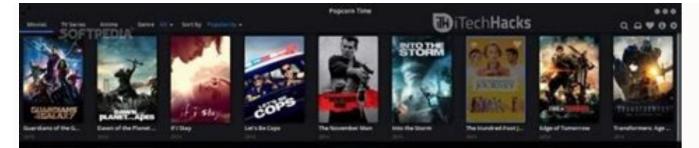
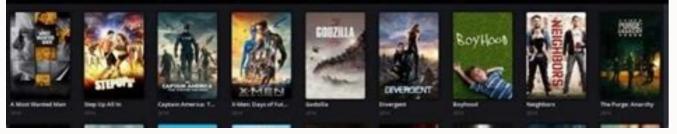
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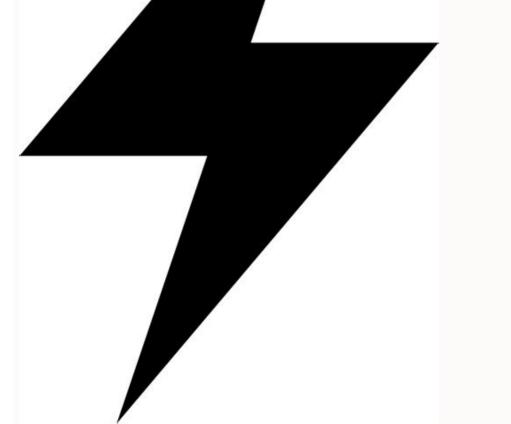
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Sep 24 to Sep 27 Saturday thru Tuesday 4pm, 6pmDir. Eva Vitija - 2022 - 83m - English, German and French with English subtitlesA unique look at the life of celebrated American author Patricia Highsmith based on her diaries and notebooks and the intimate reflections of her lovers, friends and family. Focusing on Highsmith's quest for love and her troubled identity, the film sheds new light on her life and writing. Most of Highsmith's novels were adapted for the big screen; the best known of these are Strangers on a Train and The Talented Mr. Ripley. Carol, a partly autobiographic novel, was the first lesbian story with a happy ending to be published in 1950s America. But Highsmith herself was forced to lead a double life and had to hide her vibrant love affairs from her family and the public. Only in her unpublished writings did she reflect on her private life. Excerpts from these notes voiced by Gwendoline Christie (Game of Thrones, Top of the Lake), beautifully interwoven with archive material of her and her most famous novel adaptions. create a vivid, touching portrait of one of the most fascinating female writers. "Eva Vitija reveals a far lesser known side of the American author... An intense and human world of one of the most fascinating writers in the global literary landscape, a world made up of obsessions, secrets and passion." — Muriel Del Don, CINEUROPA "In centering the writer's sexuality in her lively and captivating documentary "Loving Highsmith's, but to all of queer history. As seen through the eyes of her former lovers (merely a few of many), Highsmith's life is brought sharply into focus, revealing as much about her humanity as her work." - Jude Dry, INDIEWIRE "The real achievement of Loving Highsmith though is the degree of access it provides to the inner life of a famously guarded woman, who described being interviewed as a "profound indignity." "I carry old memories around like a heavy suitcase," she writes. In its fine balance of emotional and intellectual curiosity, and its elegant assembly of a rich archive of home movies, photographs and interviews, this film unpacks those memories with beguiling candor." - David Rooney, THE HOLLYWOOD REPORTERView Trailer Click Poster to View Details & More Showtimes Don't Worry Darling (1:30p) (4:10p) 7:00p Pearl (1:30p) (3:40p) 5:50p 8:00p The Woman King (1:10p) (4:10p) 7:20p Where the Crawdads Sing (1:20p) (3:20p) 7:20p Elvis (4:00p) Top Gun: Maverick (1:40p) (4:40p) 7:40p Ticket Pricing Matinees All shows Noon to 5:30 PM Matinee: 6.00 3D Ticket Surcharge: \$1.00 Evening All shows 5:30 PM and after Adults: \$8.00 Children (11 & under): \$6.00 Seniors (62+): \$7.00 Military (w/ valid ID): \$7.00 Jicket Surcharge: \$1.00 Ticket prices and showtimes are subject to change without notice. Free Movies Cinema lets you watch free online movies categorized in popular genres. You'll find independent and public domain movies is a handful of free TV shows you can stream directly from the website. Action, Comedy, Drama, Horror, and Fantasy are just some of the 15+ different genres available. Some movies are sectioned off in a Short Films category, or you can browse by year, anywhere from the early 1900s to present day. A few of the movies we've seen here include The Fast and the Furious (1955), The OceanMaker, Liquify, The Punisher (1989), Brush With Danger, Edmund the Magnificent, Rio Lobo (1970), Our Planet - High Seas, The Happiest Guy in the World, Tiger King - The Life Exotic. There are plenty of others, too, old and new. If you're not sure what to watch, the Playlists page is a good place to start, as is the 250+ titles called out on the Feature Movies page. The small handful of series are on a single page here. Click Search at the top of the FMC website to see a list of their most popular movies, playlists, and categories. Movie quality ranges from a very low 144p to much better ones like 720p and 1080p. It depends, in part, on how old the movie is, which, unfortunately means you won't have much control over video quality. Films are verified by the original authors or production companies as being freely available for viewing. Many of these are actually movies hosted on YouTube for hosting, some of the movies get removed without getting updated on the Free Movies Cinema site. It's also unclear how often new movies are added since there isn't a way to see recently added films and the site's social media pages and blog are infrequently updated. For some alternative sites, check out Crackle, Vudu, The Roku Channel, Tubi, and Freevee. Those services have a much larger collection, update the selections more often, and usually have fairly high-quality streams. Thanks for letting us know! Get the Latest Tech News Delivered Every Day Subscribe Tell us why! Sequence of images that give the impression of movement, stored on film stock For other uses, see Film (disambiguation). "Motion Picture" redirects here. For the magazine, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. For other uses, see Moving picture", and "Photoplay" redirect here. 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Find sources: "Film" - news · newspapers · books · scholar · JSTOR (June 2019) (Learn how and when to remove this template message) Part of a series on Filmmaking Development Step outline Film treatment Screenplay Film finance Film budgeting Green-light Preproduction Breaking down the script Script breakdown Storyboard Production strip Day Out of Days Production schedule Production schedule Production report Daily production report Daily production report Daily production report Daily call sheet Production schedule Shooting script Film inventory report Daily production report Daily production report Daily production schedule Shooting sched progress report Daily editor log Sound report Cost report Post-production Film release (widelimiteddelayed) Roadshow Related topics Film history Filmography Guerrilla filmmaking Glossary See also Film Film crew Hook Pitch Screenwriting Spec script Film portalvte A film - also called a movie, motion picture, moving picture, picture or photoplay - is a work of visual art that simulates experiences and otherwise communicates ideas, stories, perceptions, feelings, beauty, or atmosphere through the use of moving images. These images are generally accompanied by sound and, more rarely, other sensory stimulations.[1] The word "cinema", short for cinematography, is often used to refer to filmmaking and the film industry, and to the art form that is the result of it. Recording and transmission of film The moving images of a film are created by photographing actual scenes with a motion-picture camera, by photographing drawings or miniature models using traditional animation techniques, by means of CGI and computer animation, or by a combination of some or all of these techniques, and other visual effects. Before the introduction of digital production, series of still images were recorded on a strip of chemically sensitized celluloid (photographic film stock), usually at the rate of 24 frames per second. The images are transmitted through a movie projector at the same rate as they were recorded, with a Geneva drive ensuring that each frame remains still during its short projection time. A rotating shutter causes stroboscopic intervals of darkness, but the viewer does not notice the interruptions due to flicker fusion. The apparent motion on the screen is the result of the fact that the visual sense cannot discern the individual images at high speeds, so the impressions of the images blend with the dark intervals and are thus linked together to produce the illusion of one moving image. An analogous optical soundtrack (a graphic recording of the spoken words, music and other sounds) runs along a portion of the film exclusively reserved for it, and was not projected. Contemporary films are usually fully digital through the entire process of production, distribution, and exhibition. that used to be the actual medium for recording and displaying motion pictures. Many other terms exist for an individual motion-picture, including picture, picture show, moving picture, picture show, moving picture, and flick. The most common term in the United States is movie, while in Europe film is preferred. Archaic terms include "animated pictures" and "animated photography". Common terms for the field in general include the big screen, the movies, and cinema; the last of these is commonly used, as an overarching term, in scholarly texts and critical essays. In early years, the word sheet was sometimes used instead of screen. History of film technology, History of film, and Precursors of film See also: History of animation Precursors The art of film has drawn on several earlier traditions in fields such as oral storytelling, literature, theatre and visual arts. Forms of art and entertainment that had already featured moving and/or projected images include: shadowgraphy, probably used since prehistoric times camera obscura, a natural phenomenon that has possibly been used as an artistic aid since prehistoric times shadow puppetry, possibly originated around 200 BCE in Central Asia, India, Indonesia or China The magic lanterns, developed in the 1650s. The multi-media phantasmagoria shows that utilized magic lanterns were popular from 1790 throughout the first half of the 19th century and could feature mechanical slides, rear projection, mobile projectors, superimposition, dissolving views, live actors, smoke (sometimes to project images upon), odors, sounds and even electric shocks. Before celluloid Animated GIF of Prof. Stampfer's Stroboscopische Scheibe No. X (Trentsensky & Vieweg 1833) The stroboscopic animation principle was introduced in 1833 with the stroboscopic disc (better known as the phénakisticope) and later applied in the zoetrope (since 1866), the flip book (since 1868), and the praxinoscope (since 1877), before it became the basic principle for cinematography. Experiments with early phénakisticope-based animation projectors were made at least as early as 1843 and publicly screened in 1847. Jules Duboscq marketed phénakisticope projection systems in France from circa 1853 until the 1890s. Photography was introduced in 1839, but initially photographic emulsions needed such long exposures that the recording of moving subjects seemed impossible. At least as early as 1844, photographic series of subjects posed in different positions have been created to either suggest a motion sequence or to document a range of different viewing angles. The advent of stereoscopic photography, with early experiments in the 1840s and commercial success since the early 1850s, raised interest in completing the photographic medium with the addition of means to capture colour and motion. In 1849, Joseph Plateau published about the idea to combine his invention of the phénakisticope with the stereoscope, as suggested to him by stereoscope inventor Charles Wheatstone, and to use photographs of plaster sculptures in different positions to be animated in the combined device. In 1852, Jules Duboscq patented such an instrument as the "Stéréoscope-fantascope, ou Bioscope disc with stereoscopic photographs of a machine is in the Plateau collection of the Ghent University, but no instruments or other discs have yet been found. An animation of the retouched Sallie Garner card from The Horse in Motion series (1878-1879) by Muybridge By the late 1850s the first examples of instantaneous photography would soon be possible, but it took a few decades before it was successfully combined with a method to record series of sequential images in real-time. In 1878, Eadweard Muybridge eventually managed to take a series of photographs of a running horse with a battery of cameras in a line along the track and published the results as The Horse in Motion on cabinet cards. Muybridge, as well as Étienne-Jules Marey, Ottomar Anschütz and many others would create many more chronophotography studies. Muybridge had the contours of dozens of his chronophotographic series traced onto glass discs and projected them with his zoopraxiscope in 1887 to project 24 diapositive photographic images on glass disks as moving images, looped as long as deemed interesting for the audience. Pauvre Pierrot (1892) repainted clip Émile Reynaud already mentioned the possibility of projection device at the Société française de photographie on 4 June 1880, but did not market his praxinoscope a projection before 1882. He then further developed the device into the Théâtre Optique which could project longer sequences with separate backgrounds, patented in 1888. He created several movies for the machine by painting images on hundreds of gelatin plates that were mounted into cardboard frames and attached to a cloth band. From 28 October 1892 to March 1900 Reynaud gave over 12,800 shows to a total of over 500,000 visitors at the Musée Grévin in Paris. First motion picture camera, by Louis Le Prince, 1888 By the end of the 1880s, the introduction of lengths of celluloid photographic film and the invention of motion picture cameras, which could photograph a rapid sequence of images using only one lens, allowed action to be captured and stored on a single compact reel of film. Movies were initially shown publicly to one person at a time through "peep show" devices such as the Electrotachyscope Kinetoscope and the Mutoscope. Not much later, exhibitors managed to project films on large screens for theatre audiences. The first public screenings of films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 by the American Woodville Latham and his sons, using films at which admission was charged were made in 1895 b known - French brothers Auguste and Louis Lumière with ten of their own productions.