dramatically engaged. If a character is afraid of someone on the other side of a door, the turning of the doorknob can take a second or more, and the mechanism of the knob can possess dozens of clicking parts. A skillful Foley artist can make someone walking calmly across the screen seem terrified simply by giving the actor a different gait.

Techniques

In music and film/television production, typical effects used in recording and amplified performances are:

- *echo* - one or several delayed signals are added to the original signal. To be perceived as echo, the delay has to be of order 50 ms or above. Short of actually playing a sound in the desired environment, the effect of echo can be implemented using either digital or analog methods. Analog echo effects are implemented using tape delays and/or spring reverbs. When large numbers of delayed signals are mixed over several seconds, the resulting sound has the effect of being presented in a large room, and it is more commonly called reverberation or reverb for short.
- *flanger* - a delayed signal is added to the original signal with a continuously-variable delay (usually smaller than 10 ms). This effect is now done electronically using DSP, but originally the effect was created by playing the same recording on two synchronized tape players, and then mixing the signals together. As long as the machines were synchronized, the mix would sound more-or-less normal, but if the operator placed his finger on the flange of one of the players (hence "flanger"), that machine would slow down and it signal would fall out-of-phase with its partner, producing a phasing effect. Once the operator took his finger off, the player would speed up until its tachometer was back in phase with the

master, and as this happened, the phasing effect would appear to slide up the frequency spectrum. This phasing up-and-down the register can be performed rhythmically.

- *phaser* - the signal is split, a portion is filtered with an all-pass filter to produce a phase-shift, and then the unfiltered and filtered signals are mixed. The phaser effect was originally a simpler implementation of the flanger effect since delays were difficult to implement with analog equipment. Phasers are often used to give a "synthesized" or electronic effect to natural sounds, such as human speech. The voice of C-3PO from Star Wars was created by taking the actor's voice and treating it with a phaser.
- *chorus* - a delayed signal is added to the original signal with a constant delay. The delay has to be short in order not to be perceived as echo, but above 5 ms to be audible. If the delay is too short, it will destructively interfere with the un-delayed signal and create a flanging effect. Often, the delayed signals will be pitch shifted to create a harmony with the original signal.
- *equalization* - different frequency bands are attenuated or amplified to produce desired spectral characteristics. Abbreviated EQ.
- *filtering* - Equalization is a form of filtering. In the general sense, frequency ranges can be emphasized or attenuated using low-pass, high-pass, band-pass or band-stop filters. Band-pass filtering of voice can simulate the effect of a telephone because telephones use band-pass filters.
- *overdrive* effects such as the use of a fuzz box can be used to produce distorted sounds, such as for imitating robotic voices or radiotelephone traffic. The most basic overdrive effect involves clipping the signal when its absolute value exceeds a certain threshold.
- *pitch shift* - similar to pitch correction, this effect shifts a signal up or down in pitch. For example, a signal may be shifted an octave up or down. This is usually applied to the entire signal, and not to each note separately. One application of pitch shifting is pitch correction. Here a musical signal is tuned to the correct pitch using digital signal processing techniques. This effect is ubiquitous in karaoke machines and is often used to assist pop singers who sing out of tune. It is also used intentionally for aesthetic effect in such pop songs as Cher's Believe and Madonna's Die Another Day.
- *time stretching* - the opposite of pitch shift, that is, the process of changing the speed of an audio signal without affecting its pitch.
- *resonators* - emphasize harmonic frequency content on specified frequencies.
- *synthesizer* - generate artificially almost any sound by either imitating natural sounds or creating completely new sounds.
- *modulation* - to change the frequency or amplitude of a carrier signal in relation to a predefined signal. Ring modulation, also known as amplitude modulation, is an effect made famous by Doctor Who's Daleks and commonly used throughout sci-fi.
- *compression* - the reduction of the dynamic range of a sound to avoid unintentional fluctuation in the dynamics. Level compression is not to be

confused with audio data compression, where the amount of data is reduced without affecting the amplitude of the sound it represents.
- *3D audio effects* - place sounds outside the stereo basis
- *reverse echo* - a swelling effect created by reversing an audio signal and recording echo and/or delay whilst the signal runs in reverse. When played back forward the last echos are heard before the effected sound creating a rush like swell preceding and during playback. Jimmy Page of Led Zeppelin claims to be the inventor of this effect which can be heard in the bridge of Whole Lotta Love.

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Tokusatsu

Tokusatsu (Japanese: y®) is the Japanese term for special effects. Live action productions that primarily feature the use of special effects are also called tokusatsu.

Tokushu Satsuei (or Tokushu Gijutsu)

The term "tokusatsu" is a shortened term for *tokushu satsuei* (yŠ®q), Japanese for "special photography" which implies camera tricks (which is the original principle for special effects). Usually, in movies or shows, the special effects director is given the title of *tokushu gijutsu* (yŠ€S), Japanese for "special techniques" (this was a term they had for "special effects" in the old days), or even *tokusatsu kantoku* (y®ãc), which is Japanese for, appropriately enough, "special effects director".

The Legacy of Eiji Tsuburaya

Eiji Tsuburaya (1901-1970) is perhaps the most famous tokusatsu kantoku in Japan, and is responsible for bringing the famous characters Godzilla and Ultraman to life. While he wasn't the first FX artist, he fought to make special effects in Japanese cinema truly special. When doing movies and TV shows involving giants (be it monsters, superheroes, aliens, etc.), Eiji's techniques usually involve expert miniature work, and the monster is usually either a stuntman in a full monster costume (a process later dubbed "Suitmation") or a marionette-like prop (Mothra, Dogora, etc.). Even with the support of digital effects since the 1990s, Eiji's *tokusatsu* method has been lovingly carried over to this very day, and has become a tradition like kabuki theater.

Some of Eiji's proteges include Teruyoshi Nakano, Sadamasa Arikawa, Nobuo Yajima (who also directed the FX for the majority of superhero shows by Toei), Koichi Takano, Koichi Kawakita and others. They have worked at Toho, Eiji's company Tsuburaya Productions, P Productions and other companies. Yonesaburo Tsukiji, Kazufumi Fujii (who directed the FX for the classic Gamera movies) and Yoshiyuki Kuroda (who directed the FX for the Daimajin trilogy) used the same techniques over at the Daiei Motion Picture Company (now owned by Kadokawa Shoten).

A new generation of FX masters include Shinji Higuchi, Eiichi Asada (who have both worked on newer Godzilla and Gamera movies), and Hiroshi Butsuda (who still works on the bulk of Toei's newer superhero shows).

Suitmation technology

Suitmation ([1]üÄáü·çó) is the term used in Japan to describe the process in tokusatsu movies & TV used to portray a monster using suit acting. It is not known exactly where the term originated from; Some people in Japan (possibly staff members at Toho) coined the term to differentiate the suit work from Ray Harryhausen's celebrated Dynamation (stop-motion) technique. The term was at least used to promote the Godzilla suit from *The Return of Godzilla*.

Sadly, the jargon *suitmation* is mostly extinct today, replaced by the more intuitive *kigurumi.*

The suit material

Usually, the monster suits from the classic Godzilla films were made of liquid latex, coated with all sorts of appliances (especially flame-retardant). The suit has to be thick so that the actor doesn't get burned much. The teeth were originally made from wood, but later, from resin. The actor usually sees through small holes in the suit's neck. The head is fitted with mechanisms that move the eyes & mouth (with the battery located somewhere in the costume), and is radio-controlled. Wires operated by overhead crewmen move the tail.

In any case, the suits were very, very gruelling, especially in the old days when studios were very hot. Three minutes was all the average stuntman could stand. There were some advantages, though, when the studios became air-conditioned, and when, starting with Godzilla 2000: Millennium, an oxygen hose was attached to Godzilla's tail, leading up to the neck so that the actor could breathe. But Tsutomu Kitagawa, who played Godzilla in that film, warned that "playing Godzilla is not for people who are claustrophobic."

In the case of superheroes, Ultraman usually wore a form-fitting latex costume similar to a wet suit. The helmet was made originally from latex, and later, fiberglass. A set of batteries in the suit made the eyes and Colortimer light up. Toei superheroes had various sorts of costume materials, from leather to vinyl to cloth. Starting with Science Task Force Dynaman, the heroes in Sentai wear spandex. The helmets were made of fiberglass, and had clips on the side to lock the helmets into place.

Other special effects

Japanese special effects techniques are not restricted to placing people inside suits—even the first Godzilla film from 1954 used a wide ranging number of advanced techniques in this area. Besides the Suitmation Godzilla, Eiji Tsuburaya's crew also used various puppet-like props, one was like a hand-puppet, another was basically an early example of an animatronic puppet (from the scene where Godzilla first appeared over a mountain in Oto Island), which shot a smoky spray from its mouth to create the illusion of Godzilla's white-

hot radioactive breath. One shot of Godzilla's tail even used a stop-motion process similar to Ray Harryhausen's Dynamation technique (It's said that Tsuburaya wanted to use stop-motion for *Godzilla*, but Toho couldn't allow it, because it was too expensive and too time-consuming; most Japanese studios had only allowed notoriously tight budgets/production schedules).

Later films use various techniques to bring Godzilla and the other monsters to life. In the 60s, aside from said close-shot puppets, they used mechanical miniatures in distance shots of Godzilla. Since the 80s, they used robotic animatronic Godzilla props to give him a more realistic, lifelike appearance (as is the case with the 20-foot "Cybot Godzilla" in The Return of Godzilla and the "Close-Up Godzilla" in Godzilla Vs. Biollante). They even actually lit up Godzilla's dorsal fins made of fibre reinforced plastic, and in more recent films, they used CG to create that effect.

The same principle applied to superhero shows: some robotic-looking superheroes (like Kikaider and Gavan) used electronic props for close shots.

CGI in Tokusatsu

Of course, to compromise with Hollywood standards, CGI definitely played a major role as well. The Heisei Gamera Series has used it masterfully. And recent Godzilla films upped the ante with effects techniques. In some scenes, Godzilla swam underwater like a whale or a shark. CG no doubt played a major role in superhero shows also. From Ultraman flying smoothly in the sky, to Kamen Rider henshin-ing into animated armor, to the Sentai robots dramatically combining in one shot without the use of props like in older shows. Much like the old days, computer effects are also used for optical effects such as ray beams, missiles, falling debris and explosions. The adult-aimed tokusatsu series GARO , however , extensively used CG for many battle scenes (such as an intense battle between GARO and ZERO while darting about between skyscrapers) and for "Horror" demons, as well as to give Kouga/GARO's talking ring , Zaruba, as well as Ginga/ZERO's talking pendant, Silva, various mouth and facial animations.

Other tokusatsu films to use CGI include Crossfire and Casshern (based on Tatsuo Yoshida's 1973 superhero anime series).

City sets

There was a generalized misconception by audiences in the United States that the minituarised city sets are made of cardboard, but this is not true.

Even in the classic Godzilla movies, the miniature sets were actually made from a thinly cut plaster and wood. The newer films do this as well (only some of the buildings are actually collapsible). Buildings that were not made to be destroyed are made from wood and plastic. Some miniature models were even made out of paraffin (this goes for the many tanks and electrical towers that Godzilla melted with his radioactive breath). In movies such as Battle in Outer Space (1959) and The Last War (1960), the miniature sets were made of edible material, the same ingredients as those used to make wafers.

The buildings in the classic Godzilla film series were constructed on a 1/25 scale.

Famous Tokusatsu Monsters and Superheroes

Whereas Godzilla has become a worldwide household name, Ultraman and Kamen Rider are considered the two greatest influential model Japanese superheroes to this very day. All three characters have created countless sequels and imitations, few of which rival their popularity (the Sentai Series, for example, is an offshoot of the Henshin Hero genre started by Kamen Rider).

Metal Heroes (specifically Space Sheriffs) became a basis for the RoboCop movies. Toho and Daiei are well known companies in the Daikaiju category of tokusatsu. Tsuburaya is the company associated with Ultraman, while Toei is responsible for Sentai series, Metal Heroes and the Kamen Rider series.

Not all of Toei's group of hero shows are classified as "sentai" (Sentai shows are exclusively produced by Toei). Toei's non-sentai group heroes include Akumaizer 3, Ninja Captor and Chojin Bibyun. The most notable non-Toei group series is perhaps Toho's Chouseishin (Super Star God) Series, which began in 2003 with Choseishin GranSazer (Ultra Star God GranSazer), continues in 2004 with *Genseishin JustiRiser* (Phantom Star God JustiRiser), and in 2005 with *Chosei Kantai Sazer-X* (Super Star Fleet Sazer X). The Chouseishin series is Toho's attempt at competing with Toei's Sentai series.

An awkward category of tokusatsu is the **Child Hero** or **Kiddy Hero** genre. The most notable of this genre of is Booska and Robocon.

One last category is the *Heroine Tokusatsu*, which consists of a fighting team composed by females, or an individual female. Examples include Vanny Knights, Dimensional Detective Wecker, and the new live-action version of Bishojo Senshi Sailor Moon.

Beyond The Norm

There are tokusatsu movies and TV shows that either don't use conventional special effects, or don't star human actors. These include:

Shows like Majin Hunter Mitsurugi (1973), in which the monsters and the titular giant knight-like warrior are done with stop-motion effects, instead of suitmation.

Puppet shows like Uchuusen Silica (1960), Ginga Shonen Tai (1963) and Kuchuu Toshi 008 (1969). These shows (the three mentioned were produced by NHK) use the same tokusatsu techniques, but the cast of the show is made up of puppets/marionettes, as opposed to human actors. Similar to the famous Supermarionation shows by Sylvia and Gerry Anderson. A better known show in this category is Go Nagai's X Bomber (1980), shown in England as Star Fleet.

Similar to the above listed puppet shows, there are also tokusatsu shows that use the same special effects techniques, but the show's cast are anime characters in animated sequences. These shows include Tsuburaya Productions' Dinosaur Expedition Team Bornfree (1976) and Dinosaur War Aizenborg (1977), which were combined into compilation movies like Return of the Dinosaurs and Attack of the Super Monsters, respectively. A more bizarre effort was done for Tsuburaya by Go Nagai; Pro-Wrestling Star Aztekaiser (1976), which looks like a conventional tokusatsu superhero show, except when the title wrestler-superhero Aztekaiser is able to transform the show's live-action dimension into an anime sequence,

where he is able to perform wrestling moves against the weekly villain, wrestling moves that are impossible to do in live-action!
In 1998, Buildup Entertainment, an independent company in Japan, did a direct-to-DVD OVT SF/horror miniseries titled Dark Soldier D, which completely used CGI for the title mobile suit and the monsters, instead of traditional effects.
In 2005, Jun Awazu and his independent company Studio Magara produced an all-CG animated 25-minute short film called Negadon: The Monster from Mars. While not technically a real tokusatsu, it is nonetheless a tribute to the "Golden Age" of tokusatsu cinema, especially kaiju eiga.