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screenings had preceded these by several months, with Latham's slightly predating the Lumière brothers'.[citation needed] Private screening the Lumière brothers'.[citation needed] Private screening the Lumière brothers'.[citating the Lumière brot narrative film and also an early science fiction film. The earliest films were simply one static shot that showed an event or action with no editing or other cinematic techniques. Typical films showed an event or action with no editing to legend, when a film showed a locomotive at high speed approaching the audience, the audience panicked and ran from the theater. Around the turn of the 20th century, films started stringing several scenes together to tell a story. (The filmmakers who first put several shots or scenes discovered that, when one shot follows another, that act establishes a relationship between the content in the separate shots in the minds of the viewer. It this relationship that makes all film storytelling possible. In a simple example, if a person was seeing.) Each scene was a single stationary shot with the action occurring before it. The scenes were later broken up into multiple shots photographed from different distances and angles. Other techniques such as camera movement were a purely visual art, but these innovative silent films had gained a hold on the public imagination. Rather than leave audiences with only the noise of the projector as an accompaniment, theaters, a full orchestra to play music that fit the mood of the film at any given moment. By the early 1920s, most films came with a prepared list of sheet music to be used for this purpose, and complete film scores were composed for major productions. A clip from the Charlie Chaplin silent film The Bond (1918) The rise of Hollywood, typified most prominently by the innovative work of D. W. Griffith in The Birth of a Nation (1915) and Intolerance (1916). However, in the 1920s, European filmmakers such as Eisenstein, F. W. Murnau and Fritz Lang, in many ways inspired by the meteoric wartime progress of film through Griffith, along with the contributions of Charles Chaplin, Buster Keaton and others, guickly caught up with American film-making and continued to further advance the medium. Sound In the 1920s, the development of electronic sound recording technologies made it practical to incorporate a soundtrack of speech, music and sound effects synchronized with the action on the screen.[citation needed] The resulting sound films were initially distinguished from the usual silent "moving pictures" or "talkies." [citation needed] Color Another major technological development was the introduction of "natural color," which meant color that was photographically recorded from nature rather than added to black-and-white prints by hand-coloring, stencil-coloring, stencil-colo While the advent of sound films quickly made silent films and theater musicians obsolete, color replaced black-and-white much more gradually.[citation needed] The pivotal innovation was the introduction of the three-strip version of the Technicolor process, first used for animated cartoons in 1932, then also for live-action short films and isolated sequences in a few feature films, then for an entire feature film, Becky Sharp, in 1935. The expense of the process was daunting, but favorable public response in the form of increased box office receipts usually justified the added cost. The number of films made in color slowly increased year after year. 1950s: growing influence of television In the early 1950s, the proliferation of black-and-white television started seriously depressing North American theater attendance.[citation needed] In an attempt to lure audiences back into theaters, bigger screens were installed, widescreen processes, polarized 3D projection, and stereophonic sound were introduced, and more films were made in color, which soon became the rule rather than the exception. Some important mainstream Hollywood films were still being made in black-and-white as late as the mid-1960s, but at first, they were very expensive and few broadcasts were in color. During the 1960s, prices gradually came down, color broadcasts became common, and sales boomed. The overwhelming public verdict in favor of color was clear. After the final flurry of black-and-white films had been released in mid-decade, all Hollywood studio productions were filmed in color, with the usual exceptions made only at the insistence

of "star" filmmakers such as Peter Bogdanovich and Martin Scorsese.[citation needed] 1960s and later Salah Zulfikar, one of the most popular actors in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the golden age of Egyptian Cinema The decades following the decline of the studio system in the 1960s saw changes in the studio system in the 1960s saw changes in the studio system in the studio system in the studio system in the 1960s saw changes in the st French New Wave, Indian New Wave, Japanese New Wave, New Hollywood, and Egyptian New Wave) and the rise of film-school-educated independent filmmakers contributed to the changes the medium experienced in the latter half of the 20th century. Digital technology has been the driving force for change throughout the 1990s and into the 2000s. Digital 3D projection largely replaced earlier problem-prone 3D film systems and has become popular in the early 2010s. [citation needed] Film theory This 16 mm spring-wound Bolex "H16" Reflex camera is a popular entry level camera used in film schools. "Film theory This 16 mm spring-wound Bolex "H16" Reflex camera is a popular entry level camera used in film schools." of film as art. The concept of film as an art-form began in 1911 with Ricciotto Canudo's manifest The Birth of the Sixth Art. The Moscow Film School, the oldest film theory, led by Rudolf Arnheim, Béla Balázs, and Siegfried Kracauer, emphasized how film differed from reality and thus could be considered a valid fine art. André Bazin reacted against this theory by arguing that film's artistic essence lay in its ability to mechanically reproduce reality, not in its differences from reality, and this gave rise to realist theory. Ferdinand de Saussure's semiotics among other things has given rise to psychoanalytic film theory, and others. On the other hand, critics from the analytical philosophy tradition, influenced by Wittgenstein, try to clarify misconceptions used in theoretical studies and produce analysis of a film's vocabulary. and its link to a form of life. Language Film is considered to have its own language. James Monaco wrote a classic text on film theory, titled "How to Read a Film," that addresses this. Director Ingmar Bergman famously said, "Andrei Tarkovsky for me is the greatest director, the one who invented a new language, true to the nature of film, as it captures life as a reflection, life as a dream." An example of the language is a sequence of back and forth images of one speaking actor's right profile, then a repetition of this, which is a language understood by the audience to indicate a conversation. This describes another theory of film, the 180 because of back and forth images of one speaking actor's left profile, followed by another speaking actor's left profile, then a repetition of this, which is a language understood by the audience to indicate a conversation. degree rule, as a visual story-telling device with an ability to place a viewer in a context of being psychologically present through the use of visual composition and editing. The "Hollywood style" includes this narrative theory, due to the overwhelming practice of the rule by movie studios based in Hollywood, California, during film's classical era. Another example of cinematic language is having a shot that zooms in on the forehead of an actor with an expression of silent reflection that cuts to a shot of a younger actor who vaguely resembles the first actor, indicating that the first person is remembering a past self, an edit of compositions that causes a time transition. Montage Main article Montage Montage is the technique by which separate pieces of film are selected, edited, and then pieced together to make a new section of film. A scene could show a man going into battle, with flashbacks to his youth and to his home-life and with added special effects, placed into the film after filming is complete. As these were all filmed separately and perhaps with different actors, the final version is called a montage. Directors developed a theory of montage, beginning with Eisenstein and the complex juxtaposition of images in his film Battleship Potemkin.[4] Incorporation of musical and visual counterpoint, and scene development through mise en scene, editing, and effects has led to more complex techniques comparable to those used in opera and ballet. Film criticism Main article: Film criticism If a movie can illuminate the lives of other people who share the same dreams and hurts, then it deserves to be called great. — Roger Ebert (1986)[5] Film criticism is the analysis and evaluation of films. In general, these works can be divided into two categories: academic criticism by film criticism by film criticism by film criticism that appears regularly in newspapers, magazines, and broadcast media mainly review new releases. Normally they only t see any given film once and have only a day or two to formulate their opinions. Despite this, critics have an important impact on the audience response and attendance at films, especially those of certain genres. Mass marketed action, horror, and comedy films tend not to be greatly affected by a critic's overall judgment of a film. The plot summary and description of a film and the assessment of the director's and screenwriters' work that makes up the majority of most film such as most dramas and art films, the influence of reviews is important. Poor reviews from leading critics at major papers and magazines will often reduce audience interest and attendance. The impact of a reviewer on a given film's box office performance is a matter of debate. Some observers claim that movie marketing in the 2000s is so intense, well-coordinated and well financed that reviewers cannot prevent a poorly written or filmed blockbuster from attaining market success. However, the cataclysmic failure of some heavily promoted films which were harshly reviewed, as well as the unexpected success of critically praised independent films indicates that extreme critical reactions can have considerable influence. known films. Conversely, there have been several films in which film companies have so little confidence that they refuse to give reviewers are wise to the tactic and warn the public that the film may not be worth seeing and the films often do poorly as a result. Journalist film critics are sometimes called film reviewers. Critics who take a more academic approaches, study how film and filming techniques work, and what effect they have on people. Rather than having their reviews published in newspapers or appearing on television, their articles are published in scholarly journals or up-market magazines. They also tend to be affiliated with colleges or universities as professors or instructors. Industry World cinema Arab cinema Arab cinema South Asian cinema Southeast Asian cinemaWest Asian cinema European cinema Latin American cinema North American cinema Main article: Film industry Founded in 1912, the Babelsberg Studio near Berlin was the first large-scale film studio in the world, and the forerunner to Hollywood. It still produces global blockbusters every year. The making and showing of motion pictures became a source of profit almost as soon as the process was invented. Upon seeing how successful their new invention, and its product, was in their new invention, and its product, was in their new invention, and its product, was in their new invention. local scenes to their catalogue and, quickly enough, found local entrepreneurs in the various countries of Europe to buy their equipment and photograph, export, import, and screen additional product commercially. The Oberammergau Passion Play of 1898[6] was the first commercial motion picture ever produced. Other pictures soon followed, and motion pictures became a separate industry that overshadowed the vaudeville world. Dedicated theaters and commanded huge fees for their performances. By 1917 Charlie Chaplin had a contract that called for an annual salary of one million dollars. From 1931 to 1956, film was also the only image storage and playback system for television programming until the introduction of videotape recorders. In the United States, much of the film industry is centered around Hollywood, California. Other regional centers exist in many parts of the world, such as Mumbai-centered Bollywood, the Indian film industry's Hindi cinema which
produces the largest number of films in the world.[7] Though the expense involved in making equipment have allowed independent film productions to flourish. Profit is a key force in the industry, due to the costly and risky nature of filmmaking; many films have large cost overruns, an example being Kevin Costner's Waterworld. Yet many filmmakers strive to create works of lasting social significance. The Academy Awards (also known as "the Oscars") are the most prominent film awards in the United States, providing recognition each year to films, based on their artistic merits. There is also a large industry for educational and instructional films made in lieu of or in addition to lectures and texts. Revenue in the industry is sometimes volatile due to the reliance on blockbuster films released in movie theaters. raised questions about the future of the cinema industry, and Hollywood employment has become less reliable, particularly for medium and low-budget films.[8] Associated fields Further information: Film theory, Product placement, and Propaganda Derivative academic fields of study may both interact with and develop independently of filmmaking, as in film theory and analysis. Fields of academic study have been created that are derivative or dependent on the existence of film, such as film criticism, film history, divisions of film propaganda in authoritarian governments, or psychological on subliminal effects (e.g., of a flashing soda can during a screening). These fields may further created that are derivative or dependent on the existence of film, such as film criticism, film history, divisions of film propaganda in authoritarian governments, or psychological on subliminal effects (e.g., of a flashing soda can during a screening). derivative fields, such as a movie review section in a newspaper or a television guide. Sub-industries can spin off from film, such as product placement and other advertising within films. Terminology The terminology used for describing motion pictures varies considerably between British and American English. In British usage, the name of the medium is "film". The word "movie" is understood but seldom used.[9][10] Additionally, "the pictures" (plural) is used semi-frequently to refer to the place where movies are exhibited, while in American English. this may be called "the movies", but it is becoming outdated. In other countries, the place where movies are exhibited may be called a cinema or movie theatre. By contrast, in the United States, "movie" is the predominant form. Although the words "film" and "movie" are sometimes used interchangeably, "film" is more often used when considering artistic, theoretical, or technical aspects. The term "movies" more often refers to entertainment or commercial aspects, as where to go for fun evening on a date. For example, a book titled "How to Understand a Film" would probably be about the history of entertaining movies and blockbusters. Further terminology is used to distinguish various forms and media used in the film industry. "Motion pictures" are frequently used terms for film and movie productions specifically intended for theatrical exhibition, such as, for instance, Star Wars. "DVD" and "videotape" are video formats that can reproduce a photochemical film. A reproduction based on such is called a "transfer." After the advent of theatrical film as an industry, the television industry began using videotape as a recording medium. For many decades, tape was solely an analog medium onto which moving images could be either recorded or transferred "Film" and "filming" refer to the photochemical medium that chemically records a visual image and the act of recording respectively. However, the act of shooting images with other visual media, such as with a digital camera, is still called "filming" and the resulting works often called "films" as interchangeable to "movies," despite not being shot on film. "Silent films" need not be utterly silent, but are films and movies without an audible dialogue, including those that have a musical accompaniment. The word, "Talkies," refers to the earliest sound films created to have audible dialogue recorded for playback along with the film, regardless of a musical accompaniment. "Cinema" either broadly encompasses both films and movies, or it is roughly synonymous with film and theatrical exhibition, and both are capitalized when referring to a category of art. The "silver screen" refers to a larger width to height in the frame, compared to earlier historic aspect ratios.[11] A "feature-length film", or "feature-length film", or "feature films in a ticketed screening.[12] A "short" is a film that is not as long as a feature-length film, often screened with other shorts, or preceding a feature-length film. An "independent" is a film made outside the conventional film industry. In US usage, one talks of a "screening" or "projection" of a movie or video on a screen at a public or private "theater." In British English, a "film showing" happens at a cinema (never a "theatre", which is a different medium and place altogether) [10] A cinema usually refers to an arena designed specifically to exhibit films, where the screen is affixed to a wall, while a theater usually refers to a place where live, non-recorded action or combination thereof occurs from a podium or other type of stage, including the amphitheater. Theaters can still screen movies in them, though the theater would be retrofitted to do so. One might propose "going to the cinema" when referring to the activity, or sometimes "to the pictures" in British English, whereas the US expression is usually "going to the movies." A cinema usually shows a mass-marketed movie using a front-projection screen process with either a film projector or, more recently, with a digital projector. But, cinemas may also show theatrical movies from their home video transfers that include Blu-ray Disc, DVD, and videocassette when they possess sufficient projection quality or based upon need, such as movies that exist only in their transferred state, which may be due to the loss or deterioration of the film master and prints from which the movie originally existed. Due to the advent of digital film production and distribution, physical film might be absent entirely. A "double feature" is a watching of a film. "Sales" and "at the box office" refer to tickets sold at a theater, or more currently, rights sold for individual showings. A "release" is the distribution and often simultaneous screening in advance of the main release. Any film may also have a "sequel", which portrays events following those in the film. Bride of Frankenstein is an early example. When there are more films than one with the same characters, story arcs, or subject themes, these movies become a "series," such as the James Bond series. And, existing outside a specific story timeline usually, does not exclude a film from being part of a series. A film that portrays events occurring earlier in a timeline with those in another film, but is released after that film, is sometimes called a "prequel," an example being Butch and Sundance: The Early Days. The "credits," or "end credits," is a list that gives credit to the people involved in the production of a film. Films from before the 1970s usually start a film with credits, often and equivalent that depends on the language of the production[citation needed]. From then onward, a film's credits usually appear at the end of most films. However, films with credits that end a film often repeat some credits at or near the start of a film only appear there, not at the end, which often happens to the director's credit. The credits appearing at or near the beginning of a film are usually called "titles" or "beginning titles." A post-credit scene is a scene shown after the end of the credits. Ferris Bueller's Day Off has a post-credit scene is a scene shown after the film is over and they should go home. A film's "cast" refers to a collection of the actors and actresses who appear, or "star," in a film. A star is an actor or actress, often a popular one, and in many cases, a celebrity who plays a central character in a film. Occasionally, such as Martin Scorsese. A "crew" is usually interpreted as the people involved in a film's physical construction outside cast participation, and it could include directors, film editors, photographers, grips, gaffers, set decorators, prop masters, and crew, such as Woody Allen, who directed and starred in Take the Money and Run. A "film goer," "movie goer," or "film buff" is a person who likes or often attends films and movies, and any of these, though more often the latter, could also see oneself as a student to films and movies or the filmic process. Intense interest in films, film theory, and film criticism, is known as cinephilia. A film enthusiast is known as a cinephile or cineaste. Preview Main article: Test screening A preview performance refers to a showing of a film to a select audience, usually for the purposes of corporate promotions, before the public film premiere itself. recutting or even refilming certain sections based on the audience response. One example of a film that was changed after a negative response from the test audience responded very negatively to the death of protagonist John Rambo, a Vietnam veteran, at the end of the film, the company wrote and reshot a new ending in which the character survives.[13] Trailer and teaser Main article: Film trailers or previews are advertisements for films that will be shown in 1 to 3 months at a cinema. Back in the early days of cinema, with theaters that had only one or two screens, only certain trailers were shown for the films that were going to be shown there. Later, when theaters added more screens, all different trailers that the more trailers were shown even if they weren't going to be shown in that particular theater) the more patrons would go to a different
theater to see the film when it came out. The term "trailer" comes from their having originally been shown at the end of a film program. That practice did not last long because patrons tended to leave the theater after the films ended, but the name has stuck. begins. Film trailers are also common on DVDs and Blu-ray Discs, as well as on the Internet and mobile devices. Trailers to watch them. Of the ten billion videos watched online annually in 2008, film trailers ranked third, after news and user-created videos.[14] Teasers are a much shorter preview or advertisement that lasts only 10 to 30 seconds. Teasers may be produced even before the film production is completed. The role of film in culture Films are cultural artifacts created by specific cultures, facilitating intercultural dialogue. It is considered to be an important art form that provides entertainment and historical value, often visually documenting a period of time. The visual basis of the medium gives it a universal power of communication, often stretched further through the use of dubbing or subtitles to translate the dialogue. into other languages.[15] Just seeing a location in a film is linked to higher tourism to that location, demonstrating how powerful the suggestive nature of the medium can be.