Japanese Fan Films

As pop-culture fandom in Japan grew and grew in the 1980s, a fan-based group called Daicon Film, now called Gainax, was formed by Hideaki Anno, Yoshiyuki Sadamoto, Takami Akai, and Shinji Higuchi. Besides their celebrated anime sequences, they also produced a series of tokusatsu shorts, usually parodies of monster movies and superhero shows, which have gotten lots of favorable media coverage. These productions included Patriotic Task Force Dai-Nippon (1983), Swift Hero Noutenki (1982), Return of Ultraman (1983) and The Eight-Headed Giant Serpent Strikes Back (1985).

In the turn of the new millennium, another tokusatsu fan, a comedian named Shinpei Hayashiya, produced a number of tokusatsu fan films. They include Godzilla Vs. Seadora and Gamera 4: Truth (2004). As of 2005, he has just completed his upcoming first original effort, Deep Sea Beast Reigo.

Tokusatsu Around the World

The tokusatsu technique has been copied around the world, thanks to the popularity of Godzilla films. One could say that this is the highest form of flattery.

Famous Examples

In 1961, England made its own Godzilla-style film, Gorgo, which used the same "suitmation" technique as the Godzilla films.
That same year, Saga Studios in Denmark made another Godzilla-style giant monster film, Reptilicus. This film's monster was brought to life using a marionette on a miniature set.
In 1967, South Korea, produced its own kaiju movie, Taekoesu Yonggary.
In 1975, the famed Hong Kong film studio, Shaw Brothers produced a superhero film called The Super Inframan, based on the huge success of Ultraman and Kamen Rider there. The film starred Danny Lee in the title role. Although there were several other similar superhero productions in Hong Kong, The Super Inframan is the first, and considered the best by superhero fans. With help from Japanese SPFX artists under Sadamasa Arikawa, they also produced a Japanese-styled monster movie, The Mighty Peking Man, in 1977.
The cult popularity of Japanese kaiju and superheroes in America have resulted in a wacky,

action-packed program/event called Kaiju Big Battel in 1994. It continues to thrill audiences and fans to this day.

Fan films

In 2001, Buki X-1 Productions, a French fan-based production company, produced its own Sentai Series, Jushi Sentai France Five, which takes Toei's famous "Super Sentai" formula with a French twist!
In 2004, Ithaca (New York)-based then-college student Peter Tatara, with his own company Experimental Amateur Hero Productions, produced a no-budget superhero video series called Johnny Robo, which is a tribute/deconstruction/parody of Kamen Rider and the Henshin Hero genre.

Confusion of the term outside Japan

There is currently a misconception in countries outside Japan (including the United States, to an extent) that the term tokusatsu refers mainly to Japanese superhero TV shows (including - but not limited to - the Ultra Series, Kamen Rider series and Super Sentai Series). Of course, this is not true, as the term has always been used in its native country to describe all live action productions, Japanese or otherwise, that feature special effects.

However, in the case of the US (and some other parts of the world), the confusion dates back to the early 1990s, when Ben Dunn, editor of the San Antonio-based comic-book publishing company Antarctic Press, did a short-lived fanzine called Sentai: The Journal of Asian S/F & Fantasy, which was one of the few American fanzines in the wake of the Power Rangers craze that covered live-action Japanese fantasies, which previously had a sizable cult following. However, this magazine got so much exposure that all Japanese live-action superhero shows were mistakenly labelled "sentai" by many fans and non-fans alike. Inadvertently reinforcing this was the formation of the usenet newsgroup alt.tv.sentai. On that newsgroup, and eventually other tokusatsu-related forums, more experienced fans had set people straight on the many tokusatsu-related terms. The same went for *daikaiju*-related forums like the newsgroup alt.movies.monster and others.

Perception of Tokusatsu in America

The United States has seen almost every Godzilla and Gamera film, as well as many Japanese kaiju films up to the early 1970s, but mainstream America does not look at these films very favorably.

Even only a handful of Japanese superhero shows such as Ultraman (the most recognized Japanese superhero in America, of course), The Space Giants and Johnny Sokko and His Flying Robot made it there, as well as Spectreman, which was the last major superhero production to be seen in the States, whereas ironically, it was just the beginning (in that exact same period, Kamen Rider, a low-budget TV series, began the "Henshin Craze" in Japan).

Of the American populace, Hawaii (and, to a lesser degree, San Francisco) was more familiar with the superhero shows made since the "Henshin Craze", and these shows were

very successful there. Shows like Emergency Command 10-4-10-10 (the first tokusatsu series to be subtitled in English), Rainbowman, Android Kikaider/Jinzo Ningen Kikaida (perhaps the most popular show in Hawaii), Kamen Rider V3 and Secret Task Force Goranger, as well as 1967's Ultra Seven (which, in 1975, became the first Japanese program to be dubbed in English there). The last tokusatsu series to be subtitled in English was 1979's Battle Fever J (the first "Super Sentai" series). But sadly, the rest of America has missed out on this milestone period of tokusatsu history (shows like 1983's Science Task Force Dynaman, which was comically dubbed, are a very rare exception).

This perception of tokusatsu in America can be chalked down to a few things:

Realism

One of the things that Japanese live-action fantasy is usually criticized for by non-fans in America is that these productions don't look "realistic". Back in the 1950s, some people criticized the special effects in Godzilla movies, comparing them to Ray Harryhausen's stop-motion techniques (Ray was hurt by this, and instead started making fantasy films). When Star Wars was released in 1977 and made science fiction mainstream, the American public began to forget the past and focus on the future. Even when some Japanese companies use their tried and true techniques for sentimental reasons (combined with Hollywood-style effects), Americans continued to label these films as "cheap", "cheesy" and/or "campy". In fact, many old Japanese special effects fantasies, no matter what regard they were held in Japan, were pretty much considered B-movie material by many Americans who raise themselves on big-budget Hollywood films, nowadays strictly using CGI effects. That perception is also based on watching faded, worn-out fullscreen prints of these classic films.

However, American fans like August Ragone and reporter Steve Ryfle have enlightened a skeptical media on this subject countless times, and people were profounded. According to Ryfle, even classic Japanese special effects fantasies were not necessarily trying to look "realistic", they were trying to make something that's colourful and spectacular. These were *fantasies*. Godzilla is not a "realistic" monster, because he's not a real animal. He is a fantasy creature, basically a god (not unlike the beasts from Chinese and Japanese mythology, like the Chinese dragon). This goes for many of the Japanese kaiju of the type. Rodan, Varan, Mothra, Gamera, etc. These hand-crafted fantasy monsters looked "real" to some fans. Some even say that, unlike stop-motion, these monsters looked very real, because they were *filmed* real.

Eiji Tsuburaya himself thought that absolute realism was "boring," so he experimented with the many films he did, and his surreal visuals dazzled many audiences, including children and fans. And even if certain techniques didn't work, it still amused him. Some audiences may laugh at these effects shots, or even criticize certain aspects of them, but this was something Eiji never took too seriously. A notable example was one scene in the 1965 film Frankenstein Conquers the World, where the giant monster Baragon attacks an animal farm, and smashes a stable with an obvious puppet of a horse galloping wildly inside. When asked by a Japanese journalist about why he used a horse puppet instead of a real one against a bluescreen, Eiji replied, "Because it's more interesting!" Eiji's "unreal" effects techniques

were copied to this day by other Japanese effects artists, who have even added their own touch of realism to suit today's audiences.

Meanwhile, even the equally criticized Japanese live-action superhero shows (aimed mainly at children) achieved what American productions usually could not when making adaptations of comic books: a colourful, fantastic sense of wonder. After the original "campy" 1966 Batman TV series, superhero fans, even the American public, started to take their fantasies for granted, because colour and fantasy became "silly", "stupid" and thus equated with "camp". Thus, superheroes became dark, grim and "realistic." These were no longer the comic-books kids grew up with, they were more "adult" and "cynical." Japanese superheroes, on the other hand, retain that colourful "comic-book" feel. Yes, some of these superheroes are altruistic, like Super Giant, Moonlight Mask, and Ultraman, yet others (of the Henshin variety, for example, like Kamen Rider) take their powers for granted, but the hero still must make do with their powers to help the innocent, even get along with children, who usually idolize these heroes. They have even long before experimented with "grim" and "ironic" concepts that would finally be utilized in American superhero comics by the late 1980s. The villains in these shows included the kind of threats depicted in American comics that American movie & TV adaptations usually exclude; an evil empire, an alien race, a mad scientist and a weekly monster. Some would argue that Japanese superhero movies & shows, despite their "limited" special effects, are much better at emulating the style of American comic-books than the TV shows and Hollywood movies that are based on them.

Furthermore, it also has to do with conservative budget reasons. Japanese studios, unlike those of Hollywood, are not union-based. Some Japanese studios still allow a notoriously tight budget and schedule, while others are liberally taking a chance on things. Actors/staff are paid a smaller salary, yet they work together like a family.

Violence

As is evident since the 70s, Japanese superhero movies & TV shows became increasingly violent. Even as kid shows in Japan, American audiences were overly concerned over violence in America, and by the 70s, censorship against violence on American children's television had grown more and more strict. This mainly includes Japanese superhero TV productions, many of which were very dark and violent, and had grim and ironic stories. This goes for anime shows as well. Superheroes like Kamen Rider were created surgically by the villains, and turn against them. Superheroes like the title team of Science Ninja Team Gatchaman (an anime series) ruthlessly beat villains to a pulp. Superheroes like Mirrorman chop the monsters' heads off. Shows like Android Kikaider and Robotto Keiji had the monster of the week demonstrating their powers by slaying an innocent victim (an expendable character) at the beginning of each episode (not unlike the victims of the weekly monsters and alien threats featured in Star Trek). Needless to say, even Godzilla movies had followed suit in the same period.

In the 1990s, Power Rangers, which was Americanized from the Super Sentai series, made the shows more palatable to American TV standards by removing the excessive violence, and it differed dramatically from its original version. This is still a highly debated topic even among fans. One particular reason is that some evil kaijin in various tokusatsu are

psychotic vicious and unforgiving. Those same monsters that are "adapted" are now depicted as stupid, unintelligent goof-offs to the point that the suit monsters are, to some, "Barney-esque." One victim of this was the warrior Grifforzer (renamed Goldar in Power Rangers). Originally a powerful, threatening figure in his original Japanese incarnation from Kyoryuu Sentai Zyuranger, Goldar became more and more pitiful as the series went on.

Lack of Cultural Identification

Because American audiences did not readily identify with the appearance and culture of east Asian characters, elements were introduced to increase a sense of familiarity. For example, to make the original 1954 Godzilla more palatable to American audiences, actor Raymond Burr was added to help the audience accept the Japanese characters from the original version. In the mid-1960s, Hollywood actors like Nick Adams and Russ Tamblyn actually appeared in some of these films alongside the Japanese actors (thanks to the collaboration between Toho and UPA, best known for their animated movies & TV shows like Mr. Magoo). The Gamera films, aimed at children, started to include Caucasian children alongside the Japanese children to appeal to the American market, upon the success of the first Gamera film there. In order to reach the Australian market and particularly the North American market, Tsuburaya Productions co-produced two Ultraman shows starring a multiracial cast. Tsuburaya has been trying to penetrate the North American market for a long time. Later shows such as Power Rangers were completely Westernized to fit mainstream tastes.

A Growing/Divided Fandom

Thanks to the Internet, tokusatsu fandom and acceptance in the United States is growing, slowly but surely. Originally, the only forms of tokusatsu presented the past few decades were either Daikaiju Eiga (specifically Godzilla and Gamera) or Ultraman, it wasn't until the debut of Power Rangers in the 90s where audiences were introduced to other categories of the genre. Despite the intervention of US "adapting" such as the replacement of Japanese actors with American actors or the use of dubbing, many recognized Power Rangers was Japanese due to the obvious use of a different camera. At the time, the camera types and techniques used by America and Japan contrasted a great deal. Japanese footage still had that grainy texture to the footage that was used in the past. Furthermore, the quality of the heroe's suits was much higher in Sentai footage , with the spandex costumes being much more vibrant, shining and reflective, unlike the dull and solid color of the american-made costumes. For years, tokusatsu has had fanclubs all across the world, as well as countless dealers and collectors selling merchandise directly from Japan. Imports and illegal bootlegs of Japanese movies & TV shows have become commonplace for fans of the genre. Because of this steadfast phenomenon, the American mainstream has finally started to take notice, especially companies like Sony, Media Blasters and ADV. Although it may not yet have the same level as anime or manga, tokusatsu is just as important and influential to Japanese culture, as well as all of pop culture. Fansubs have also played a signifcant role in the genres

popularity; and like anime, fans began to compare and contrast "adapted" tokusatsu shows, like Power Rangers, to its orignal Japanese counterpart.

The backlash to this is that many tokusatsu superhero shows are seen as all Power Rangers; even Ultraman is mistaken as a Power Ranger. This is because in Japanese shows the main motif are mufflers/scarves, helmets, and spandex; however, the same can be said in the US considering heroes over here had capes, masks, and tights. Both sides didn't drop their respective trademarks until later on. Another situation is those who grew up with Power Ranger assume that any superhero tokusatsu can be a Power Ranger spin-off or adapt without the knowledge of content the genre has. This usually results in a mockery of the original product rather than a homage.