[16] Education and propaganda due its ability to effectively intercultural dialogue. When the purpose is primarily educational, a film is called an "educational film". Examples are recordings of academic lectures and experiments, or a film based on a classic novel. Film may be propaganda, in whole or in part, such as the films made by Leni Riefenstahl in Nazi Germany, US war film trailers during World War II, or artistic films made under Stalin by Sergei Eisenstein. They may also be works of political protest, as in the films of Andrei Tarkovsky. The same film may be considered educational by some, and propaganda by others as the categorization of a film can be subjective. Production Main article Filmmaking At its core, the means to produce a film depend on the content the filmmaker wishes to show, and the apparatus for displaying it: the zoetrope merely requires a series of images on a strip of paper. Film production can, therefore, take as little as one person with a camera, as in Stan Brakhage's 1963 film Mothlight), or thousands of actors, extras, and crew members for a live-action, revision, and distribution. The more involved the production, the more significant each of the steps becomes. In a typical production cycle of a Hollywood style film, these main stages are defined as development, pre-production, post-production, production, the production and distribution. The second year comprises preproduction and production and distribution. The bigger the production, the production, the production and production and production and distribution. more resources it takes, and the more important financing becomes; most feature films are artistic works from the creators' perspective (e.g., film director, cinematographer, screenwriter) and for-profit business entities for the production companies. Crew Main article: Film crew A film crew is a group of people hired by a film company, employed during the "production" or "photography" phase, for the purpose of producing a film or motion picture. Crew is distinguished from cast, who are the actors who appear in front of the camera or provide voices for characters in the film. The crew interacts with but is also distinct from the production staff, consisting of producers, managers, company representatives, their assistants, and those whose primary responsibility falls in pre-production or post-production and crew generally passes through the director and his/her staff of assistants. Medium-to-large crews are generally divided into departments with welldefined hierarchies and standards for interaction and cooperation between the departments. Other than acting, the crew handles everything in the photography phase: props and costumes, shooting, sound, electrics (i.e., lights), sets, and production special effects. Caterers (known in the film industry as "craft services") are usually not considered part of the crew. Technology See also: Cinematic techniques Film stock consists of transparent celluloid, acetate, or polyester base coated with an emulsion containing light-sensitive chemicals. Cellulose nitrate was the first type of film base used to record motion pictures, but due to its flammability was eventually replaced by safer materials. Stock widths and the film format for images on the reel have had a rich history, though most large commercial films are still shot on (and distributed to theaters) as 35 mm prints. Originally moving picture film was shot and projected at various speeds using hand-cranked cameras and projectors; though 1000 frames per minute (162/3 frame/s) is generally cited as a standard silent speed, research indicates most films were shot between 16 frame/s and projected from 18 frame/s on up (often reels included instructions on how fast each scene should be shown).[17] When sound film was introduced in the late 1920s, a constant speed was required for the sound head. 24 frames per second were chosen because it was the slowest (and thus cheapest) speed which allowed for sufficient sound quality.[18] Improvements since the late 19th century include the mechanization of cameras - allowing them to record at a consistent speed, quiet camera design - allowing sound recorded on-set to be usable without requiring large "blimps" to encase the camera, the invention of more sophisticated filmstocks and lenses, allowing directors to film in increasingly dim conditions, and the development of synchronized sound, allowing action. The soundtrack can be recorded at exactly the same speed as its corresponding action. many parts of the soundtrack are usually recorded simultaneously. As a medium, film is not limited to motion pictures, since the technology developed as the basis for photography. It can be used to present a progressive sequence of still images in the form of a slideshow. Film has also been incorporated into multimedia presentations and often has importance as primary historical documentation. However, historic films on cellulose nitrate base have been copied onto modern safety films. Some studios save color films through the use of separation masters: three B&W negatives each exposed through red, green, or blue filters (essentially a reverse of the Technicolor process). Digital methods have also been used to restore films, although their continued obsolescence cycle makes them (as of 2006) a poor choice for long-term preservation. Film preservation of decaying film stock is a matter of concern to both film historians and archivists and to companies interested in preserving their existing products in order to make them available to future generations (and thereby increase revenue). Preservation is generally a higher concern for nitrate and single-strip color films, due to their high decay rates; black-and-white films on safety bases and color films by some film-makers, especially because footage shot with digital cinema can be evaluated and edited with non-linear editing systems (NLE) without waiting for the film stock to be processed. The migration was gradual, and as of 2005, most major motion pictures were still shot on film.[needs update] Independent Main article: Independent film The Lumière Brothers, who were among the first filmmakers Independent filmmaking often takes place outside Hollywood, or other major studio systems. An independent film (or indie film) is a film initially produced without financing or distribution from a major film studio. Creative, business and technological reasons have all contributed to the growth of the indie film scene in the late 20th and early 21st century. On the business side, the costs of big-budget studio films also lead to conservative choices in cast and crew. There is a trend in Hollywood towards co-financing (over two-thirds of the films put out by Warner Bros. in 2000 were joint ventures, up from 10% in 1987).[19] A hopeful director is almost never given the opportunity to get a job on a big-budget studio film unless he or she has significant industry experience in film or television. Also, the studios rarely produce films with unknown actors, particularly in lead roles. Before the advent of digital alternatives, the cost of professional film equipment and stock was also a hurdle to being able to produce, direct, or star in a traditional studio film. But the advent of consumer camcorders in 1985, and more importantly, the arrival of high-resolution and post-production costs have been significantly lowered; in the 2000s, the hardware and software for post-production can be installed in a commodity-based personal computer. Technologies such as DVDs, FireWire connections and a wide variety of professional and consumer-grade video editing software make film-making relatively affordable. production have become more democratized. Filmmakers can conceivably shoot a film with a digital video camera and edit the film, create and edit the film, create and edit the sound and music, and marketing remain difficult to accomplish outside the traditional system. Most independent filmmakers rely on film festivals to get their films noticed and sold for distribution. The arrival of internet-based video websites such as YouTube and Veoh has further changed the filmmaking landscape, enabling indie filmmakers to make their films available to the public. Open content film Main article: Open content film An open content film, but it is produced through open collaborations; its source material is available under a license which is permissive enough to allow other parties to create fan fiction or derivative works, than a traditional copyright. Like independent filmmaking, open source filmmaking takes place outside Hollywood, or other major studio systems. For
example, the film Balloon was based on the real event during the Cold War. [20] Fan film A fan film is a film or video inspired by a film, television program, comic book or a similar source, created by fans rather than by the source's copyright holders or creators. Fan filmmakers have traditionally been amateurs, but some of the most notable films have actually been produced by professional filmmakers as film school class projects or as demonstration reels. Fan films vary tremendously in length, from short faux-teaser trailers for non-existent motion pictures to rarer full-length motion pictures. Distribution Main articles: Film distribution and Film release Salah Zulfikar and Faten Hamama in the premiere of Bain Al-Atlal ("Among the Ruins") in Cairo, 1959 Film distribution is the process through which a film is made available for viewing by an audience. This is normally the task of a professional film distributor, who would determine the marketing strategy of the film, the media by which a film is to be exhibited or made available for viewing, and may set the release date and other matters. The film may be exhibited or made available for viewing (including on DVD-Video or Blu-ray Disc, video-on-demand, online downloading, television programs through broadcast syndication etc.). Other ways of distributing a film include rental or personal purchase of the film in a variety of media and formats, such as VHS tape or DVD, or Internet downloading or streaming using a computer. Animation Main article: Animation An animated image of a horse, made using eight pictures. Animation is a technique in which each frame of a film is produced individually, whether generated as a computer graphic, or by photographing the result with a special animation camera. When the frames are strung together and the resulting film is viewed at a speed of 16 or more frames per second, there is an illusion of continuous movement (due to the phi phenomenon). Generating such a film is very labor-intensive and tedious, though the development of computer animation has greatly sped up the process. Because animation is very time-consuming and often very expensive to produce, the majority of animation has existed at least since the 1950s, 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 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 in the United States, and by Osamu Tezuka in Japan, and adapted by other studios as cartoons moved from movie theaters to television.[21] Although most animation studios are now using digital technologies in their productions, there is a specific style of animation studios are now using digital technologies in their productions, there is a specific style of animation studios are now using digital technologies in their productions, there is a specific style of animation studios are now using digital technologies in their productions, there is a specific style of animation studios are now using digital technologies in their productions, there is a specific style of animation studios are now using digital technologies in their productions, there is painted and drawn directly onto pieces of film, and then run through a projector. See also Film portal Docufiction (hybrid genre) Filmophile Lost film The Movies, a simulation game about the film industry, taking place at the dawn of cinema Filmmaking t. / a.; and it's related w/Filmography. Its Category: Filmographies (& so on: Culture-related timelines, Film-related lists) Lists Bibliography of film by genre Glossary of motion picture terms Index of film stit of film awards List of film stit of still stit of film stit of still stit of film stit stit of film stit stit of still stit of still still still stit of film still sti Movie Theater of the Future Will Be In Your Mind". Tribeca. Archived from the original on September 5, 2013. ^ "film | Etymology, origin and meaning of film by etymonline". www.etymonline". www.etymonline.com. Archived from the original on 2022-02-01. ^ Streible, Dan (11 April 2008). Fight Pictures: A History of Boxing and Early Cinema. University of California Press. p. 46. ISBN 9780520940581. ^ Nelmes, Jill (2004). 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They have existed in some form since 1915, but had been largely relegated to a niche in the motion picture industry because of the costly hardware and processes required to produce and display a 3D film, and the lack of a standardized format for all segments of the entertainment business. Nonetheless, 3D films were prominently featured in the 1950s in American cinema, and later experienced a worldwide resurgence in the 1980s and 1990s driven by IMAX high-end theaters and Disney-themed venues. 3D films became increasingly successful throughout the 2000s, peaking with the success of 3D presentations of Avatar in December 2009, after which 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certain directors have also taken more experimental approaches to 3D films again decreased in popularity.[1] Certai Language. History This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. (December 2009) (Learn how and when to remove this template message) Before film The basic components of 3D film were introduced separately between 1833 and 1839. Stroboscopic animation was developed by Joseph Plateau in 1832 and published in 1833 in the form of a stroboscopic disc,[2] which he later called the fantascope and became better known as the phénakisticope. Around the very same time (1832/1833), Charles Wheatstone developed the stereoscope, but he didn't really make a stroboscopic disc,[2] which he later called the fantascope and became better known as the phénakisticope. it public before June 1838. The first practical forms of photography were introduced in January 1839 by Louis Daguerre and Henry Fox Talbot. A combination of these elements into animated stereoscopic photography may have been conceived early on, but for decades it did not become possible to capture motion in real-time photographic recordings due to the long exposure times necessary for the light-sensitive emulsions that were used. Charles Wheatstone got inventor Henry Fox Talbot to produce some calotype pairs for the stereoscopic photographs were made before David Brewster introduced his stereoscope with lenses in 1849. Wheatstone also approached Joseph Plateau with the suggested a stop motion technique that would involve a series of photography. In 1849, Plateau published about this concept in an article about several improvements made to his fantascope and suggested a stop motion technique that would involve a series of photography. of purpose-made plaster statuettes in different poses.