In addition, a new rivalry brewed over the years among fans of "adapt" shows (like Power Rangers) and the tokusatsu purists. Purists claim that shows (like Power Rangers) give tokusatsu a bad reputation and further degrade the Original series they were adapted from. While "adapt" fans argue that the shows are new and innovative and breathes new life into live action TV shows. It came to the breaking point that terms like "Sentai Snob" (now evolved to "Toku Snob"), a term use to describe a hardcore tokusatsu purist believing that "adapts" are nothing but poor imitations; and "PR Snob" (now evolved to "Anti-Sentites"), a term use to describe hardcore "adapt" fans who believe the American products are more creative and innovative than their Japanese counterparts, and many hold the idea that the Japanese material is inferior to its American counterparts. This brand of fandom argument parallels the conflict between "Subbies" and "Dubbies," where two factions argue in anime fandoms about which is better, "English Subtitles" or "English Dubbing." This takes that idea even further. And with the US adapting even more Japanese franchises (such as Godzilla and The Ring), the argument between the two groups becomes more significant, and emotional. Recently, the announcement of the Magiranger vs. Dekaranger movie using an Power Rangers prop (in this case, Jack Landors' SPD Battlizer from Power Rangers SPD) caused a new, heated debate between the two groups. Furthermore, since Magiranger, there is indication that Toei and Disney are now working side by side and co-producing both Super Sentai and Power Rangers. This gives some alarm to both sides whether or not other tokusatsu genres will be either "adapted" or subbed in the future. Toho is kind of borderlined since the Zilla situation in 1998; however, the company still remains in good terms with Sony, as they released the entire Millennium Godzilla series. Whether or not Toho will allow their Choseishin series (which currently rivals Super Sentai) to come to the states is still unknown. 4Kids's reintroduction to Ultraman angered many older audiences as many strongly felt they bastardized Ultraman Tiga to the greatest degree (ironically, Tiga was the deemed the most popular of the Heisei Ultra Series during the 90s) and, in addition, many younger audiences continuously mistook the Ultraman in question for a Power Ranger. Meanwhile, with the growing popularity of the New Generation Kamen Rider which now has a growing female demographic along with the young boys demographic; many wonder if Disney will give Maskèd Rider another chance. There was a rumor about Kamen Rider Ryuki being adapted by Disney in 2003, but turned out to be untrue. Ever since Disney's acquisition of Power Rangers from Fox; Ryuki, as well as Hurricanger, served as an introduction to original source material of tokusatsu shows; which intrigued many "adapt" fans. Some of the story writing in toksuatsu could best be described by some viewers as dark-toned which are seen in many animated series like Justice League Unlimited, or as outlandish and cartoony

like Looney Toons, or even in-between, as was the case in The Incredibles. It's a trademark in tokusatsu to range from too grim to too outlandish; pretty much how anime is looked upon. This further excites some viewers while it disgusts others.

Some new terms that came up over the years:

- **Original Toku(satsu)** - This term refers to the original movies & shows that came from Japan.
  - Examples: Godzilla, Gamera, Ultraman, Kamen Rider, Super Sentai, Metal Heroes, Chouseishin Series
- **Toku(satsu) Adapts** - This term refers to movies & shows that "Americanize" the original Japanese concept.
  - Examples: Power Rangers, Saban's Masked Rider, VR Troopers, Big Bad Beetleborgs, Superhuman Samurai Syber Squad, etc.
  - American-made remakes of Japanese FX movies may fall into this category. Examples: Godzilla (1998), The Ring (2002), The Grudge (2004)

Note: Movies and series like Godzilla, King of the Monsters, Varan the Unbelievable, King Kong vs Godzilla, and the 4Kids rendition of Ultraman Tiga fit into a sub category of Toku Adapts call "Toku Dubs" by some toku enthusiasts. Godzilla, King of the Monsters, King Kong vs. Godzilla, and Varan the Unvelievable, it in this sub category because, despite adding American Footage, a majority (if not all) of the Japanese actors were still kept, as well as some of the original concepts used in the Japanese versions.

- **American Toku(satsu)** - Original American movies & shows made in the US (or by US companies) that follow the tokusatsu formula instead of "adapting" Japanese footage. This is confusing to some, because many claim that the Power Rangers series has slowly stopped using the original Japanese footage and began filming new scenes; however, if the Sentai suits, Monster suits, etc. are still being used in the show despite different footage, it is still a "toku adapt" rather than "American Toku."
  - Examples: Steve Wang's Kung Fu Rascals, Kaiju Big Battel, Johnny Robo, Tattooed Teenage Alien Fighters from Beverly Hills, Los Luchadores, The Mystic Knights of Tir Na Nog, Van-Pires, Big Wolf on Campus, Animorphs

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Visual effect

Visual effects (**vfx**) is the term given to a sub-category of special effects in which images or film frames are created or manipulated for film and video. Visual effects usually involve the integration of live-action footage with computer generated imagery or other elements (such as pyrotechnics or model work) in order to create environments or scenarios which look realistic, but would be dangerous, costly, or simply impossible to capture on film. They have become increasingly common in big-budget films, and have also recently become accessible to the amateur filmmaker with the introduction of affordable animation and compositing software.

Timing

Visual effects are frequently integral to a movie's story and appeal. Although most visual-effects work is completed during post-production, it usually must be carefully planned and choreographed in pre-production and production.

Categories

Visual effects may be divided into at least four categories:

- Models: miniature sets and models, animatronics
- Matte paintings and stills: digital or traditional paintings or photographs which serve as background plates for keyed or rotoscoped elements
- Live-action effects: keying actors or models through bluescreening and greenscreening
- Digital animation: modelling, lighting, texturing, rigging, animating, and rendering computer generated 3D characters, particle effects, digital sets, backgrounds, etc..

Further reading

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Stop motion

Stop motion is a generic gereral term for an animation technique which makes static objects appear to move.

Overview

Stop motion comes in many forms, often erroneously used interchangeably, causing much confusion of terms in animation literature syntax. Confusing the issue further is the fact that many stop-motion films use more than one technique, such as in Disney's *Noah's Arc* (1959), the work of Mike Jittlov, and the TV series Robot Chicken.

Below are the many forms of stop motion animation:

It is central to the clay animation technique used on popular children's shows such as Gumby and most of the films of Claymation producer Will Vinton and his associates. Clay animation can take the style of "freeform" clay animation where the shape of the clay changes radically as the animation progresses, such as in the work of Eliot Noyes Jr and Church of the Subgenius co-founder Rev. Ivan Stang's animated films. Or it can be "character" clay animation where the clay maintains a recognizable character throughout a shot, as in Art Clokey's and Will Vinton's films.

One variation of clay animation is strata-cut animation in which a long bread-like loaf of clay, internally packed tight and loaded with varying imagery, is sliced into thin sheets, with the camera taking a frame of the end of the loaf for each cut, eventually revealing the movement of the internal images within. Pioneered in both clay and blocks of wax by German animator Oskar Fischinger during the 1920s and 30s, the technique was revivied and highly refined in the mid-90s by David Daniels, an associate of Will Vinton, in his mind-numbing 16-minute short film *Buzz Box*.

A final clay animation technique, and blurring the distinction between stop motion and traditional flat animation, is called clay painting (which is also a variation of the direct manipulation animation process mentioned below) where clay is placed on a flat surface and moved like "wet" oil paints as on an traditional artistic canvas to produce any style of images, but with a clay 'look' to them. Pioneering this technique was one-time Vinton animator Joan Gratz, first in her Oscar-nominated film *The Creation* (1980) and then in her Oscar-winning *Mona Lisa Descending a Staircase* filmed in 1992.

A variation of this technique was developed by another Vinton animator, Craig Bartlett, for his series of "Arnold" short films, also made during the 90s, in which he not only used clay painting, but sometimes built up clay images that rose off the plane of the flat support platform, toward the camera lens, to give a more 3-D stop-motion look to his films. Gratz has also collaborated with other animators such as Portland, Oregon's Joanna Priestly to produce films that animated 3-D objects on the flat animation table. An example is Priestly's *Candy Jam* film, also from the mid-90s, which can also be defined as object animation (defined below).

Stop Motion is the process used for puppet animation in such well-known films as (Tim Burton's) The Nightmare Before Christmas (Henry Selick, 1993), James and the Giant Peach (Henry Selik, 1996), Chicken Run (DreamWorks/Aardman Animations, 2000) Corpse Bride

(Tim Burton, 2005), all of the Wallace And Gromit films, and George Pal's *Puppetoon* series of short films made during the 30s and 40s.

Stop motion animation is essential for model animation which is the process of animating realistic-looking articulated models designed to be combined with live action footage to create the illusion of a a real-world fantasy sequence. Examples of model animation are Willis O'Brien's animation work in the original King Kong (1933) and the films of Ray Harryhausen, Jim Danforth, and David Allen.

Stop motion is used to produce the animated movements of ANY non-drawn objects object animation such as toys, blocks, dolls, etc. An example is the Cartoon Network Adult Swim TV series, *Robot Chicken*.

Stop motion is also the means for producing pixilation, the animation of a living human being or animal, seen in whole or in part. Examples are the films of Mike Jittlov such as his *The Wizard of Speed and Time* short film (1980) and feature film of the same name (1987-9), and some of the work of Canadian pioneer animator Norman McLaren.

Probably the most unusual (and certainly an exacting and laborous) stop motion technique is called pinscreen animation, first developed in Europe in the 1920s and refined in later decades by various animators working for the National Film Board of Canada. Pinscreen animation consists of thousands (or even milions) of pins evenly placed on a screen, able to be pushed and/or pulled through the screen, from both sides of the screen. Using a system of rollers, brayers, and other tools, various pins are pushed in and/or out of the screen to varying decrees, all carefully controlled. With lights set up at 90 degree angles to the screen, the shadows of extended pins fall on the heads of more retracted pins, creating a variety of silhouetted images that are animated frame-by-frame as various pins are carefully pushed in and/or out of the screen. An example of this is the 1976 NGB film, *Mindscape*.

A variation of stop motion (and possibly more conceptually associated with traditional flat cel animation and paper drawing animation, but still TECHNICALLY qualifying as stop motion) is graphic animation which is the animation of photographs (in whole or in parts) and other non-drawn flat visual graphic material. Examples are Frank Morris' 1973 Oscar-winning short film, *Frank Film* Charles *Braverman's Condensed Cream of the Beatles" (1972).*

A simiplied variation of graphic animation is called direct manipulation animation which involves the frame-by-frame altering (or adding to) a single graphic image, as close as the stop motion process gets to the process of simply animating a series of drawings, which most people assoctae with the generic "animation' term. Examples of direct-maipulation-animation are parts of J. Stuart Blackton's 1906 *Humorous Phases of Funny Faces* the chalk animation opening sequence of Will Vinton's *Dinosaur* (1980), and parts of Mike Jittlov's 1977 short film, *Animato*.

Mere pieces of paper, sometimes with images drawn upon them, can be animated with stop motion, and is called cutout animation when lighted from the camera side of the artwork (or to the sides of the artwork) so as to show the details of the paper such as color, textures, etc. Often used for children's animation, cutout animation was used to produce the demo pilot for Comedy Central's *South Park* series (then later simulated via computer animation for the main series).

When backlighted, cutout animation becomes simplified dark (black) images and is referred to as silhouette animation, used by German animation pioneer Lotte Reiniger for *Prince Alcemed*, the first feature-length animated film, made in 1923.

Probably the most passive form of stop motion is time lapse animation in which a stop motion camera is simply clicked (manually or via an intermittant control device called an *intervolometer*) to take a frame of film as each period of time lapses, as natural objects of nature and mankind move of their own accord, non-interferred with by the animator. The most common uses for time lapse stop-motion animation movie photography are moving clouds, seen daily during weather forecasts in moving satellite imagery, the speeding up of the growth of plants, and stars as they appear to "rotate" around the Earth. Although a few film makers experimented with time-lapse movie photography as far back as the silent film days, the main pioneer of the technique was Dr. John Ott, of Sarasota Florida, USA, who also developed auto-time-lapse systems for also moving the cameras as they photographed growing plants. Ott even broke the 'rule" of non-manipulation by changing his lights' color-temperatures with various filters and watering (or not watering) his plants to cause them to "dance" up and down in synk to a pre-recorded musical track. Ott did work for the Disney studio in the 50s before evolving into studies of the color-temperature of lights on the health of plants, then animals, and then humans. His "ott-Lights", which produce light specifically designed to stimulate better health in the user, are currently sold at select lighting stores throughout the civilized world. Other time-lapse refiners are Ron Fricke and Geoffery Reggio in films such as *Koyanasqatsi* (1983) *Baraka* (1992), and *Chronos* (1994); the Oxford Film Labs in Oxford, England, and Dan Ackerman of Portland, Oregon, USA.

All animation, including all stop motion, requires a camera, either motion picture or digital, that can expose single frames. It works by shooting a single frame of an object, then moving the object slightly, then shooting another frame. When the film runs continuously at 24 frames per second, the illusion of fluid motion is created and the objects appear to move by themselves. This is similar to the animation of cartoons, but using real objects instead of drawings.

History

Stop motion animation is almost as old as film-making itself. The first instance of the technique can be credited to Albert E. Smith and J. Stuart Blackton for *The Humpty Dumpty Circus* (1898), in which a toy circus of acrobats and animals comes to life. In 1902, the film, "Fun in a Bakery Shop" used clay for a stop-motion "lightning sculpting" sequence. French trick film maestro Georege Melies used it to produce moving title-card letters for one of his short films, but never exploited the process for any of his other films. *The Haunted Hotel* (1907) is another stop motion film by James Stuart Blackton, and was a resounding success when released. Segundo de Chomons (1871-1929), from Spain, released *Hotel Electrico* later that same year, and used similar techniques as the Blackton film. In 1908, "A Sculptor's Welsh Rarebit Nightmare" was released, as was "The Sculptors Nightmare", a film by Billy Bitzer. French animator Emil Cole impressed audiences with his object animation tour-de-force, *The Automatic Moving Compnay* in 1910.

One of the earliest clay animation films was *Modelling Extraordinary*, which dazzled audiences in 1912. December of 1916, brought the first of Willie Hopkin's 54 episodes of

"Miracles in Mud" to the big screen. Also in December of 1916, the first woman animator, Helena Smith Dayton, began experimenting with clay stop motion. She would release her first film in 1917, "Romeo and Juliet".

The great European stop motion pioneer was Ladyslaw Starewicz (1892-1965), who animated *The Beautiful Lukanida* (1910), *The Battle of the Stag Beetles* (1910), *The Ant and the Grasshopper* (1911), *Voyage to the Moon* (1913), *On the Warsaw Highway* (1916), *Frogland* (1922), *The Magic Clock* (1926), *The Mascot*, (aka, *The Devil's Ball*) (1934), and *In the Land of the Vampires* (1935), to name but a few of his over fifty animated films.

Starevich was the first filmmaker to use stop-action animation and puppets to tell consistently coherent stories. He began by producing insect documentaries which, in turn, led to experiments with the stop-action animation of insects and beetles. Initially he wired the legs to the insects' bodies, but he improved this substantially in the ensuing years by creating leather and felt-covered puppets with technically advanced ball & socket armatures. One of his innovations was the use of motion blur which he achieved, most likely, by the use of hidden wires, which, because they were moving, didn't register on film.

His techniques took hold among the avant-garde in Eastern Europe in the 1920s and '30s, growing out of a strong cultural tradition of puppetry. Notable artists include the Russian Alexander Ptushko, and the influential Czech animator JiYí Trnka. The aesthetic tradition of the puppet film was continued by Bretislav Pojar, Kihachiro Kawamoto, Ivo Caprino, Jan Švankmajer, Jiri Barta, Stephen and Timothy Quay (Brothers Quay), the Bolex Brothers, and Galina Beda.

A notable stop motion object animator was Germany's Oskar Fischinger who animated anything he could get his hands on in a series of impressive short abstract art films during the 20s and 30s. The best example is his 1934 film, *Composition in Blue*. Fischinger was hired by Disney to animate the "rolling hills" footage used in the opening "Toccata & Fugue" sequence of *Fantasia* (1940).

The great pioneer of American stop motion was Willis O'Brien (1886-1963). In 1914, O'Brien began animating a series of short subjects set in prehistoric times. He animated his early creations by covering wooden armatures with clay, a technique he further perfected by using ball & socket armatures covered with foam, foam latex, animal hair and fur. Birth of a Flivver (1915), Morpheus Mike (1915), The Dinosaur and the Missing Link: A Prehistoric Tragedy (1916), R.F.D. 10,000 B.C.: A Mannikin Comedy (1917/18), The Ghost of Slumber Mountain (1919), The Lost World (1925), King Kong (1933), The Son of Kong (1933), and, with the assistance of a young Ray Harryhausen, *Mighty Joe Young* (1949), yet these were but a few of the many films he animated. O'Brien's *Nippy's Nightmare* (1916) was first film to combine live actors with stop-motion characters. His partnership with the great Mexican-American model makers/craftsmen/special effects artists/background painters/set builders, Marcel Delgado, Victor Delgado and Mario Larrinaga, led to some of the most memorable and remarkable stop-motion moments in film history.

O'Brien's imaginative use of stop-motion, and his ambitious and inventive filmmaking, has inspired generations of film greats such as Ray Harryhausen, George Lucas, Steven Spielberg, Peter Jackson, Jim Danforth, Art Clokey, Pete Kleinow, Tim Burton, David Allen, Phil Tippett and Will Vinton, as well as thousands of lesser known animators, both professional and amateur. Many leading Science-Fiction and Fantasy writers also credit him as a great source of inspiration.

One of the more idiosyncratic early users of stop-motion techniques was the American comedian and cartoonist Charles Bowers who employed stop-motion techniques (which he called the "Bowers Process") in his series of silent short comedies in the 1920s and early 1930s. In his 1926 film *Now You Tell One*, he skillfully uses stop-motion to create such effects as a straw hat growing on a man's head, cats growing out of a plant, and a mouse firing a gun.

Puppeteer Lou Bunin created one of the first stop motion puppets using wire armatures and his own rubber formula. The short, satiric film about WWII entitled Bury the Axis debuted in the 1939 New York World's Fair. in a Bunin went on to produce a feature-length film version of Alice in Wonderland with a live-action Alice and stop-motion puppets portraying all the rest of the characters. Bunin was blacklisted in the 1950s but still managed to create numerous TV commercials using stop motion techniques, as well as a number of children's short films.

Willis O'Brien's student Ray Harryhausen made many movies using model animation techniques; most famously, the skeleton scene from The Seventh Voyage of Sinbad (1958). But America and Britain were slower to embrace the stop-motion film, and so its use grew out of other sources.

One acclaimed European puppet animation producer to break out in America was Hungarian animator George Pal, who, partially working in The Netherlands, produced a series of films in Europe during the 30s before coming to Hollywood to create more shorts in the 40s, now called *Puppetoons* under the Paramount banner, seven of which were nominated for Academy Awards for best animated film. In the late 40s, Pal evolved into feature film production, incorporating puppet animation into a live action setting in such films as *The Great Rupert* (1949), *Tom Thumb* (1958), and "The Wonderful World of the Brothers Grimm *(1963). Pal used model-animation in two other feature films,* The Time Machine *(1960) and* The Seven Faces of Dr. Lao *(1964). Pal's work is documented in two feature films by Arnold Lebovitt, released in the mid-80s,* The Puppetoon Movie *and "The Fantastic World of George Pal*are available on DVD.

Dominating chidren's TV stop-motion programming for three decades in America was Art Clokey's *Gumby* series, which lasted into the 70s, and spawned a feature film, *Gumby I* in 1994. Using both freeform and character clay animation, the series also used much object animation as Gumby and his clay pals interacted with various toys. Clokey started his adventures in clay with a 1953 freeform clay short film called *Gumbasia* which shortly thereafter propelled him into his more structured Gumby TV series.

The Walt Disney studio dabbled with puppet-object animation in 1959 with the release of a 21-minute experimental short, *Noah's Arc*, nominated for an animated film Oscar for that year.

American children's television in the 1950s had often used string-puppets (also called marionettes), such as those in *The Howdy Doody Show*, and in Britain the glove-puppet had been part of popular culture from the days of Punch and Judy.

In November 1959 the first episode of *Sandmännchen* was shown on East German television, a children's show that had cold war propaganda as its primary function. New episodes are still being produced in Germany, making it one of the longest running animated series in the world. However, the show's purpose today has changed to pure entertainment.

In the 1960s, the French animator Serge Danot created the well-known The Magic Roundabout (from 1965) which played for many years on the BBC. Another French/Polish

stop-motion animated series was Colargol (*Barnaby the Bear* in the UK, *Jeremy* in Canada), by Olga Pouchine and Tadeusz Wilkosz.

A British TV-series The Clangers (1969) became popular on television. The British artists Brian Cosgrove and Mark Hall (Cosgrove Hall Films) produced a full-length film The Wind in the Willows (1983) based on Kenneth Grahame's children's classic. They also produced a documentary of their production techniques, *Making Frog and Toad*.

Disney once again experimented with several stop-motion techniques by hiring independent animator-director Mike Jittlov to do the first stop motion animation of Mickey Mouse toys even produced for a short sequence called *Mouse Mania*, part of a TV secial commemorating Mickey Mouse's 50th Anniversary called *Mickey's 50th* in 1978.

Jittlov again produced some impressive multi-technique stop-motion animation a year later for a 1979 Disney special promoting their release of the the feature film *The Black Hole*. Titled *Major Effects*, Jittlov's work stood out as the best past of the special. Jittlov released his footage the following year to 16mm film collectors as a short film titled *The Wizard of Speed and Time*, along with four of his other short multi-technique animated films, most of which eventually evolved into his own feature-length film of the same title. Effectively demonstrating almost all animation techniques, as well as how he produced them, the film was released to theaters in 1987 and to video in 1989.

Italian stop motion films include *Quaq Quao* (1978), by Francesco Misseri, which was stop-motion with origami, *The Red and the Blue* and the clay animation kitties *Mio and Mao*.

A stop-motion animated series of Tove Jansson's "The Moomins" (from 1979), produced by Film Polski and Jupiter Films was also a European production, made in different countries like Poland and Austria. This stop-motion was rather primitive, sometimes the puppets "moved" by a series of stills instead of showing actual movements.

In North America, Jules Bass produced a series of popular Christmas specials such as Rudolph the Red Nosed Reindeer (using 'Animagic' stop motion puppets) (1964). The specials were animated in Japan by Japanese stop-motion pioneer Tadahito Mochinaga. Another clay-animated children's TV series Davey and Goliath lasted from 1960 to 1977.

A puppet animation feature-length film directed by Marc Paul Chinoy and based on the famous "Pogo" comic strip was produced in 1980. Titled *I go Pogo*, it was aired a few times on American cable channels but never released to video.

Current work

Although Will Vinton had released a clay animation feature-length film, The Adventures of Mark Tawin by Huckleberry Finn (1985), that received wide distribution in English-speaking countries, the first puppet animation feature film to receive worldwide distribution was Tim Burton's The Nightmare Before Christmas (1993). More recently, stop motion has been used in the works of Aardman, including the Wallace and Gromit films as well as their feature film Chicken Run (2000). This year Christiane Cegavske's "Blood Tea and Red String" (2005) has been playing the festival circuit prior to a fall theatrical release.

Aardman also produced commercials and music videos, notably the video for Peter Gabriel's "Sledgehammer", which uses moast of the animation techniques outlined above, including pixilation which involved Gabriel holding a pose while each frame was shot and moving between exposures, effectively becoming a human puppet. More recently Aardman

used this technique on a series of short films for BBC Three entitled Angry Kid, which starred a live actor wearing a mask. The actor's pose and the mask's expression had to be altered slightly for each exposure.

Another more complicated variation on stop motion is go motion, co-developed by Phil Tippett and first used extensively on the film Dragonslayer (1981), which involves moving programming a computer to move parts of a model slightly during each exposure to produce a more realistic motion blurring effect. A lo-tech, manual version of this technique was originally pioneered by Wladyslaw Starewicz in the silent era, and was used in his feature film *The Tale of the Fox* (1931).

Although nowadays the almost universal use of CGI (computer generated imagery) has effectively rendered stop motion obsolete as a serious special effects tool in feature film, its low entry price means it is still used on children's programming, commercials, and comic shows such as *Robot Chicken*. The argument that the textures achieved with CGI can not match the way real textures are captured by stop motion also makes it valuable for a handful of movie-makers, notably Tim Burton, whose puppet-animated film *Corpse Bride* was released in 2005.

The internet is also home to hundreds, and possibly thousands, of short digital films known as Brickfilms. **Brickfilms** films are, for the most part, object-animation stop motion films featuring LEGO minifigs as a vital component. The limited flexibility of Lego's minifigs make for both ease of use and less than realistic action, which might be said to constitute a vital part of their appeal.

Another craze on the internet is just purely animating with clay figures. Extremly simple, bordering on "freeform", but effective. Some barely have a face, but the comidic proportions exceed those of the clay puppets. The comedy helps the viewer enjoy the animation without noticing the simpleness of the clay puppet. Many younger people begin their experiments in movie making with stop motion.

In the 60s and 70s, independent clay animator Eliot Noyes Jr. refined the technique of "free-form" clay animation with his Oscar-nominated 1965 film *Clay or the Origin of Species* and *He Man and She Bar* (1972). Noyes also used stop motion to animate sand laying on glass for his musical animated film *Sandman* (1975). Sand-coated puppet animation was used in the Oscar-winning 1997 film *Sandcastle*, produced by Canadian animator, Co Hoedeman.

Hoedeman is one of dozens of animators sheltered by the National Film Board of Canada, a Canadian government film arts agency that had supported animators for decades. A pioneer of refined multiple stop-motion films under the NFB banner was Norman McLaren who brought in many other animators to create their own creatively-controlled films. Notable among these are the pinscreen-animation films of Jacques Drouin, Alexeiff Parker, and Gaston Sarault such as *Mindscape* (1976).

Even amateurs can try stop motion with most ordinary video cameras with a few simple steps:

- Use a tripod, a chair or something else to secure the camera;
- Toggle recording modes until you find the appropriate mode;
- Start shooting clay models, LEGO, action figures, or any other desired object.

NBC is using a version of stop motion called **Stromotion** for the Olympic Games. During some snowboarding events, they used the technique to break down the various moves done by athletes.

(Technical data and some historical data provided by Daniel J. Fiebiger.)

Compare with

- Go motion

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Clay animation

Clay animation is one of many forms of stop motion animation; specifically, it is the form where each animated piece, either character or background, is "*deformable*". via a malleable substance, usually plasticine clay.

The term "**Claymation**" is also used to describe clay animation. Though a registered trademark created by Will Vinton in 1978 to describe their clay animated films; the portmanteau claymation has entered the English language as a common term, called agenericized trademark.

All animation is produced in a similar fashion, whether done through traditional cel animation, stop-motion, or CGI. Each frame, or still picture, is recorded on film or digital media and then played back in rapid succession. When played back at a frame rate greater than 10-12 frames per second, a fairly convincing illusion of continuous motion is achieved.

Technical explanation

In clay animation, which is one of the many forms of stop motion animation, each object is sculpted in clay or a similarly pliable material such as Plasticine, usually around an armature. As in other forms of object animation, the object is arranged on the set, a shot is taken and the object or character is then moved slightly by hand. Another shot is taken and the object moved slightly again. To achieve the best results, a consistent shooting

environment is needed to maintain the illusion of continuity. This means paying special attention to maintaining consistent lighting and object placement and working in a calm envrionment.

Intensity

Producing a stop motion animation using clay is extremely laborious. Normal film runs at 24 frames per second in America (25 frames per second under the metric system in Europe). With the standard practice of "doubles" (double-framing — exposing 2 frames for each shot), 12 changes are usually made for one second of film movement, (the odd extra metric frame being unnoticeable when projecdted at normal speed). For a 30-minute movie, there would be approximately 21,600 stops to change the figures for the frames. For a full length (90 min) movie, there would be approximately 64,800 stops and possibly far more if parts were shot with "singles" or "ones" (one frame exposed for each shot). Great care must be taken to ensure the object is not altered by accident, by even slight smudges, dirt, hair, or even dust. For feature-length productions, the use of clay has generally been supplanted by rubber silicone and resin-cast components. One foam-rubber process has been coined as *Foamation* by Will Vinton. However, clay remains a viable animation material where a particular aesthetic is desired.

Clay animation can take several forms:

"Freeform" clay animation is an informal term where the shape of the clay changes radically as the animation progresses, such as in the work of Eliot Noyes Jr and Church of the Sub-Genius co-founder John Stang's animated films. Or clay can take the form of "character" clay animation where the clay maintains a recognizable character throughout a shot, as in Art Clokey's and Will Vinton's films.

One variation of clay animation is strata-cut animation in which a long bread-like loaf of clay, internally packed tight and loaded with varying imagery, is sliced into thin sheets, with the camera taking a frame of the end of the loaf for each cut, eventually revealing the movement of the internal images within. Pioneered in both clay and blocks of wax by German animator Oskar Fischinger during the 1920s and 30s, the technique was revivied and highly refined in the mid-90s by David Daniels, an associate of Will Vinton, in his 16-minute short film *Buzz Box*.