[3] The idea reached Jules Duboscq added the concept of his "Stéréoscope-fantascope, ou Bioscope" to his stereoscope patent. Production of images proved very difficult, since the photographic sequence had to be carefully constructed from separate still images. The bioscope was no success and the only extant disc, without apparatus, is found in the Joseph Plateau collection of the University of Ghent. The disc contains 12 albumen image pairs of a machine in motion.[4] Most of the other early attempts to create motion pictures also aimed to include the stereoscopic effect. In November 1851, Antoine Claudet claimed to have created a stereoscopic pairs for fournes, but during the next two years, Claudet worked on a camera that would record stereoscopic pairs for fournes also aimed to have created a stereoscopic pairs for fournes. different poses (patented in 1853).[6] Claudet found that the stereoscopic effect didn't work properly in this device, but believed the illusion of motion was successful.[7] Johann Nepomuk Czermak published an article about his Stereophoroskop. His first idea to create animated images in 3D involved sticking pins in a stroboscopic disc in a sequence that would show the pin moving further into the cardboard and back. He also designed a device that would feed the image pairs from two stroboscopic discs into one lenticular stereoscope and a vertical predecessor of the zoetrope.[8] On 27 February 1860 Peter Hubert Desvignes received British patent no. 537 for 28 monocular and stereoscopic variations of cylindrical stroboscopic devices. This included a version that used an endless band of pictures running between two spools that was intermittently lit by an electric spark.[9] Desvignes' Mimoscope, received an Honourable Mention "for ingenuity of construction" at the 1862 International Exhibition in London.[10] It could "exhibit drawings, models, single or stereoscopic photographs, so as to animate animal movements, or that of machinery, showing various other illusions."[11] Desvignes "employed models, insects and other objects, instead of pictures, with both eyes, of the opposite pictures.[12] In 1861 American engineer Coleman Sellers II received US patent No. 35,317 for the kinematoscope, a device that exhibited "stereoscopic pictures as to make them represent objects in motion". In his application he stated: "This has frequently been done with plane pictures but has never been, with stereoscopic pictures". He used three sets of stereoscopic photographs in a sequence with some duplicates to regulate the flow of a simple repetitive motion, but also described a system for very large series of pictures of complicated motion.[13][14] On 11 August 1877, the Daily Alta newspaper announced a project by Eadward Muybridge and Leland Stanford to produce sequences of photographs of a running horse with 12 stereoscopic cameras. Muybridge had much experience with stereo photography and had already made instantaneous pictures of Stanford's horse Stanford's horse of stanford's horse of stanford's horse of stanford's horse with stereoscopic cameras. cameras. In 1898, Muybridge claimed that he had soon after placed the pictures in two synchronized zoetropes and placed mirrors as in Wheatstone's stereoscope resulting, and of another galloping".[15] Thomas Edison demonstrated his phonograph on 29 November 1877, after previous announcements of the device for recording and replaying sound had been published earlier in the year. An article in Scientific American concluded "It is already possible, by ingenious optical contrivances, to throw stereoscopic photographs of people on screens in full view of an audience. Add the talking phonograph to counterfei their voices and it would be difficult to carry the illusion of real presence much further". Wordsworth Donisthorpe announced in the 24 January 1878 edition of Nature that he would advance that conception: "By combining the phonograph with the kinesigraph I will undertake not only to produce a talking picture of Mr. Gladstone which, with motionless lips and unchanged expression shall positively recite his latest anti-Turkish speech in his own voice and tone. Not only this, but the life size photograph itself shall move and gesticulate precisely as he did when making the speech, the words and gesticulate precisely as he did when making the speech in his own voice and tone. photography magazine, but renamed the device "Kinétiscope" to reflect the viewing purpose rather than the recording option. This was picked up in the United States and discussed in an interview with Edison later in the year.[17] Neither Donisthorpe or Edison's later
moving picture results were stereoscopic. Early patents and tests In the late 1890s, British film pioneer William Friese-Greene filed a patent for a 3D film process. In his patent, two films were projected side by side on screen. The viewer looked through a stereoscope to converge the two images. Because of the obtrusive mechanics behind this method, theatrical use was not practical.[18] Frederic Eugene Ives patented his method. stereo camera rig in 1900. The camera had two lenses coupled together 1+3/4 inches (4.45 centimeters) apart.[19] On June 10, 1915, Edwin S. Porter and William E. Waddell presented tests to an audience at the Astor Theater in New York City.[20] In red-green anaglyph, the audience was presented three reels of tests, which included rural scenes test shots of Marie Doro, a segment of John Mason playing a number of passages from Jim the Penman (a film released by Famous Players-Lasky that year, but not in 3D), Oriental dancers, and a reel of footage of Niagara Falls.[21] However, according to Adolph Zukor in his 1953 autobiography The Public Is Never Wrong: My 50 Years in the Motion Picture Industry, nothing was produced in this process after these tests. 1909-1915: Alabastra and Kinoplastikon By 1909 the German film tycoon Oskar Messter had initially gained much financial success with the Tonbild synchronized sound films of his Biophon system since 1903, but the films were losing money by the end of the decade and Messter would stop Tonbild production in 1913. Producers and exhibitors were looking into new film attractions and invested for instance in colorful imagery. The development of stereoscopic cinema seemed a logical step to lure visitors back into the movie theatres. In 1909, German civil engineer August Engelsmann patented a process that projected filmed performances within a physical decor on an actual stage. Soon after, Messter obtained patents for a very similar process, probably by agreement with Engelsmann, and started marketing it as "Alabastra". filmed against a black background, mostly miming their singing or musical skills or dancing to the circa four-minute pre-recorded phonographs. The film recordings would be projected from below, to appear as circa 30 inch figures on a glass pane in front of a small stage, in a setup very similar to the Pepper's ghost illusion that offered a popular stage in front of a small stage in a setup very similar to the trick technique since the 1860s. The glass pane was not visible to the audience and the projected figures seemed able to move around freely across the stage in their virtual tangible and lifelike appearance. The brightness of the figures was necessary to avoid see-through spots and made them resemble alabaster sculptures. To adapt to this appearance, several films featured Pierrot or other white clowns, while some films were probably hand-coloured. Although Alabastra was well received by the press, Messter produced few titles, hardly promoted them and abandoned it altogether a few years later. He believed the system to be uneconomical due to its need for special theatres instead of the widely available movie screens, and he didn't like that it seemed only suitable for stage productions and not for "natural" films. Nonetheless, there were numerous imitators in Germany and Messter and Engelsmann still teamed with American swindler Frank J. Goldsoll set up a short-lived variant named "Fantomo" in 1914.[22] Rather in agreement with Messter or not, Karl Juhasz and Franz Haushofer opened a Kinoplastikon theatre in Vienna in 1911. Their patented system was very similar to Alabaster, but projected life-size figures from the wings of the stage. With much higher ticket prices than standard cinema, it was targeted at middle-class audiences to fill the gap between low brow films and high-class theatre. Audiences reacted enthusiastically and by 1913 there reportedly were 250 theatres outside Austria, in France, Italy, United Kinoplastikon in Paris started in January 1914 and the premiere in New York took place in the Hippodrome in March 1915. In 1913, Walter R. Booth directed 10 films for the U.K. Kinoplastikon, presumably in collaboration with Cecil Hepworth. Theodore Brown, the licensee in the U.K. also patented a variant with front and exploitation was probably in collaboration with Cecil Hepworth. haltered by World War I. Alabastra and Kinoplastikon were often advertised as stereoscopic, the shows seemed truly three-dimensional as the figures were clearly separate from the background and virtually appeared inside the real, three-dimensional stage area without any visible screen. Eventually, longer (multi-reel) films with story arcs proved to be the way out of the crisis in the movie market and supplanted the previously popular short films. stereoscopic film and other novel techniques were relatively cumbersome to combine with multiple reels and were abandoned for a while. Early systems of stereoscopic filmmaking (pre-1952) Fairall in 1922 Fairall's 3D camera Audience wearing special glasses watch a 3D "stereoscopic filmmaking (pre-1952) Fairall in 1922 Fairall's 3D camera Audience wearing special glasses watch a 3D "stereoscopic filmmaking (pre Festival of Britain 1951. The earliest confirmed 3D film shown to an out-of-house audience was The Power of Love, which premiered at the Ambassador Hotel Theater in Los Angeles on 27 September 1922.[23][24][25] The camera rig was a product of the film's producer, Harry K. Fairall, and cinematographer Robert F. Elder.[18] It was filmed dualstrip in black and white, and single strip color anaglyphic release prints were produced using a color film invented and patented by Harry K. Fairall. A single projector could be used to display the movie but anaglyph glasses were used for viewing. The camera system and special color release print film all received U.S Patent No. 1,784,515 on Dec 9, 1930.[26][27] After a preview for exhibitors and press in New York City, the film dropped out of sight, apparently not booked by exhibitors, and is now considered lost. Early in December 1922, William Van Doren Kelley, inventor of the Prizma color system, cashed in on the growing interest in 3D films started by Fairall's demonstration and shot footage with a camera system of his own design. Kelley then struck a deal with Samuel "Roxy" Rothafel to premiere the first in his series of "Plasticon" shorts entitled Movies of the Future at the Rivoli Theater in New York City. Also in December 1922, Laurens Hammond (later inventor of the Hammond organ) premiered his Teleview system, which had been shown to the trade and press in October. Teleview was the first alternating-frame 3D system seen by the public. Using left-eve and right-eve prints and two interlocked projectors, left and right-frames were alternately projected, each pair being shown three times to suppress flicker. Viewing devices attached to the armrests of the theater seats had rotary shutters that operated synchronously with the projector shutters, producing a clean and clear stereoscopic result. The only theater known to have installed Teleview was the Selwyn Theater in New York City, and only one show was ever presented with it: a group of short films, an exhibition of live 3D shadows, and M.A.R.S., the only Teleview feature. The show ran for several weeks, apparently doing good business as a novelty (M.A.R.S. itself got poor reviews), but Teleview was never seen again.[28] In 1922, Frederic Eugene Ives and Jacob Leventhal began releasing their first stereoscopic shorts made over a three-year period. The first film, entitled Plastigrams, was distributed nationally by Educational Pictures in the red-and-blue anaglyph format. Ives and Leventhal then went on to produce the following stereoscopic shorts in the "Stereoscopic shorts in the red-and-blue anaglyph format. Ives and Leventhal then went on to produce the following stereoscopic shorts in the "Stereoscopic shorts in the shorts in the "Stereoscopic shorts in the shorts in the "Stereoscopic shorts in the "Stereoscopic shorts in the shorts in th was re-released in the De Forest Phonofilm sound-on-film system.[30] The late 1920s to early 1930s saw little interest in stereoscopic pictures. In Paris, Louis Lumiere shot footage with his stereoscopic camera in September 1933. The following March he exhibited a remake of his 1895 short film L'Arrivée du Train, this time in anaglyphic 3D, at a meeting of the French Academy of Science.[31] In 1936, Leventhal and John Norling were hired based on their test footage to film MGM's Audioscopiks series. The prints were by Technicolor in the red-and-green anaglyph format, and were narrated by Pete Smith. The first film, Audioscopiks, premiered January 11, 1936, and The New Audioscopiks premiered January 15, 1938. Audioscopiks was nominated for the Academy Award in the category Best Short Subject, Novelty in 1936. With the success of the two Audioscopiks films, MGM produced one more short was shot with a studio-built camera rig. Prints were by Technicolor in red-and-blue anaglyph. The short is notable for being one of the few live-action appearances of the Frankenstein Monster as conceived by Jack Pierce for Universal Studios outside of their company. While many of these films were printed by color systems, none of them was actually in color, and the use of the color printing was only to achieve an anaglyph effect.[32] Introduction of Polaroid While attending Harvard University, Edwin H. Land conceived the idea of reducing glare by polarizing sheet.[33] In 1932, he introduced Polaroid J Sheet as a commercial product.[34] While his original intention was to create a filter for reducing glare from car headlights, Land did not underestimate the utility of his newly dubbed Polaroid filters in stereoscopic presentations. In January 1936, Land gave the first demonstration of Polaroid filters in conjunction with 3D photography at the Waldorf-Astoria Hotel.[35][citation needed]