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Pioneering this technique was one-time Vinton animator Joan Gratz, first in her Oscar-nominated film *The Creation* (1980) and then in her Oscar-winning *Mona Lisa Descending a Staircase* filmed in 1992.

A variation of this technique was developed by another Vinton animator, Craig Bartlett, for his series of "Arnold" short films, also made during the 90s, in which he not only used clay painting, but sometimes built up clay images that rose off the plane of the flat support platform, toward the camera lens, to give a more 3-D stop-motion look to his films.

A sub-variation of clay animation can be informally called "clay melting". Any kind of heat source can be appied on or near (or below) clay to cause it to melt while an animation camera on a time-lapse setting slowly films the process. An example of this can be seen in Vinton's early short clay-animated film, *Closed Mondays*, (co-produced by animator Bob Gardiner) at the end of the computer sequence.

Some of the best known clay animated works include the Gumby series of television shows created by Art Clokey and the advertisements made for the California Raisin Advisory Board by the Will Vinton studio. Clay animation has also been used in Academy-Award-winning short films such as Closed Mondays (Will Vinton and Bob Gardiner, 1974), Creature Comforts (Aardman, 1989), all three Wallace & Gromit short films, created by Nick Park of Aardman Animation. Aardman also created The Presentators (a series of one-minute clay animation short films aired on Nicktoons).

The history of many lessor known clay animatiuon films and film makers can be found under the stop motion listing.

Other relatively recent films or television shows produced with clay animation

Clay or the Origin of Species (Eliot Noyes Jr., 1965)
He Man and She Bar (Eliot Noyes Jr., 1972)
Plastiphobia (Fred O'Neal & Val Federoff, New Zealand, 1973)
Morph (Peter Lord and Dave Sproxton, 1976)
Mountain Music (Will Vinton and Bob Gardiner, 1976)
Martin the Cobbler (Will Vinton Studio, 1977)
Rip Van Winkle (Will Vinton Studio, 1978)
Claymation (Will Vinton Studio, production documentary film, 1978)
Legacy (Will Vinton]] Studio, 1979)
The Little Prince (Will Vinton Studio, 1979)
Baby Snakes (Karl Kogstad, for Frank Zappa, 1979)
The Christmas Gift (Will Vinton Studio, a long-form Paul Stokey music video, 1980)
Creation (Will Vinton Studio, featuring Joan Gratz, 1980)
The Great Cognito (Will Vinton Studio, featuring Barry Bruce, 1982)
The Trap Door (Terry Brain and Charlie Mills, 1984)
Arnold Escapes From Church (Will Vinton Studio, featuring Craig Bartlett, 1986)
Return to Oz (Will Vinton studio, 1988)(Knome King scenes)
A Claymation Christmas Celebration (Will Vinton Studio, TV special, 1987)
Vanz Kant Danz (Will Vinton Studio a John Fogarty music video, 1987)
Return to Oz (Will Vinton studio, 1988)(Knome King scenes)
Meet the Raisins (Will Vinton Studio, TV special, 1988)
Speed Demon (Will Vinton Studio, for Michael Jackson's Moonwalker film, 1989)
Claymation Comedy of Horrors (Will Vinton Studio), TV special 1989)
A Claymation Easter (Will Vinton Studio, TV special 1989)
The Raisins: Sold Out (Will Vinton Studio, TV special, 1990)
The Creature Comfort series (Aardman Studios, starting in 1990)

The Arnold Waltz ({{Will Vinton]] Studio], featuring Craig Bartlett, 1990)
Arnold Rides a Chair (Will Vinton Studio], featuring Craig Bartlett, 1991)
The Wallace and Gromit short film series (Aardman Studios, starting in 1992)
Rex the Runt (television series, Richard Goleszowski, 1998 UK)
The PJs" television series (Will Vinton Studio, 1999)
Chicken Run (Aardman Studio, Nick Park & crew]], 2000)
Gary and Mike (Will Vinton Studio, television series, 2001)
Wallace & Gromit: The Curse of the Were-Rabbit (Aardman, Nick Park, 2005)
Live Freaky! Die Freaky! (John Roecker, 2006)

Several computer games have also been produced using clay animation, including The Neverhood and Platypus. Television commercials have also utilized the claymation technique, such as the Chevron Cars ads, produced by Aardman Studios.

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Lord, Peter and Brian Sibley. Creating 3-D Animation. Harry N. Abrams, Inc. New York, 1998. ISBN 0810919966

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Strata-cut animation

Strata-cut animation is a form of clay animation (itself one of many forms of stop motion animation).

Strata-cut (with or without a hyphen, also spelled "straticut") animation is most commonly a form of clay animation in which a long bread-like "loaf" of clay, internally packed tight and loaded with varying imagery, is sliced into thin sheets, with the animation camera taking a frame of the end of the loaf for each cut, eventually revealing the movement of the internal images within.

Pioneered in both clay and blocks of wax by German animator Oskar Fischinger during the 1920s and 30s, the technique was revivied and highly refined in the mid-90s by California-Oregon animator David Daniels, a past associate of Will Vinton, in his mind-numbing 16-minute short film *Buzz Box*. Daniels has also used it as background imagery as other forms of animation or live action is superimposed over it.

Designing the interior contents of a clay block (or wax block, which is more difficult to use, as it is less malleable than clay) is a complex art form in and of itself. Obviously, abstract images and patterns are easier to do than recognizable images or character-driven moving images. Both the pace and forms of the movements of the internal imagery have to be considered when building the block (or loaf). A kind of non-high-tech "underground" quality of the all-moving imagery is usually the result, which has its own level of charm, unique to that process.

Interesting abstract images can be created by folding strips of different-colored clay together, and then flattening them out again so they can be folded again, repeating this process until the final result is a relatively tight mosiac of "weaved" patterns, interesting to the eye, even in its static (unmoving) form, but even more so when animated via the strata-cut process. Eventually, a series of blocks of these mosiacs can be combined into single blocks (loafs) and also combined with non-abstract imagery.

Although David Daniels' *Buzz Box* film is his showcase for all these techniques, he has also used variations of them for a variety of TV commercials and bits made for the Pee Wee's Playhouse series during the mid-90s.

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Cutout animation

Cutout animation is a technique for producing animations using flat characters, props and backgrounds cut from materials such as paper, card, stiff fabric or even photographs. The world's first surviving animated feature was produced using a form of cutout animation.

Today, cutout-style animation is often produced using computers, with scanned images or vector graphics taking the place of physically cut materials. The South Park TV series is a notable example, the first episodes were indeed made with actual paper cutouts. One of the most famous animators that are still using cutout animation today is Yuriy Norshteyn.

Animated shows using cutout animation

The Adventures of Prince Achmed, the world's first surviving animated feature film (from 1926), used silhouette animation in front of painted backgrounds.

Monty Python's Flying Circus is famous for its animated sequences created by Terry Gilliam.

Angela Anaconda uses black-and-white photos of people over CGI-like artwork.

South Park's cutout style is more traditional, as is Blue's Clues.

Joel Veitch uses this animation style in his website rathergood.com.

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Go motion

Go motion is a variation of stop motion animation, and was co-developed by Industrial Light & Magic and Phil Tippett for the film Dragonslayer.

Technical Explanation

Stop motion animation can create a disorienting staccato effect; go motion was designed to prevent this by moving the animated model slightly during the exposure of each film frame, producing a realistic motion blur. The main difference is in other words that while the frames in stop motion are made up by images of stills where no actual movements are involved, each image in go motion is made up of shots of the object at the same moment it moves. This frame-by-frame, split second motion is almost always created with the help of a computer, often through rods connected to a puppet or model which the computer manipulates to reproduce movements programmed in by puppeteers.

Methods for creating motion blur

Vaseline

This crude but reasonably effective technique involves smearing vaseline on the camera lens, then cleaning and reapplying it after each shot, a time-consuming process but one which creates a blur around the model. This technique was used for the endoskeleton in The Terminator.

Shaking the table

Shaking the table the model is standing on while the film is being exposed creates a slight, realistic blur. This technique was used by Phil Tippett for the Tauntaun in The Empire Strikes Back and ED-209 in Robocop and by Aardman animation for the train chase in The Wrong Trousers and again during the Lorry chase in A Close Shave. In both cases the cameras were moved physically during a 1-2 second exposure. The technique was revived for the full-length Wallace and Gromit: The Curse of the Were-Rabbit.

Go motion

The most sophisticated technique was originally developed for the film *Dragonslayer* and is quite different from traditional stop motion. The model is essentially a rod puppet. The rods are attached to motors which are linked to a computer that can record the movements as the model is traditionally animated. When enough movements have been made, the model is reset to its original position, the camera rolls and the model is moved across the table. Because the model is moving during shots, you get motion blur.

Go motion today

Go motion was used again in E.T. and was originally planned to be used extensively for the dinosaurs in Jurassic Park, until Steven Spielberg decided to try out the swiftly developing techniques of computer-generated imagery instead.

Today, go motion is rarely used, if ever, as it is more complicated and expensive than computer generated effects.

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Pixilation

Pixilation (from *pixilated*) is a stop motion technique where live actors are used as a frame-by-frame subject in an animated film, by repeatedly posing while one or more frame is taken and changing pose slightly before the next frame or frames. The actor becomes a kind of living stop motion puppet. This techique is often used as a way to blend live actors with animated ones in a film, such as in *The Secret Adventures Of Tom Thumb* by the Bolex Brothers, which used the technique to compelling and eerie effect.

The first work known to use the pixilation technique was Emile Courtet's 1911 film *Jobard ne peut pas voir les femmes travailler* (*Jobard cannot see the women working*).

Other well-known examples include Norman McLaren's short films *Neighbours* and *A Chairy Tale*, Chuck Menville and Len Janson's extrordinary trilogy of pixilated short films (*Vicious Cycles - 1967,* Blaze GLory - *1968, and* Sergeant Swell of the Mounties - *1970), the [[music videos for "Road to Nowhere" by Talking Heads, "Sledgehammer" by Peter Gabriel, "Point of No Return" by Nu Shooz, and the tour-de-force short and full-length independent films, both titled* The Wizard of Speed and Time by Mike Jittlov.

The pixilation technique was also used for the opening of *Claymation*, Will Vinton's 1978 17 minute documentary about his animation studio's production techniques, the first time the famous trademarked *Claymation* term was used, now a term synonymous with all clay animation.

The Czech animator Jan Švankmajer also uses pixilation in most of his work; most notably "Food". A recent example of the technique is the Stephen Malkmus' video clip "Baby C'mon"

Today it's possible to record a scene with a digital video camera and removing a few frames per second, create the illusion of a pixilation movie very easily. Though this is not considered a real animation, and lacks the slightly out-of-place quality of real pixilations, recorded frame by frame.

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Silhouette animation

Silhouette animation is one of many forms of stop motion and is also a simplified variation of graphic animation, which involves the frame-by-frame moving of cut out graphic shapes.

Mere pieces of paper can be animated on an animation stand with stop motion. This is called cutout animation, which is illuminated from the same side of the artwork as the camera is located (or from the sides of the artwork) so as to show the details of the paper such as color, textures, etc. Often used for children's animation, cutout animation was used to produce the demo pilot for Comedy Central's South Park series (then later simulated via computer animation for the main series).

When backlit instead, the cutout animation becomes a series of simplified dark (black) images, and is referred to as silhouette animation, used by German animation pioneer Lotte Reiniger for The Adventures of Prince Achmed, the first feature-length animated film, made in 1923.

Silhouette animation is rarely used as its own art form, except for brief dramatic or comedic scenes in a few cutout animation films, such as when a character turns the lights out in an episode of *South Park*. However, there have been a few complete films using this technique that have been made by animators under the *National Film Board of Canada* banner.

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Brickmation

Brickmation is the practice of making stop motion animation using lego. Googling the term will bring a host of sites devoted to showcasing the huge diversity of **Brickmation** floating around the ether.

Brickmation might be considered to demonstrate the qualities of Bricolage and the DIY ethic in that it takes simple, prefabricated materials and puts them to new, largely amusing, ends. In the computer-generated imagery era, such simple stop motion antics have a back to basics, no frills ethos behind them.

Others may note that the parody and pastiche inherent in a great deal of the work may be interesting in terms of both participatory culture, fan culture and media audience research. Scanning the web, various allusions to mainstream media are rife. From "Brick to the future" to "Grand Theft Auto: Lego City", Brickmation has proved a fertile ground for those who wish to engage with popular media without recourse to the convoluted verbiage this article is guilty of.

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Superhero

A **superhero** is a fictional character who is noted for feats of courage and nobility and who usually has a colorful name and costume which serve to conceal their true identity, and abilities beyond those of normal human beings. A female superhero is sometimes called a **superheroine**, although this term has fallen out of favor in the modern era.

The word superhero originated with Superman, who debuted in 1938, and the stories of superheroes - ranging from episodic adventures to decades-long sagas - have become an entire genre of fiction that has dominated American comic books and crossed over into several other media.

Common traits

Although superheroes widely vary, a number of characteristics have become associated with the typical superhero:

- Extraordinary powers and abilities, mastery of relevant skills, and/or advanced equipment. Although superhero powers vary widely, superhuman strength, the ability to fly and enhancements of the senses are all common. Some superheroes, such as Batman and Green Hornet, possess no superpowers but have mastered skills such as martial arts and forensic sciences. Others have special equipment, such as Iron Man's power armor and Green Lantern's power ring.
- A strong moral code, including a willingness to risk one's own safety in the service of good without expectation of reward.
- A special motivation, such as a sense of responsibility (e.g. Superman), a strong sense of justice (e.g. Batman), a formal calling (e.g., Wonder Woman), or a personal vendetta against criminals (e.g., The Punisher).
- A secret identity that protects the superhero's friends and family from becoming targets of his or her enemies. Most superheroes, but not all, use a descriptive or metaphoric code name for their public deeds.
- A flamboyant and distinctive costume, often used to conceal the secret identity
- An underlying motif or theme that affects the hero's name, costume, personal effects, and other aspects of his character (e.g., Batman resembles a large bat, calls his headquarters the "Batcave" and his specialized automobile, which also looks bat-like, the "Batmobile").
- A trademark weapon, such as Wonder Woman's "Lasso of Truth" and Captain America's shield.
- A supporting cast of recurring characters, including the hero's friends, co-workers and/or love interests, who may or may not know of the superhero's secret identity. Often the hero's personal relationships are complicated by this dual life.
- A number of enemies that he/she fights repeatedly, including an archenemy who stands out among the others. Often a nemesis is a superhero's opposite or foil (e.g., Sabretooth embraces his savage instincts while Wolverine battles his).

- Independent wealth (e.g., Batman or the X-Men's benefactor Professor X) or an occupation that allows for minimal supervision (e.g., Superman's civilian job as a reporter).
- A secret headquarters or base of operations (e.g., Superman's Fortress of Solitude).
- An "origin story" that explains the circumstances by which the character acquired his/her abilities as well as his/her motivation for becoming a superhero. Many origin stories involve tragic elements and/or freak accidents that result in the development of the hero's abilities.

Most superheroes work independently. However, there are also many superhero teams. Some, such as the Fantastic Four and X-Men, have common origins and usually operate as a group. Others, such as DC Comics's Justice League and Marvel's Avengers, are "all-star" groups consisting of heroes of separate origins who also operate individually.

Some superheroes, especially those introduced in the 1940s, work with a young sidekick (e.g., Batman and Robin, Captain America and Bucky). This has become less common since more sophisticated writing and older audiences have made such obvious child endangerment seem implausible and lessened the need for characters who specifically appeal to child readers. Sidekicks are seen as a separate classification of superheroes.

Superheroes most often appear in comic books, and superhero stories are the dominant genre of American comic books, to the point that the terms "superhero" and "comic book character" are often used synonymously in North America. Superheroes have also been featured in radio serials, prose novels, TV series, movies, and other media. Most of the superheroes who appear in other media are adapted from comics, but there are exceptions.

Marvel Characters, Inc., and DC Comics, share ownership of the United States trademark for the phrases "Super Hero" and "Super Heroes" as they applies to comics, and these two companies own a majority of the world's most famous superheroes. However, throughout comic book history, there have been significant heroes owned by others, such as Captain Marvel, owned by Fawcett Comics (but later acquired by DC), and Spawn, owned by creator Todd McFarlane.

Although superhero fiction is considered a subgenre of fantasy/science-fiction, it crosses into many other genres. Many superhero franchises resemble crime fiction (Batman, Daredevil), others horror fiction (Spawn, Hellboy), while others contain aspects of more standard science fiction (Green Lantern, X-Men). Many of the earliest superheroes, such as The Sandman and The Clock, were rooted in the pulp fiction of their predecessors.

Because the fantastic nature of the superhero milieu allows almost anything to happen, particular superhero series frequently cross over into a variety of vastly different genres. In the 1980s series The New Teen Titans, for example, the Titans battled a supernatural cult leader in one story, went off to another galaxy to participate in a space war in the following story, and then returned to Earth and became involved in an urban drama involving young runaways. The content of each of these stories is quite different, yet the same principal characters are involved.

Common costume features

A superhero's costume helps make him or her recognizable to the general public, both in and outside of fiction. Costumes are often colorful to enhance the character's visual appeal. Costumes frequently incorporate the superhero's name and theme. For example, Daredevil resembles a red devil, the design of Captain America's costume echoes that of the American flag, and Spider-Man's costume features a web pattern. The convention of superheroes wearing skin-tight costumes originated with Lee Falk's comic strip creation The Phantom.

Many features of superhero costumes recur frequently, including the following:

- Superheroes who maintain a secret identity often wear a mask, ranging from the domino masks of Green Lantern and Ms. Marvel to the full-face masks of Spider-Man and Black Panther. Most common, however, are masks covering the upper face, leaving the more indistinguishable jaw and neck areas exposed. This allows for both a believable disguise and recognizable facial expressions.
- A symbol, such as a stylized letter or visual icon, usually on the chest. Examples include DC Captain Marvel's thunderbolt and the lowercase "i" of the Incredible Family. More recognisable ones are Superman's uppercase "S" and the Bat Emblem of Batman.
- Form-fitting clothing, often referred to as tights or spandex, although the exact material is usually not identified; in cases where it is it may often be explained as due to the material being made from unstable molecules or something similar. Such material displays a character's athletic build and heroic sex appeal. The overall appearance could be described as being ostensibly nude figure drawing.
- The form-fitting costume typically utilizes a contrasting color for the gloves, boots, and pelvic region (e.g. red briefs and boots on blue tights for Superman, or black gloves, boots, collars, and pelvic guards on red spandex for each member of the Incredible Family (Jack-Jack, however, wears a red jumpsuit with a black collar, black sleeve cuffs, black soles, and no pelvic guard), to emphasize that area.
- The fact that most male superheroes are muscular in build and wear form-fitting clothing rarely receives comment, yet the idealized figures and sometimes scanty costumes of superheroines has lead to some readers to accuse the predominantly male comic book industry of sexism.
- While a vast majority of superheroes do not wear capes, the garment is still closely associated with them, likely due to the fact that two of the most widely-recognized superheroes, Batman and Superman, wear one. The comic book series Watchmen and the movie The Incredibles, among other media sources, humorously commented on the sometimes-lethal impracticality of capes.
- While most superhero costumes merely hide the hero's identity and present a recognizable image, parts of some costumes have functional uses. Batman's utility belt and Spawn's "necroplasmic armor" have both been of great assistance to the heroes. Iron Man, in particular, wears powered armor that protects him and provides technological advantages.
- When thematically appropriate, some superheroes dress like people from various professions or subcultures. Zatanna, who possesses wizard-like powers, dresses like a magician, and Ghost Rider, who rides a superpowered motorcycle, dresses in the leather garb of a biker.

- Several heroes of the 1990s, including Cable and many Image Comics characters, rejected the traditional superhero outfit for costumes that appeared more practical and militaristic. Shoulder pads, kevlar-like vests, metal-plated armor, knee and elbow pads, heavy-duty belts, and ammunition pouches were common features.

Superheroes outside the United States

Superheroes are seen as a largely an American creation but there have been successful superheroes in other countries most of whom share the conventions of the American model. Examples include Cybersix from Argentina, Captain Canuck from Canada and the heroes of AK Comics from Egypt.

Japan is the only country that nears the US in output of superheroes. The earlier of these wore scarves (which can be just as dangerous as capes at times) either in addition to or as a substitute for capes and many wear helmets instead of masks. Ultraman, Kamen Rider, Super Sentai, Metal Heroes, Kikaider, and Gekko Kamen (and increasingly, the Chouseishin Series) have become popular in Japanese tokusatsu live-action shows, and Science Ninja Team Gatchaman and Sailor Moon are staples of Japanese anime and manga. However, most Japanese superheroes are more shortly-lived. While American entertainment companies update and reinvent superheroes, hoping to keep them popular for decades, Japanese companies retire and introduce superheroes more quickly (usually on an annual basis) in order to shorten merchandise lines. Japanese superhero franchises are closely connected to general Japanese science fiction/fantasy, contain more complex technological and mystical ideas than most American superhero stories, and often feature more violence and killing on the part of the hero.

British superheroes began appearing in the Golden Age shortly after the first American heroes became popular in the UK [1]. Most original British heroes were confined to anthology comics magazines such as Lion, Valiant, Warrior, and 2000AD.

Marvelman, known as Miracleman in North America, is probably the most well known original British superhero (although he was based heavily on Captain Marvel). Popular in the 1960s, British readers grew fond of him and contemporary UK comics writers Alan Moore and Neil Gaiman have revived Marvelman in series that display a jaundiced and cynical slant on heroism. This attitude is also prevalent in newer British heroes, such as Zenith.

In India, Raj Comics owns a number of superheroes that possess key characteristics of Marvel/DC, but in an Indian setting. Characters such as Nagraj, Doga and Super Commando Dhruva, while somewhat akin to Western superheroes, carry Hindu ideas of morality and incorporate Indian myths.

See also: Manga

Character subtypes

In superhero role-playing games (particularly Champions), superheroes are informally organized into categories based on their skills and abilities. Since comic book and role-

playing fandom overlap, these labels have carried over into discussions of superheroes outside the context of games:

- "Brawler": A hero who engages in direct physical conflict, but does not necessarily have any true ability to soak damage. These heroes are known for the ability to deliver punishment and to take at least some degree themselves. Spider Man and Wolverine are both examples of Brawlers.
    - "Martial Artist": A refined version of the Brawler, the martial artist hero usually has physical abilities which are mostly human rather than superhuman but possess phenomenal combat skills. Some of these characters are actually superhuman (Daredevil, Iron Fist) while others are normal human beings who are extremely skilled and athletic (Batman and related characters, Black Widow).
- "Brick/Tank": A character with a superhuman degree of strength and endurance and (usually) an oversized, muscular body, e.g., The Thing, The Hulk, Colossus, Savage Dragon.
- "Blaster": A hero whose main power is a distance attack, usually an "energy blast" e.g., Cyclops, Starfire, Static.
    - "Archer": A subvariety of this type who uses bow and arrow-like weapons that have a variety of specialized functions like explosives, glue, nets, rotary drill, etc., e.g., Green Arrow, Hawkeye, Speedy.
    - "Mage": A subvariety of this type who is trained in the use of magic that partially or wholly involves ranged attacks, e.g., Doctor Strange, Doctor Fate.
- "Gadgeteer": A hero who invents special equipment that often imitates superpowers, e.g., Forge, Nite Owl, Gizmo.
    - "Armored Hero": A gadgeteer whose powers are derived from a suit of powered armor, e.g., Iron Man, Steel.
    - "Dominus": A hero who controls a giant robot, a subtype common in Japanese superhero and science fiction media, e.g. Megas XLR, Big Guy, the Power Rangers
- "Speedster": A hero possessing superhuman speed and reflexes, e.g., The Flash, Quicksilver.
- "Mentalist": A hero who possesses psionic abilities, such as telekinesis, telepathy and extra-sensory perception, e.g., Professor X, Jean Grey, Saturn Girl.
- "Shapeshifter": A hero who can manipulate his/her own body to suit his/her needs, such as stretching (Mister Fantastic, Plastic Man) or disguise (Changeling, Chameleon Boy).
    - "Size changer": A shapeshifter who can alter his/her size, e.g., the Atom (shrinking only), Colossal Boy (growth only), Hank Pym (both).

These categories often overlap. For instance, Batman is a both a skilled martial artist and gadgeteer and Hellboy has the strength and durability of a brick and the mystic arts abilities of a mage. Very powerful characters, such as Superman, Dr. Manhattan,Silver Surfer, and Martian Manhunter, can be listed in many categories; the Manhunter and Silver Surfer both excel in *every* category except martial arts and gadgetry.

Divergent character examples

While the typical superhero is described above, a vast array of superhero characters have been created and many break the usual pattern:

- Wolverine has shown a willingness to kill and behave anti-socially. Wolverine belongs to an entire underclass of anti-heroes who are grittier and more violent than classic superheroes, which often puts the two groups at odds. Others include Rorschach, Green Arrow, Black Canary, The Punisher, and, in some incarnations, Batman.
- Some superheroes have been created and employed by national governments to serve their interests and defend the nation. Captain America was outfitted by and worked for the United States Army during World War II and Alpha Flight is a superhero team formed and usually managed by the Canadian government.
- Many superheroes have never had a secret identity, e.g. Wonder Woman (in her current version) or the members of The Fantastic Four. Others who once had secret identities, such as Captain America and Steel, have later made their identities public. The modern Flash is a rare example of a "public" superhero who regained his secret identity.
- The Incredible Hulk is usually defined as a superhero, but he has little self-control and his actions have often either inadvertently or deliberately caused great destruction. As a result, he has been hunted by the military and other superheroes.
- Some superhero identities have been used by more than one person. A character takes on another's name and mission after the original dies, retires or takes on a new identity. Green Lantern, The Flash and Robin are notable mantles that have passed from one character to another.
- Superman, Silver Surfer, Martian Manhunter, and Captain Marvel (the Marvel Comics character) are extraterrestrials who have, either permanently or provisionally, taken it upon themselves to protect the planet Earth.
- Adam Strange, on the other hand, is a human being who protects the planet Rann.
- Thor and Hercules are mythological gods reinterpreted as superheroes. Wonder Woman, while not a goddess (anymore), is a member of the Amazon tribe of Greek mythology.
- Spawn, The Demon and Ghost Rider are actual demons, who have found themselves manipulated by circumstance into allying with the forces of good. Hellboy, however, is a demon who is heroic on his own accord.
- Some characters tread the line between superhero and villain because of a permanent or temporary change in character or because of a complex, individualistic moral code. These include Juggernaut, Emma Frost, Magneto, Catwoman, Elektra, and Venom.
- Because the superhero is such an outlandish and recognizable character type, several comedic heroes have been introduced, including The Tick, The Flaming Carrot, The Ambiguously Gay Duo, and The Simpsons' Radioactive Man. There have also been various parodies on the superhero occupation as well, for

example, Cartoon Network once made a Space Ghost: Coast to Coast commercial showing superheroes and talk show hosts having their licenses renewed.

Trademark status

The terms "Super Hero," "Super Heroes," and by association, "superhero" have been jointly trademarked by DC Comics and Marvel Comics to describe entertainment on television, film, and printed media (U.S. Trademark Serial Nos. 72243225 and 73222079).

However, as an attempt to avoid the trademark, "super-hero" with a hyphen has sometimes been used as a generic spelling that covers all such heroes. In March 2006, DC and Marvel attempted to register "super-hero" as well. Some bloggers have suggested using the term "underwear pervert" to describe the characters of Marvel and DC in protest.

Origin of the trademark: *From a story told by former Mego Toys CEO Marty Abrams:* In the 1970's, Mego held the toy license for both Marvel and DC characters, and decided to ship cases containing characters from both publishers together. The name **World's Greatest Superheroes** was printed on the packaging, and in small letters it said *"Superhero is a trademark of Mego"*. Shortly thereafter, Mego got phone calls from its two leading superhero licensers, Marvel and DC, who both objected to Mego's claim to a trademark on a word that they had both been using for decades. A meeting was arranged, and Mego sold a share of the trademark to each publisher for a dollar. And since there wasn't any other significant superhero comic publisher around at the time, no-one challanged the trademark.

Growth in diversity

Until the 1960s, superheroes largely conformed to the model of lead characters in American popular fiction in the first half of the 20th century. Hence, the typical superhero was a white, middle- to upper- class, heterosexual, professional, 20-to-30-year-old man. A majority of superheroes still fit this description but, in subsequent decades, many characters have broken the mold.