The reaction was enthusiastic, and he followed it up with an installation at the New York Museum of Science.[citation needed] It is unknown what film was run for audiences at this exhibition. Using Polaroid filters meant an entirely new form of projection, however. Two prints, each carrying either the right or left eye view, had to be synced up in projection using an external selsyn motor. Furthermore, polarized light would be largely depolarized by a matte white screen, and only a silver screen or screen made of other reflective material would correctly reflect the separate images. Later that year, the feature, Nozze Vagabonde appeared in Italy, followed in Germany by Zum Greifen nah (You Can Nearly Touch It), and again in 1939 with Germany's Sechs Mädel rollen ins Wochenend (Six Girls Drive Into the Weekend). The Italian film was made with the Gualtierotti camera; the two German productions with the Zeiss camera and the Vierling shooting system. All of these films were the first exhibited using Polaroid filters. The Zeiss Company in Germany manufactured glasses on a commercial basis commencing in 1936; they were also independently made around the same time in Germany by E. Käsemann and by J. Mahler.[36] In 1939, John Norling shot In Tune With Tomorrow, the first commercial 3D film using Polaroid in the US[citation needed]. This short premiered at the 1939 New York World's Fair and was created specifically for the Chrysler Motors Pavilion. In it, a full 1939 Chrysler Plymouth is magically put together, set to music. Originally in black and white, the film was so popular that it was re-shot in color for the following year at the fair, under the title New Dimensions. [citation needed] In 1953, it was reissued by RKO as Motor Rhythm. Another early short that utilized the Polaroid 3D process was 1940's Magic Movies: Thrills For You produced by John Norling, it was filmed by Jacob Leventhal using his own rig. It consisted of shots of various views that could be seen from the Pennsylvania Railroad's trains. In the 1940s, World War II prioritized military applications of stereoscopic photography and it once again went on the back burner in most producers' minds. 1952 with the release of the first color stereoscopic feature, Bwana Devil, produced, written and directed by Arch Oboler. The film was shot in "Natural Vision", a process that was co-created and controlled by M. L. Gunzberg, who built the rig with his brother, Julian, and two other associates, shopped it without success to various studios before Oboler used it for this feature, which went into production with the title, The Lions of Gulu.[37] The critically panned film was nevertheless highly successful with audiences due to the novelty of 3D, which increased Hollywood interest in 3D during a period that had seen declining box-office admissions.[38] As with practically all of the features made during this boom, Bwana Devil was projected dual-strip, with Polaroid filters. During the 1950s, the familiar disposable anaglyph glasses made of cardboard were mainly used for comic books, two shorts by exploitation specialist Dan Sonney, and three shorts produced by Lippert Productions. However, even the Lippert shorts were available in the dual-strip format alternatively. Because the features utilized two projectors, the capacity limit of film being loaded onto each projector (about 6,000 feet (1,800 m), or an hour's worth of film) meant that an intermission was necessary for every feature-length film. Quite often, intermission points were written into the script at a major plot point. During Christmas of 1952, producer Sol Lesser quickly premiered the dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[39] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[30] Lesser acquired the rights to five dual-strip showcase called Stereo Techniques in Chicago.[3 other three films were produced in Britain for Festival of Britain in 1951 by Raymond Spottiswoode. These were A Solid Explanation, Royal River, and The Black Swan. James Mage was also an early pioneer in the 3D craze. Using his 16 mm 3D Bolex system, he premiered his Triorama program on February 10, 1953, with his four shorts: Sunday In Stereo, Indian Summer, American Life, and This is Bolex Stereo. [40] This show is considered lost. Another early 3D film during the boom was the Lippert Productions short, A Day in the Country, narrated by Joe Besser and composed mostly of test footage. Unlike all of the other Lippert shorts, which were available in both dual-strip and anaglyph, this production was released in anaglyph only. April 1953 saw two groundbreaking features in 3D: Columbia's Man in the Dark and Warner Bros. House of Wax, outside of Cinerama, was the first 3D feature with stereophonic sound. It was also the film that typecast Vincent Price as a horror star as well as the "King of 3-D" after he became the actor to star in the most 3D features (the others were The Mad Magician, Dangerous Mission, and Son of Sinbad). The success of these two films proved that major studios now had a method of getting filmgoers back into theaters and away from television sets, which were causing a steady decline in attendance. The Walt Disney's other shown at Disneyland's Fantasyland Theater in 1957 as part of a program with Disney's other short Working for Peanuts, entitled, 3-D Jamboree. The show was hosted by the Mousketeers and was in color. Universal-International released their first 3D feature on May 27, 1953, It Came from Outer Space, with stereophonic sound. Following that was Paramount's first feature, Sangaree with Fernando Lamas and Arlene Dahl. Columbia released several 3D westerns produced by Sam Katzman and directed by William Castle. Castle would later specialize in various technical in-theater gimmicks for such Columbia also produced the only slapstick comedies conceived for 3D. The Three Stooges starred in Spooks and Pardon My Backfire; dialect comic Harry Mimmo starred in Down the Hatch. Producer Jules White was optimistic about the possibilities of 3D as applied to slapstick (with pies and other projectiles aimed at the audience), but only two of his stereoscopic shorts were shown in 3D. Down the Hatch was released as a conventional, "flat" motion picture. (Columbia has since printed Down the Hatch in 3D for film festivals.) John Ireland, Joanne Dru and Macdonald Carey starred in the Jack Broder color production costs with the film was directed by Ireland, who sued Broder for his salary. film.[citation needed] Another famous entry in the golden era of 3D was the 3 Dimensional Pictures production of Robot Monster. The film was allegedly scribed in an hour by screenwriter Wyott Ordung and filmed in a period of two weeks on a shoestring budget.[citation needed] Despite these shortcomings and the fact that the crew had no previous experience with the newly built camera rig, luck was on the cinematographer's side, as many find the 3D photography in the film is well shot and aligned. Robot Monster also has a notable score by then up-and-coming composer Elmer Bernstein. The film was released June 24, 1953, and went out with the short Stardust in Your Eyes, which starred nightclub comedian, Slick Slavin.[citation needed] 20th Century Fox produced their only 3D feature, Inferno in 1953, starring Rhonda Fleming. Fleming, who also starred in Sangaree, Phantom of the Rue Morgue and Drums of Tahiti. Darryl F. Zanuck expressed little interest in stereoscopic systems, and at that point was preparing to premiere the new widescreen film system, CinemaScope. The first decline in the theatrical 3D craze started in August and September 1953. The factors causing this decline were: Two prints had to be projected simultaneously.[citation needed] The prints had to remain exactly alike after repair, or synchronization would be lost.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation
needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working properly.[citation needed] It sometimes required two projectionists to keep sync working projectionists to keep sync w accounted for headaches and eyestrain.[citation needed] The necessary silver projection screen was very directional and caused sideline seating to be unusable with both 3D and regular films, due to the angular darkening of these screens. Later films that opened in wider-seated venues often premiered flat for that reason (such as Kiss Me Kate at the Radio City Music Hall).[citation needed] A mandatory intermission was needed to properly prepare the theater's projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the showing of the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation needed] Because projectors for the second half of the film.[citation n "hard on the eyes."[citation needed] Sol Lesser attempted to follow up Stereo Techniques with a new showcase, this time five shorts that he himself produced.[citation needed] Unfortunately, because of financial difficulties and the general loss of interest in 3D, Lesser canceled the project during the summer of 1953, making it the first 3D film to be aborted in production.[citation needed] Two of the three shorts were shot: Carmenesque, a burlesque number starring exotic dancer Lili St. Cyr, and Fun in the Sun, a sports short directed by famed set designer/director William Cameron Menzies, who also directed the 3D feature The Maze for Allied Artists. Although it was more expensive to install, the major competing realism process was wide-screen, but two-dimensional, anamorphic, first utilized by Fox with CinemaScope and its September premiere in The Robe. Cinerama was also a competitor from the start and had better quality control than 3D because it was owned by one company that focused on quality control. However, most of the 3D features past the summer of 1953 were released in the flat widescreen formats ranging from 1.66:1 to 1.85:1. In early studio advertisements and articles about widescreen and 3D formats, widescreen systems were referred to as "3D", causing some confusion among scholars.[citation needed] There was no single instance of combining CinemaScope with 3D until 1960, with a film called September Storm, and even then, that was a blow-up from a non-anamorphic negative.[citation needed] September Storm also went out with the last dual-strip short, Space Attack, which was actually shot in 1954 under the title The Adventures of Sam Space. In December 1953, 3D made a comeback with the release of several important 3D films, including MGM's musical Kiss Me, Kate. Kate was the hill over which 3D had to pass to survive. MGM tested it in six theaters: three in 3D and three-flat.[citation needed] According to trade ads of the time, the 3D version was so well-received that the film quickly went into a wide stereoscopic release.[citation needed] However, most publications, including Kenneth Macgowan's classic film reference book Behind the Screen, state that the film did much better as a "regular" release. The film, adapted from the popular Cole Porter Broadway musical, starred the MGM songbird team of Howard Keel and Kathryn Grayson as the leads, supported by Ann Miller, Keenan Wynn, Bobby Van, James Whitmore, Kurt Kasznar and Tommy Rall. The film also prominently promoted its use of stereophonic sound. Several other features that helped put 3D back on the map that month were the John Wayne feature Hondo (distributed by Warner Bros.), Columbia's Miss Sadie Thompson with Rita Hayworth, and Paramount's Money From Home with Dean Martin and Jerry Lewis.