Female characters

The first significant female superhero was DC Comics' Wonder Woman, created by psychologist William Moulton Marston in 1941 as a role model for young women. She was the only widely popular female superhero for two decades and is arguably still the most famous.

In the late 1950s and early 1960s, DC debuted female versions of prominent male superheroes, such as Supergirl, Batwoman, and Hawkgirl, as well as female supporting characters that were successful professionals, such as Superman's love interest Lois Lane, who starred in a spin-off series aimed at young female readers.

Meanwhile, Marvel Comics introduced The Fantastic Four's Invisible Girl and the X-Men's Marvel Girl, but these characters were physically weak and were portrayed primarily as romantic interests of their teammates. The 1970s saw these heroes become more confident and assertive (Marvel Girl was eventually transformed into Phoenix, arguably the most

powerful character in the Marvel universe) and the launch of several series starring female superheroes, including Spider-Woman and Ms. Marvel. Initially, some characters were preachy feminist stereotypes, like Ms. Marvel and DC's Power Girl, until writers grew more accustomed to society's changing attitudes.

In subsequent decades, Elektra, Catwoman, Witchblade and Spider-Girl became stars of popular series and the X-Men, one of the few superhero teams to feature as many female characters as male, became the industry's most successful franchise. Storm, Rogue and Psylocke were some of the most popular "X-Women."

Non-Caucasian characters

In the late 1960s, superheroes of other racial groups began to appear. In 1966, Marvel Comics introduced the Black Panther, the first non-caricatured black superhero. In 1972, Luke Cage, an African-American "hero-for-hire," became the first black superhero to star in his own series while Red Wolf became the first Native American [7]. In 1974, Shang Chi, a martial arts hero, became the first Asian hero to star in an American comic book series.

Comic book companies were in the early stages of cultural expansion and many of these characters played to specific stereotypes; Cage often employed lingo similar to that of blaxploitation films, Native Americans were often associated with wild animals and Asians were often portrayed as martial artists. Subsequent minority heroes, such as the X-Men's Storm (the first black superheroine) and The Teen Titans' Cyborg avoided the patronizing nature of the earlier characters as the comics industry became more mature and diverse.

In the 1971, the series Green Lantern/Green Arrow commented on race relations with the introduction of John Stewart, a black and somewhat belligerent architect who Green Lantern's alien benefactors chose as Hal Jordan's standby, an idea that initially discomforted Jordan and was meant to discomfort some readers although he quickly proves himself. In the 1980s, Stewart became the Green Lantern permanently, making him the first black person to take the mantle of a classic superhero. The creators of the 2000s-era Justice League animated series selected Stewart as the show's Green Lantern, boosting his profile, although some fans accused the creators of *Justice League* of including him in lieu of other Green Lanterns merely to add diversity.

In 1993, Milestone Comics, an African-American-owned imprint of DC, introduced a line of series that included characters of many ethnic minorities, including several black headliners. The imprint lasted four years, during which it introduced Static, a character adapted into the WB Network series, Static Shock.

Non-heterosexual characters

In 1992, Marvel revealed that Northstar, a member of Alpha Flight, was homosexual, after years of implication. Although some secondary characters in Watchmen were gay, Northstar was the first openly gay superhero to have a permanent presence in a continuing series. Since then, a few other semi-prominent gay superheroes have emerged, such as Gen^{13}'s Rainmaker, The Authority's gay couple Apollo and Midnighter, and The Flash adversary-turned-supporting hero The Pied Piper.

Recently, a few characters were revealed gay in two Marvel titles, the Ultimate incarnation of Colossus in Ultimate X-Men and Wiccan and Hulkling of the Young Avengers.

Diversified teams

In 1975, Marvel revived the X-Men, introducing a new team with members culled from several different nations, including the German Nightcrawler, the Russian Colossus, the Canadian Wolverine and the Kenyan Storm. The X-Men, which became comic books' most successful franchise in the coming decade, continued to have a radically diverse roster and an underlining message of tolerance and unity. Ethnic diversity would be an important part of subsequent X-Men-related groups, as well as series that attempted to mimic the X-Men's success.

Treatment in other media

Film

Superhero films began as Saturday movie serials aimed at children during the 1940s. The decline of these serials meant the death of superhero films until the release of 1978's Superman. Several sequels followed in the 1980s. A popular Batman series lasted from 1989 until 1997. These franchises were initially successful but later sequels in both series fared poorly, stunting the growth of superhero films for a time.

In the early 2000s, blockbusters such as 2000's X-Men, 2002's Spider-Man and 2005's Batman Begins have led to dozens of superhero films. The improvements in special effects technology and more sophisticated writing that both respects and emulates the spirit of the comic books has drawn in mainstream audiences and caused critics to take superhero films more seriously.

Animation

In the1940s, Fleischer/Famous Studios produced a number of groundbreaking Superman cartoons, which became the first examples of superheroes in animation.

Since the 1960s, superhero cartoons have been a staple of children's television, particularly in the U.S.. However, by the early 1980s, US broadcasting restrictions on violence in children's entertainment led to series that were extremely tame, a trend exemplified by the series Super Friends.

In the 1990s, Batman: The Animated Series and X-Men led the way for series that displayed advanced animation, mature writing and respect for the comic books on which they were based. This trend continues with Cartoon Network's successful adaptation of DC's Justice League. The comics superheroes mythos itself received a nostalgic treatment in the popular 2004 Disney/Pixar release The Incredibles.

Live-action television series

Several popular but, by modern standards, campy live action superhero programs aired from the early 1950s until the late 1970s. These included The Adventures of Superman starring George Reeves, the psychedelic-colored Batman series of the 1960s starring Adam West and Burt Ward and CBS's Wonder Woman series of the 1970s starring Lynda Carter. The popular Incredible Hulk of the late 1970s and early 1980s, however, had a more somber tone.

In the 1990s, networks attempted several unconventional uses of the superhero genre in live action shows, including the exceptionally popular Mighty Morphin Power Rangers, adapted from the Japanese Super Sentai. Other shows targeting teenaged and young adult audiences, included Lois and Clark, Buffy the Vampire Slayer, Alias and Smallville, which retooled Superman's origin as a teen drama.

Real-life superheroes

Some real life individuals have taken-up identities and costumes resembling those of superheroes. None have taken on the sizable missions associated with fictional superheroes but have used their guises to perform civic deeds and/or highlight a cause. Examples include Terrifica, a New York City woman who patrols bars and clubs to protect inebriated women from men and Superbarrio, a Mexico City resident who rallies for various labor rights causes

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Magical girl

Magical girls (TÕs, *maho shojo*?) belong to a sub-genre of Japanese shojo anime and manga.

Most famously magical-girl stories feature young girls with superhuman abilities who are forced to fight evil and protect the Earth. Notable examples include Sailor Moon, Cardcaptor Sakura, Tokyo Mew Mew, Magic Knight Rayearth, Pretty Sammy and Futari wa Pretty Cure. Magical girls are also known in Japan as *majokko* (TscP, *majokko*?), literally "witch girl", though this term is generally not used to refer to modern magical girl anime.

Most consider *Mahoutsukai Sally* in 1966 to be the first maho shojo anime.

Magical Boys are much rarer, but easily identifiable as they are designed among similar lines (e.g. DNAngel) and are usually shojo series regardless.

Neither should a magical girl be confused with a catgirl or a magical girlfriend. Most recently, the genres of magical girls and catgirls have been confused; either the magical girl has cat ears and tail as part of their costume or a catgirl has some form of magical powers. The former case is most notable in Tokyo Mew Mew and the latter case is most notable in Hyper Police.

General types of "magical girls"

- A magical being, such as a witch or an angel, attempting to function in a mundane world. (e.g. Sally Yumeno of Sally, the Witch; Meg Kanzaki of Majokko Megu-chan)
- A mundane girl given power by a magical figure without the baggage of combat. One famous generic power is for the character to turn into an older version of herself (for example, a pop idol singer) and enjoy some of the freedom from awkward youth, which the audience identifies with. (e.g. Fancy Lala, Creamy Mami)
- A mundane girl given power, or had her own already-existing power awakened, in order to fight malevolent forces (e.g. Sailor Moon). Although they are latecomers to anime and manga compared to the previous two, this is the most famous type and has become the *de facto* definition of a magical girl.

Common themes and features

Magical girls generally obtain their powers from some sort of enchanted object such as a pendant, a wand, or a ribbon. By concentrating on this object, in addition to speaking a special phrase or command in some cases, a girl undergoes an intricate transformation sequence and changes to her fully powered form. A major theme of magical-girl stories is learning to harness these powers and develop them fully. Teams of magical girls often learn to combine their powers to perform massive, super-charged attacks. Powers or no powers, though, magical girls are rarely pushovers even in mundane form, as they tend to learn ordinary acrobatics, martial arts, or other offensive and/or defensive actions, to supplement their supernatural talents.

Magical girls are not alone in their adventures. They occasionally receive the help of mysterious, magical boys. These boys sometimes disdain their female counterparts, but other times, they show romantic interest in one of the girls (or vice-versa). Another common ally is some sort of talking animal sidekick with magical powers of its own. These pets rarely participate in combat; instead, they offer advice and help train the girls in the use of their abilities.

Much of the magical girls' time is spent trying to keep their powers and their mundane identities secret. The reasons for this vary; perhaps they wish to keep their friends and family hidden from their enemies, or maybe they enjoy the thrill and the freedom their secret identities grant them — traditional Japanese ideals of womanhood have little to do with running around fighting evil in usually skimpy outfits. Other times, magical girls may simply be too embarrassed, or sometimes even outright forbidden, to let their friends and family know about their secret powers; perhaps it is their fault that the evil they fight escaped into the world in the first place, or maybe they don't want anyone to see them in their silly costumes (or uniforms if they are part of a larger team). However, despite their best attempts to keep their normal and supernatural lives separate, strange events tend to occur to magical girls in mundane life with alarming regularity, forcing them to transform and fight.

Magical girl stories tend to be upbeat and cheerful. The characters fight for idealistic causes such as love, peace, hope, and beauty — never for revenge. By forming teams, the heroines learn the values of friendship and co-operation. Even the magical girls' enemies leave them alone most of the time; the girls are the ones who pursue the enemies and attempt to thwart *their* plans. The genre may seem silly at first glance, but it can be intriguing due to the contrasts and conflicts the magical girls represent, caught up as they are between the masculine and feminine, childish and mature, helpless and powerful.

Famous examples

The best-known magical girls in the western world are the Sailor Senshi (Sailor Scouts/Sailor Soldiers in the English dubs) of Sailor Moon, although that series also incorporated sentai elements (a quintet of warriors rather than one) that helped redefine the magical girl concept. Cardcaptor Sakura, meanwhile, is closer to the original 'pure' concept. Somewhat of a compromise between the two approaches is the recent Pretty Cure, which is scheduled to be on North American television in fall 2006.

Outside of Japan

There are also quite a few American shows (live-action and animated) that not only are inspired by the genre, but also inspired the genre themselves.

In Japan, the Japanese dub of the American TV series Bewitched was most popular among young girls in the 1960s. This was in the formative years of Japanese animation as a genre, and animators wanted to create a series aimed at young girls; since Bewitched was popular with them, animators decided to make a series about a witch. This witch would not be a "witch" in the usual American sense of the word (i.e. a haggard, cackling old woman who used her magic for evil purposes), but a "witch" of the same vein as Bewitched's Samantha: a "witch" who looked just like a normal person and used her magic for everyday tasks and

for the good of others around her. This inspired Mitsuteru Yokoyama, best known in the U.S. as the creator of Tetsujin 28-go (Gigantor), to create Mahoutsukai Sally, and the result was one of the most popular and longest-running animation series in Japanese history.

Other magical girl series outside Japan include:

Buffy the Vampire Slayer
Charmed
I Dream of Jeannie
Jem
Princess Gwenevere and the Jewel Riders
Princess Tenko
Rainbow Brite
She-Ra
Winx Club
W.I.T.C.H. (and its animated TV series)

The magical girl phenomenon also has crossed into printed media as well often in comics such as Buffy, Elektra, Scarlet Witch and Psi-Mage and sometimes in novel form, e.g. Tamora Pierce's Circle of Magic series.

Maho Shojo in Japan

Until the appearance of Sailor Moon, the original term "Maho Shojo" in Japan referred exclusively to girls who did not transform themselves and used magic for acts of mercy and for helping those in need instead of suppression of evil (for example, Mako of Mahou no Mako-chan, one of the earliest examples of the genre). There were also magical girl series such as Himitsu no Akko-chan and Fushigina Melmo in which the heroines were given the power to transform themselves into whatever they wished, not for the sake of fighting evil, but for the sake of adventure. However, the term is used in the West to refer only to the latter case, though this term is still predominantly used for the former case in Japan. Mahoutsukai Sally (aka Sally, the Witch) and Mahou no Princess Minky Momo (aka Magical Princess Gigi) are hardly known in the United States (although both series were successful in Europe and the latter was released in the U.S. in a feature-length dub), though they are typical works of past Maho Shojo in Japan.

An example of a series that transcended these two cases was *Akazukin Chacha*, which was a Japanese Maho Shojo manga that portrayed adventures of the protagonist Chacha and her friends. When it was adapted to anime, Chacha became a "Magical Princess" in order to battle with villains.

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Superheroes in animation

Superheroes have been portrayed in animation since the early 1940s. In the years that followed, cartoon shows featuring superheroes became a staple of children's entertainment with a few shows reaching adult audiences.

History

In late 1941, Superman became the first superhero to be depicted in animation, The Superman series of groundbreaking theatrical cartoons was produced by Fleischer/Famous Studios from 1941 to 1943 and featured the famous "It's a bird, it's a plane" introduction.

With the rise of television in the 1960s, superheroes have found success in animated television series geared towards children, including Filmation's Superman-Batman Adventure Hour and Grantray-Lawrence Animation's Spider-Man, featuring the "does whatever a spider can" theme song.

In the 1970s, Japanese anime strove to emulate American superhero cartoons with their own creations. The most successful was *Kagaku ninja tai Gatchaman* (*Science Ninja Team Gatchaman*) which became a television classic that created a template that many other anime series followed.

In the 1970s and 1980s American superhero animated series were constrained by the broadcasting restrictions that activist groups like Action for Children's Television lobbied for. The most popular series in this period, Super Friends, an adaptation of DC's Justice League of America, was designed to be as nonviolent and inoffensive as possible. The Plastic Man Comedy/Adventure Show and Spider-Man and His Amazing Friends were similarly tame. Kagaku ninja tai Gatchaman aired in North America as the Battle of the Planets but it was so severely edited for violence that plots were incoherent although it still won many fans for its distinctive take on the genre.

Starting with Batman: The Animated Series, which debuted on the Fox Network in 1992, superhero animated series gained a new maturity and respect for the comic books on which they were based. This continued with Fox's X-Men, and Spider-Man and the original series Gargoyles, which, like *Batman* were geared towards older audiences but accessible to kids.

The widely successful *Batman: the Animated Series* also had a significant influence on American animation. The show featured simple graphics but lavish animation, a style that was replicated in the sequels The New Batman Adventures and Batman Beyond and the spinoffs, Static Shock and Superman: The Animated Series and Cartoon Network's successful adaptations of DC's Justice League and Teen Titans.

Animal superheroes

In addition to the human superheroes found in comic books, animated superhero series have often featured comedic anthropomorphic animal superheroes. These series combine two timeless niches in children's television: superheroes and funny animals. The first such series was the Superman-inspired Mighty Mouse, which was the flagship series of the Terrytoons company in the 1940s. Underdog, ThunderCats and Biker Mice from Mars are

popular examples from later decades, while Teenage Mutant Ninja Turtles combined martial arts cliches and conventions with the more sci fi, fantastical, and outrageous elements of superhero stories. Currently, the most popular such series in production is Krypto the Superdog which features Superman's dog as well as Streaky the Supercat and Ace The Bathound, all more cartoony versions of original characters from the DC Universe

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Supervillains

A **supervillain** is a variant of the villain character type, commonly found in comic books, action movies and science fiction in various mediums. Supervillains concoct complex and ambitious schemes to accumulate power and suppress adversaries. They often have colorful names and costumes and/or other eccentricities. Female supervillains are sometimes known as **supervillainesses**.

Supervillains are often used as foils to superheroes and other fictional heroes. Their extraordinary brainpower and/or superhuman abilities make them viable antagonists for the most gifted heroes.

Many supervillains share typical characteristics of real world dictators, mobsters, and terrorists.

Common Traits

While supervillains vary greatly, there are a number of attributes that define the character. Most supervillains have at least a few of the following traits:

- A desire to commit spectacular crimes and/or rule the world—or in some cases an entire universe—through whatever means necessary.
- A generally irritable and spiteful disposition and contempt for heroes, ordinary civilians, lackeys, and anyone else who may get in their way.
- A sadistic nature and tendency to revel in their sociopathic behavior and/or supposed intellectual superiority
- An enemy or group of enemies that he or she repeatedly fights.
- A desire for revenge against said enemies. The method of revenge often goes beyond simply killing them to making them suffer before death, such as using deathtraps.
- A brilliant scientific mind that he or she chooses to use for evil (see also mad scientist and evil genius).
- Superhuman abilities or special skills, similar to those of superheroes. Frequently, these skills are gained through selfish meddling with science as opposed to the "natural" or "accidental" gifts possessed by superheroes. Compare the origins of the Green Goblin or Doctor Octopus to their nemesis Spider-Man.
- A dark and threatening-looking headquarters or lair, the location of which is usually kept secret from police, superheroes and the general public. Examples include Magneto’s headquarters Asteroid M and The Legion of Doom’s Hall of

Doom. However, some supervillains who feel secure from prosecution live and work in palatial buildings, such as Doctor Doom's castles in his country of Latveria and the office buildings and research facilities of the Green Goblin's alter ego Norman Osborne. Others are mobile and do not have one particular base of operations.

- A theme by which he or she plots his crimes. For example, The Riddler plots his crimes around riddles, puzzles and word games and Mysterio plots his around movie special effects.
- Although super villain "team-ups" occasionally occur and some supervillain teams exist, such as the Brotherhood of Mutants and Sinister Six, most supervillains do not collaborate with one another but employ a team of simple-minded and expendable henchmen to assist them. Some supervillains, such as Darth Vader and Cobra Commander, control entire armies.
- Due to a cowardly nature or physical inequality to their foes, some supervillains manipulate events from behind the scenes. These include Lex Luthor, a physical weakling compared to Superman, and Ernst Stavro Blofeld of the James Bond novel and film series.
- A strong commitment to their criminal profession to the point where they will quickly resume their activities in their favorite area immediately after escaping prison or recovering from serious injury.
- A refusal to accept responsibility for personal mistakes and setbacks in favor of blaming their enemies
- A back story or origin story that explains how the character transformed from an ordinary person into a supervillain. The story usually involves some great tragedy that marked the change. In the case of many supervillains, including Two-Face, Magneto, Doctor Doom, and some versions of Lex Luthor, this story involves a one-time friendship with their future foe.

Personality Types

Red Skull, Lex Luthor, Professor Moriarty, and many others are portrayed as outright evil and power-hungry. Few writers attempt to portray them with any redeeming qualities. This approach was common in the Golden Age of Comic Books, but subsequent writers prefer more complex villains. Marvel Comics writer/editor Stan Lee often says it is more important that fans sympathize with villains than heroes.
Darth Vader, Venom, Zen-Aku, and the Green Goblin, have fallen under some corrupting influence. In some cases, such as the ending of Star Wars: Return of the Jedi, the character overcomes his or her manipulator and is able to somewhat redeem himself.
Sabretooth, Typhoid Mary, The Joker and most other Batman villains are criminally insane and incapable of controlling their murderous urges.
Sandman, Electro and Blob are simply thugs with superhuman abilities. They often work as henchmen of more ambitious and intelligent supervillains.
Man-Bat, The Lizard and Sauron undergo werewolf-like transformations into animalistic creatures that cannot control their savagery.

Mr. Mxyzptlk, Impossible Man and Q, are tricksters who torment heroes for their own pleasure.
Skeletor, Davros, Lord Zedd and Brainiac are extraterrestrials and their behavior is either common or encouraged on their home planets.
A few characters deemed supervillains actually have goals that could be considered noble but pursue them in extreme ways. The best-known example is the X-Men's enemy Magneto, a Holocaust survivor who seeks to end the human oppression of mutants, but uses war and terrorism to accomplish his goals. John Sunlight, featured in Doc Savage pulp magazines, Syndrome of the movie The Incredibles, and Ozymandias of the comic book series Watchmen have large-scale utopian goals but are resort to destructive measures to implement them.
Japanese anime and tokusatsu series often feature noble villains, similar to the type described above. This type shows a sort of respect for his or her foe. As a common plot device, they, or one of their comrades or kin, owe a debt to the hero and work to repay it. However, when the debt is paid, the villain continues with his or her crimes.
A few supervillains, such as Galactus personify forces of nature and cannot be judged by simple standards of morality.

In the Modern Age of Comic Books, heroes and villains have generally become less morally absolute. While many superheroes were portrayed as psychologically complex and morally fallible, if not questionable, villains have also become more multifaceted. Psychological impulses and personal tragedy were often explored as motivations behind their behavior. During this time, many villains were "redeemed" and, either permanently or provisionally, became anti-heroes. Examples include Magneto, Elektra, Venom, Sandman, Catwoman, Emma Frost, Juggernaut and Mystique

Supervillains as Foils

Many supervillains are portrayed as an inversion of their foe. For example, Wolverine constantly tries to contain his animalistic urges, while Sabretooth fully embraces his. Batman is a humorless character with a foreboding appearance, while The Joker is a comical character with a colorful appearance. The Incredible Hulk is the raging, reckless alter ego of a brilliant scientist while The Leader is the intelligent, conniving alter ego of a person of average intellect and both were transformed by gamma radiation.

Occasionally, this contrast is more direct. Bizarro is an alternate reality version of Superman from a "Bizaro World" in which everything is an inversion of its DC Universe counterpart (In the current DC Comics continuity, however, he is a flawed clone of Superman.) Like Captain Marvel, Black Adam was once a protégé of the wizard Shazam, but used his powers for evil and has returned to challenge Marvel, wearing a costume that parodies his.

These contrasts help build-up the mythic grandeur of superhero and villain relationships and allow the villain to serve as a foil for the hero.

Origins

By most definitions, the first supervillain was Professor Moriarty, the arch enemy of Arthur Conan Doyle's detective Sherlock Holmes, introduced in 1891. Dr. Fu Manchu, the

antagonist of several popular novels of Sax Rohmer, is credited with popularizing many of the typical characteristics of the modern supervillain, including his sadistic personality, his desire for world domination, and his use of sinister lairs and themed crimes and henchmen. Rohmer's work had a strong influence on Ian Fleming, whose James Bond novels and their film adaptations further popularized the image of the supervillain in popular culture.

The first supervillain who wore a bizarre costume was the Lightning, from the 1938 film *Fighting Devil Dogs*, which preceded the first superhero, Superman.

The first supervillain to regularly battle a Superhero was Ultra-Humanite, who first appeared in Action Comics #13 (1939).

Well-known supervillains

Cobra Commander, mysterious leader of the terrorist Cobra Organization in various G.I. Joe-related comic books and animated series.

Darkseid, ruler of the Hellish planet of Apokolips and galactic conqueror, enemy of the New Gods and the DC Comics superhero community in general.

Darth Vader, Black-cloaked Sith Lord in the original trilogy of Star Wars films, adversary of Luke Skywalker and the Jedi Knights.

Davros, physically crippled but scientifically ingenious alien adversary of the Doctor; creator of the Daleks and sometimes their leader.

Doctor Doom, mad scientist, wizard, and dictator of the fictional country of Latveria, arch-enemy of the Fantastic Four and adversary of the Marvel Comics superhero community in general.

Doctor Octopus, mad scientist with four tentacle-like metal arms, adversary of Spider-Man.

Ernst Stavro Blofeld, international terrorist leader and arch-enemy of James Bond during the early years of the film series.

Fu Manchu, the prototype of the modern supervillain, antagonist of several novels by Sax Rohmer.

Green Goblin, millionaire-by-day/costumed-madman-by-night, arch-enemy of Spider-Man.

The Joker, clown-impersonating psychopath with a warped sense of humor, arch-enemy of Batman.

Khan Noonien Singh, genetically engineered superhuman with plans for multi-world domination, adversary to the original Star Trek crew.

The Kingpin, supremely powerful New York mafia boss, adversary of Daredevil and the Marvel Comics superhero community in general.

Lex Luthor, in early incarnations, a cold-hearted mad scientist; in later, a billionaire industrialist and white collar criminal, arch-enemy of Superman.

Loki, trickster god and arch-enemy of Thor in both Marvel Comics and Norse mythology.

Magneto, mutant leader with the ability to control magnetism, protector of his people at all costs, arch-enemy of the X-Men.

Megatron, leader of the evil robot group the Decepticons from the Transformers animated series.

Ming the Merciless, interplanetary despot, adversary of Flash Gordon.

The Penguin, self-styled “gentleman of crime,” adversary of Batman.

Palpatine, former Galactic Senator and Chancellor-turned-Sith lord and galactic emperor in

the Star Wars film series.
Professor Moriarty, criminal genius and adversary of Sherlock Holmes, arguably the first supervillain. Holmes described him as “the Napoleon of crime.”
The Riddler, question mark-clad criminal with an obsessive compulsive to forewarn police and heroes of his crimes with complex riddles and word games, enemy of Batman.
The Shredder, leader of the ninja crime gang the Foot Clan and arch-enemy of the Teenage Mutant Ninja Turtles.
Skeletor, other-dimensional conqueror and arch-enemy of He-Man.
Venom, A half-man, half-alien symbiote with a desire for revenge and a frequent Spider-Man adversary.

Well-known parodies of supervillains

Because the supervillain is such a common but distinct character type in modern fiction, several parodies have been created. Some of the best-known include:

Mr. Burns, crotchety power plant owner on The Simpsons, takes on the role of supervillain in various episodes, as when he builds a device to block out the sun which causes Waylon Smithers to remark: "He's gone from regular villainy to cartoonish super-villainy!" At least one episode featured a shot of Mr. Burns with the Darth Vader theme playing. Mr Burns also bears a likeness of the Evil Emperor Palpatine, another villains in the Star Wars saga.
Stewie Griffin, diabolically ingenious, talking baby of the TV series Family Guy. In earlier episodes attempted to control the weather to rid the world of broccoli, and his biggest aspiration is to kill his mother, Lois. Latter episodes have portrayed him as merely inconsiderate, prematurely grumpy and possibly gay.

Dr. Evil, bumbling criminal mastermind and adversary of Austin Powers in a series of spy film spoofs.
The Brain, from the cartoon series Animaniacs and one of the titular stars of the spin-off show, Pinky and the Brain, is a diminutive lab mouse bent on global conquest.
Syndrome, hyperactive and schizophrenic evil genius and superhero-wannabe from the computer animated film The Incredibles, and arch-enemy of the Incredible Family.
O'Malley, the main villain and common adversary of both sides in the second and third seasons of the machinima series Red vs Blue, is an over-the-top supervillain caricature. He frequently uses clichés and ridiculous dialogue such as "You foolish fools will never defeat me! You're far too busy being foolish!", or "Prepare for an oblivion, for which there is no preparation!", usually accompanied by extreme close-ups of his helmet visor, and followed by evil laughter. He also has a penchant for plans that are unlikely to succeed, such as an effort to conquer the universe with a weather control machine (it was pointed out in a deleted scene on the Red vs Blue Season 3 DVD that it wouldn't help him fight anything in space.)
Professor Chaos, the recurring alter ego of Butters, a fourth grader on the animated series South Park, seeks to spread fear and chaos as revenge upon the world that has forsaken him (made him socially unpopular), but has a problem with scale. Exploits include switching people's soup at a restaurant, attempting to destroy the ozone layer by spraying regular aerosol cans and flooding the planet by leaving the backyard hose on. Once suffered an

existential crisis prompted by the fact that all of his plans had previously been done on The Simpsons.

Dark Helmet, and the Spaceballs. A parody of Darth Vader with a new and creative twist: underneath his massive helmet is a short man wearing a tie.

Casanova Frankenstein is the villain in the 1999 movie Mystery Men. He employed several gangs of themed henchmen including the "Disco Boys." His goal was to destroy Champion City with a doomsday machine.

Other uses

- Linux users occasionally use the term "Supervillain" as a comical self-reference, inspired by the Switch to Linux cartoon by Chris Hill. The cartoon features a character named Steve, who describes how Linux helps him become a Supervillain.

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