Space with Popeye the Sailor. Paramount Pictures released a 3D Korean War film Cease Fire filmed on actual Korean locations in 1953.[41] Top Banana, based on the popular stage musical with Phil Silvers, was brought to the screen with the original cast. Although it was merely a filmed stage production, the idea was that every audience member would feel they would have the best seat in the house through color photography and 3D.[citation needed] Although the film was shot and edited in 3D, United Artists, the distributor, felt the production was uneconomical in stereoscopic form and released the film flat on January 27, 1954.[citation needed] It remains one of two "Golden era" 3D features, along with another United Artists feature, Southwest Passage (with John Ireland and Joanne Dru), that are currently considered lost (although flat versions survive). A string of successful films filmed in 3D followed the second wave, but many were widely or exclusively shown flat. Some highlights are: The French Line, starring Jane Russell and Gilbert Roland, a Howard Hughes/RKO production. The film became notorious for being released without an MPAA seal of approval after several suggestive lyrics were included, as well as one of Ms. Russell's particularly revealing costumes.[citation needed] Playing up her sex appeal, one tagline for the film was, "It'll knock both of your eyes out!" The film was later cut and approved by the MPAA for a general flat release, despite having a wide and profitable 3D release. [citation needed] Taza, Son of Cochise, a sequel to 1950s Broken Arrow, which starred Rock Hudson in the title role, Barbara Rush as the love interest, and Rex Reason (billed as Bart Roberts) as his renegade brother Originally released flat through Universal-International. It was directed by the great stylist Douglas Sirk, and his striking visual sense made the film a huge success when it was "re-premiered" in 3D in 2006 at the Second 3D Expo in Hollywood. Two ape films: Phantom of the Rue Morgue, featuring Karl Malden and Patricia Medina, produced by Warner Bros. and based on Edgar Allan Poe's "The Murders in the Rue Morgue", and Gorilla at Large, a Panoramic Production starring Richard Carlson and Julie Adams, directed by Jack Arnold. Although arguably the most famous 3D film, it was typically seen in 3D only in large urban theaters and shown flat in the many smaller neighborhood theaters.[42] It was the only 3D feature that spawned a 3D sequel, Revenge of the Creature, which was in turn followed by The Creature Walks Among Us, shot flat. Dial M for Murder, directed by Alfred Hitchcock and starring Ray Milland, Robert Cummings, and Grace Kelly, is considered by aficionados of 3D to be one of the best examples of the process. Although available in 3D in 1954, there are no known playdates in 3D/2D release policy. The film's screening in 3D in February 1980 at the York Theater in San Francisco did so well that Warner Bros. re-released the film in 3D in February 1982. The film is now available on 3D Blu-ray, marking the first time it was released on home video in its 3D presentation. Gog, the last episode in Ivan Tors' Office of Scientific Investigation (OSI) trilogy dealing with realistic science fiction (following The Magnetic Monster and Riders to the Stars). Most theaters showed it flat. The Diamond (released in the United States as The Diamond Wizard), a 1954 British crime film starring Dennis O'Keefe. The only stereoscopic feature shot in Britain, released flat in both the UK and US. Irwin Allen's Dangerous Mission released by RKO in 1954 featuring Allen's trademarks of an all-star cast facing a disaster (a forest fire). Bosley Crowther's New York Times review mentions that it was shown flat. Son of Sinbad, another RKO/Howard Hughes ran into difficulty with The French Line, and was not released until 1955, at which time it went out flat, converted to the SuperScope process. 3D's final decline was in the late spring of 1954, for the same reasons as the previous lull, as well as the further success of widescreen formats with theater operators. Even though Polaroid had created a well-designed "Tell-Tale Filter Kit" for the purpose of recognizing and adjusting out of sync and phase 3D,[citation needed] exhibitors still felt uncomfortable with the system and turned their focus instead to processes such as CinemaScope. The last 3D feature to be released in that format during the "Golden era" was Revenge of the Creature, on February 23, 1955. Ironically, the film had a wide release in 3D and was well received at the box office.[43] Revival (1960-1984) in single strip format Stereoscopic films largely remained dormant for the first part of the 1960s, with those that were released usually being anaglyph exploitation films. One film of notoriety was the Beaver-Champion/Warner Bros. production, The Mask (1961). The film was shot in 2-D, but to enhance the bizarre qualities of the dream-world that is induced when the main character puts on a cursed tribal mask, these scenes were printed by Technicolor on their first run in red/green anaglyph 3D. These scenes were printed by Technicolor on their first run in red/green anaglyph. who had started the craze of the 1950s. Using a new technology called Space-Vision 3D. The origin of "Space-Vision 3D" goes back to Colonel Robert Vincent Bernier, a forgotten innovator in the history of stereoscopic motion pictures. His Trioptiscope Space-Vision 3D" goes back to Colonel Robert Vincent Bernier, a forgotten innovator in the history of stereoscopic motion pictures. years.[44] "Space-Vision 3D" stereoscopic films were printed with a special lens. This so-called "over and under" technique eliminated the need for dual projector fitted with a special lens. This so-called "over and under" technique eliminated the need for dual projector fitted with a special lens. polarized 3D images. Unlike earlier dual system, it could stay in perfect synchronization, unless improperly spliced in repair. Arch Oboler once again had the vision for the system that no one else would touch, and put it to use on his film entitled The Bubble, which starred Michael Cole, Deborah Walley, and Johnny Desmond. As with Bwana Devil, the critics panned The Bubble, but audiences flocked to see it, and it became financially sound enough to promote the use of the system to other studios, particularly independents, who did not have the money for expensive dual-strip prints of their productions. In 1970, Stereovision, a new entity founded by director/inventor Allan Silliphant and optical designer Chris Condon, developed a different 35 mm single-strip format, which printed two images squeezed side by side and used an anamorphic lens to widen the softcore sex comedy The Stewardesses (self-rated X, but later re-rated R by the MPAA). The film cost US\$100,000 to produce, and ran for months in several markets.[citation needed] eventually earning \$27 million in North America, alone (\$140 million in North America, alone (\$140 million in constant-2010 dollars) in fewer than 800 theaters, becoming the most profitable 3-Dimensional film to date, and in purely relative terms, one of the most profitable films ever. It was later released in 70 mm 3D. Some 36 films worldwide were made with Stereovision over 25 years, using either a widescreen (above-below), anamorphic (side by side) or 70 mm 3D formats.[citation needed] In 2009 The Stewardesses was remastered by Chris Condon and director Ed Meyer, releasing it in XpanD 3D, RealD Cinema and Dolby 3D. The quality of the 1970s 3D films was not much more inventive, as many were either softcore and even hardcore adult films, horror films, or a combination of both. Paul Morrisey's Flesh For Frankenstein) was a superlative example of such a combination. Between 1981 and 1983 there was a new Hollywood 3D craze started by the spaghetti western Comin' at Ya!. When Parasite was released it was billed as the first horror film to come out in 3D in over 20 years. Horror films and reissues of 1950s 3D classics (such as Hitchcock's Dial M for Murder) dominated the 3D releases that followed. The second sequel in the Friday the 13th Part III, was released it was billed as the first horror films and reissues of 1950s 3D classics (such as Hitchcock's Dial M for Murder) dominated the 3D releases that followed. very successfully. Apparently saying "part 3 in 3D" was considered too cumbersome so it was shortened in the titles of Jaws 3-D and Amityville 3-D, which emphasized the screen effects to the point of being annoying at times, especially when flashlights were shone into the eyes of the audience. The science fiction film Spacehunter: Adventures in the Forbidden Zone was the most expensive 3D film made up to that point with production costs about the same as Star Wars but not nearly the same box office success, causing the craze to fade quickly through spring 1983. Other sci-fi/fantasy films were released as well including Metalstorm: The Destruction of Jared-Syn and Treasure of the Four Crowns, which was widely criticized for poor editing and plot holes, but did feature some truly spectacular closeups. 3D releases after the second craze included The Man Who Wasn't There (1983), Silent Madness and the 1985 animated film Starchaser: The Legend of Orin, whose plot seemed to borrow heavily from Star Wars. Only Comin' At Ya! Parasite, and Friday the 13th Part III have been officially released on VHS and/or DVD in 3D in the United States (although Amityville 3D has seen a 3D DVD release in the United Kingdom). Most of the 1980s 3D films and some of the classic 1950s films such as House of Wax were released on the now defunct Video Disc (VHD) format in Japan as part of a system that used shutter glasses. Most of these have been unofficially transferred to DVD and are available on the grey market through sites such as My Dear Kuttichathan, a Malayalam film which was shot with stereoscopic 3D and released in 1984.
Rebirth of 3D (1985-2003) In the mid-1980s, IMAX began production films for its nascent 3D business, starting with We Are Born of Stars (Roman Kroitor, 1985). A key point was that this production, as with all subsequent IMAX productions, emphasized mathematical correctness of the 3D rendition and thus largely eliminated the eye fatigue and pain that resulted from the approximate geometries of previous 3D incarnations. In addition, and in contrast to previous 35mm-based 3D presentations, the very large field of view provided by IMAX allowed a much broader 3D "stage", arguably as important in 3D film as it is theatre. The Walt Disney Company also began more prominent use of 3D films in special venues to impress audiences with Magic Journeys (1982) and Captain EO (Francis Ford Coppola, 1986, starring Michael Jackson) being notable examples. In the same year, the National Film Board of Canada production Transitions (Colin Low), created for Expo 86 in Vancouver, was the first IMAX presentation using polarized glasses. Echoes of the Sun (Roman Kroitor, 1990) was the first IMAX film to be presented using alternate-eye shutterglass technology. From 1990 onward, numerous films were produced by all three parties to satisfy the demands of their various high-profile special attractions and IMAX's expanding 3D network. Films of special note during this period include the extremely successful Into the Deep (Graeme Ferguson, 1995) and the first IMAX 3D fiction film Wings of Courage (1996), by director Jean-Jacques Annaud, about the pilot Henri Guillaumet. Other stereoscopic films produced in this period include: The Last Buffalo (Stephen Low, 1990) Jim Henson's Muppet*Vision 3D (Jim Henson, 1991) Imagine (John Weiley, 1993) Honey, I Shrunk the Audience (Daniel Rustuccio, 1994) Into the Deep (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1991) Imagine (John Weiley, 1993) Honey, I Shrunk the Audience (Daniel Rustuccio, 1994) Into the Deep (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995) Wings of Courage (Jean-Jacques Annaud, 1996) L5, First City in Space (Graeme Ferguson, 1995) Across the Sea of Time (Stephen Low, 1995 1996) T2 3-D: Battle Across Time (James Cameron, 1996) Paint Misbehavin (Roman Kroitor and Peter Stephenson, 1997) IMAX Nutcracker (1997) T-Rex: Back to the Cretaceous (Brett Leonard, 1998) Mark Twain's America (Stephen Low, 1998) Siegfried & Roy: The Magic Box (Brett Leonard, 1999) Galapagos (A Giddings and David Clark, 1999) Encounter in the Third Dimension (Ben Stassen, 1999) Alien Adventure (Ben Stassen, 1999) Ultimate G's (2000) Cyberworld (Hugh Murray, 2000) Circue du Soleil: Journey of Man (Keith Melton, 2002) SOS Planet (Ben Stassen, 2002) Ocean Wonderland (2003) Falling in Love Again (Munro Ferguson, 2003) Misadventures in 3D (Ben Stassen, 2003) By 2004, 54% of IMAX theaters (133 of 248) were capable of showing 3D films.[45] Shortly thereafter, higher quality computer animation, competition from DVDs and other media, digital projection, digital video capture, and the use of sophisticated IMAX 70mm film projectors, created an opportunity for another wave of 3D films. [46][47] Mainstream resurgence (2003-present) In 2003, Ghosts of the Abyss by James Cameron was released as the first full-length 3D IMAX feature filmed with the Reality Camera System. This camera system used the latest HD video cameras, not film, and was built for Cameron by Vince Pace, to his specifications. The same camera system was used to film Spy Kids 3-D: Game Over (2003), Aliens of the Deep IMAX (2005), and The Adventures of Sharkboy and Lavagirl in 3-D (2005). In 2004, Las Vegas Hilton released Star Trek: The Experience which included two films. One of the films, Borg Invasion 4-D (Ty Granoroli), was in 3D. In August of the same year, rap group Insane Clown Posse released their ninth studio album Hell's Pit. One of two versions of the film Hidden Universe 3D with IMAX camera.[49] In November 2004, The Polar Express was released as IMAX's first full-length, animated 3D feature. It was released in 3,584 theaters was about 25% of the total. The 3D version earned about 14 times as much per screen as the 2D version. This pattern continued and prompted a greatly intensified interest in 3D and 3D presentation of animated films. In June 2005, the Mann's Chinese 6 theatre in Hollywood became the first commercial film theatre to be equipped with the Digital 3D format. Both Singin' in the Rain and The Polar Express were tested in the Digital 3D format over the course of several months. In November 2005, Walt Disney Studio Entertainment released Chicken Little in digital 3D format. The Butler's in Love, a short film directed by David Arguette and starring Elizabeth Berkley and Thomas Jane[50] was released on June 23, 2008. The film was shot at the former Industrial Light & Magic studios using KernerFX's prototype Kernercam stereoscopic camera rig. Ben Walters suggested in 2009 that both filmmakers and film exhibitors regain interest in 3D format. One incentive is that the technology is more mature. Shooting in 3D format is less limited, and the result is more stable Another incentive was the fact that while 2D ticket sales were in an overall state of decline, revenues from 3D tickets continued to grow at the time [51] Through the entire history of 3D presentations, techniques to convert existing 2D images for 3D presentation have existed. Few have been effective or survived. The combination of digital and digitized source material with relatively cost-effective digital post-processing has spawned a new wave of conversion products. In June 2006, IMAX and Warner Bros. release his Star Wars films in cluding 20 minutes of 3D images converted from the 2D original digital footage. 3D based on a conversion process from the company In-Three. Later on in 2011, it was announced that Lucas was working with the company Prime Focus on this conversion. [52] In late 2005, Steven Spielberg told the press he was involved in patenting a 3D cinema system that did not need glasses, based on plasma screens. A computer splits each film-frame, and then projects the two split images onto the screen at differing angles, to be picked up by tiny angled ridges on the screen.[citation needed] Animated films Open Season, and The Ant Bully, were released in analog 3D in 2006. Monster House and The Nightmare Before Christmas were released on XpanD 3D, RealD and Dolby 3D systems in 2006. On May 19, 2007 Scar3D opened at the Cannes Film Market. It was the first US-produced 3D full-length feature film to be completed in Real D 3D. It has been the #1 film at the box office in several countries around the world, including Russia where it opened in 3D on 295 screens. On January 19, 2008, U2 3D was released; it was the first live-action digital 3D film. In the same year others 3D films included Hannah Montana & Miley Cyrus: Best of Both Worlds Concert, Journey to the Center of the Earth, and Bolt. On January 16, 2009, Lionsgate released to 1,033 3D screens, the most ever for this format, and 1,501 regular screens. It was the first of its series to be released in HD 3D. Major 3D films in 2009 included Coraline, Monsters vs. Aliens, Up, X Games 3D: The Movie, The Final Destination, Disney's A Christmas Carol, and Avatar.[54] Avatar has gone on to be one of the most expensive films, and many others released around the time and up to the present, are Real D 3D, Dolby 3D, XpanD 3D, MasterImage 3D and IMAX 3D. March and April 2010 saw three major 3D releases clustered together, with Alice in Wonderland hitting US theaters on March 5, 2010, And Clash of the Titans on April 2, 2010. On May 13 of the same year, China's first IMAX 3D film started shooting. The pre-production of the first 3D film started shooting. shot in France, Derrière les murs, began in May 2010 and was released in mid-2011. On October 1, 2010 Scar3D was the first-ever stereoscopic 3D Video-on-demand film released in the United States on May 21, 2010, Shrek Forever After by DreamWorks Animation (Paramount Pictures) used the Real D 3D system, also released in IMAX 3D. World 3-D Expositions In September 2003, Sabucat Productions organized the first World 3-D Exposition, celebrating the 50th anniversary of the original craze. The Expo was held at Grauman's Egyptian Theatre. During the two-week festival, over 30 of the 50 "golden era" stereoscopic features (as well as shorts) were screened, many coming from the collection of film historian and archivist Robert Furmanek, who had spent the previous 15 years painstakingly tracking down and preserving each film to its original glory. In attendance were many stars from each film, respectively, and some were moved to tears by the sold-out seating with audiences of film buffs from all over the world 3-D Exposition was announced for September of that year, presented by the 3-D Film Preservation Fund. Along with the favorites of the previous exposition was announced for September of that year, presented by the 3-D Film Preservation Fund. like the previous Expo, guests from each film. Expo II was announced as being the locale for the world premiere of several films never before seen in 3D,
including The Diamond Wizard and the Universal short, Hawaiian Nights with Mamie Van Doren and Pinky Lee. Other "re-premieres" of films not seen since their original release in stereoscopic form included Cease Fire!, Taza, Son of Cochise, Wings of the Hawk, and Those Redheads From Seattle. Also shown were the long-lost shorts (1922 and 1923). Audience decline In the wake of its initial popularity and corresponding increase in the number of screens, more films are being released in the 3D format. For instance, only 45% of the premiere weekend box office earnings of Kung Fu Panda 2 came from 3D screenings of Kung Fu Panda 2 came from 3D theatres.[56] Harry Potter and the Deathly Hallows - Part 2 and Captain America: The First Avenger were major releases that achieved similar percentages: 43% and 40% respectively.[57] In view of this trend, there has been box office analysis concluding the implementation of 3D presentation is apparently backfiring by discouraging people from going to film theatres at all. As Brandon Gray of Box Office Mojo notes, "In each case, 3D's more-money-from-fewer-people approach has simply led to less money from even fewer-people." [58] Parallel, the number of televisions sold with support for 3D television has dropped, let alone those sold with actual 3D goggles. According to the Motion Picture Association of America, despite a record total of 47 3D films being released in 2011, the overall domestic box office receipts were down 18% to \$1.8 billion from \$2.2 billion in 2010.[59] Although revenues as a whole increased during 2012, the bulk has so far come from 2D presentations as exemplified by little over 50% of filmgoers opting to see the likes of Theorem Avengers and 32% choosing Brave in their 3D versions. Conflicting reasons are respectively offered by studios and exhibitors: whereas the former blame more expensive 3D ticket prices, the latter argue that the quality of films in general is at fault. However, despite the perceived decline of 3D in the U.S. market, studio chiefs are optimistic of better receipts internationally, where there still appears to be a strong appetite for the format.[60][61] Studios are also using 3D to generate additional income from films that are already commercially successful. Such re-releases usually involve a conversion from 2D. For example, Disney has reissued both The Lion King and Beauty and the Beast, with plans to add some of its other well-known titles.[62] Titanic has also been modified for 3D,[63] and there are also plans to similarly present all six Star Wars films.[64] Jeffrey Katzenberg, a producer of 3D films and one of the leading proponents of the format, blames oversaturation of the market with inferior films, especially ones photographed conventionally and then digitally processed in post-production. He claims that such films have led audiences to conclude that the format is not worth the often much higher ticket price.[65] Daniel Engber, a columnist for Slate, comes to a similar conclusion: "What happened to 3-D? It may have died from a case of acute septicemia—too much crap in the system."[66] Film critic Mark Kermode, a noted detractor of 3D, has surmised that there is an emerging policy of distributors to limit the availability of 2D versions, thus "railroading" the 3D format into cinemas whether the paying filmgoer likes it or not. This was especially prevalent during the release of Prometheus in 2012, where only 30% of a surmised that there is an emerging policy of distributors to limit the availability of 2D versions, thus "railroading" the 3D format into cinemas whether the paying filmgoer likes it or not. prints for theatrical exhibition (at least in the UK) were in 2D.[67] His suspicions were later reinforced by a substantial number of complaints about Dredd from those who wished to see it in 2D but were denied the opportunity.[68] In July 2017, IMAX announced that they will begin to focus on screening more Hollywood tentpole movies in 2D (even if there's a 3D version) and have fewer 3D screenings of movies in North America, citing that moviegoers in North America prefer 2D films over 3D films.[69] Techniques Further information: Stereoscopic motion pictures can be produced through a variety of different methods. Over the years the popularity of systems being widely employed in film theaters has waxed and waned. Though anaglyph was sometimes used prior to 1948, during the early "Golden Era" of 3D cinematography of the 1950s the polarization 3D systems have continued to dominate the scene, though during the 1960s and 1970s some classic films which were converted to anaglyph for theaters not equipped for polarization, and were made with short segments in anaglyph 3D. The following are some of the technical details and methodologies employed in some of the more notable 3D film systems that have been developed. Producing 3D films Live action films in 3D involves using two cameras mounted so that their lenses are about as far apart from each other as the average pair of human eyes, recording two separate images for both the left eye and the right eye. In principle, two normal 2D cameras could be put side-to-side but this is problematic in many ways. The only real option is to invest in new stereoscopic cameras. Moreover, some cinematographic tricks that are simple with a 2D camera become impossible when filming in 3D This means those otherwise cheap tricks need to be replaced by expensive CGI.[72] In 2008, Journey to the Center of the Earth became the first live-action feature film to be shot with the earliest Fusion Camera System released in Digital 3D and was later followed by several others. Avatar (2009) was shot in a 3D process that is based on how the human eye looks at an image. It was an improvement to the existing 3D camera system. Many 3D camera side by side, while newer rigs are paired with a beam splitter or both camera side by side, while newer rigs are paired with a beam splitter or both camera side by side. most of what is photographed. Film options include IMAX 3D and Cine 160. Animation In the 1930s and 1940s Fleischer Studio made several cartoons. In the early to mid-1950s, only half of the major Animation film studios operation experimented with creating traditional 3D animated short subjects. Walt Disney Studio produced two traditional animation short for stereoscopic 3D, for cinemas. Adventures in Music: Melody (1953), and the Donald Duck cartoon Working for Peanuts (1953). Warner Brothers only produced a single cartoon in 3D: Lumber Jack-Rabbit (1953) starring Bugs Bunny. Famous Studio produced two cartoons in 3D, the Popeye cartoon Popeye, the Ace of Space (1953), and the Casper the Friendly Ghost cartoon Hypnotic Hick (1953), which was distributed by Universal. From the late 1950s until the mid-2000s almost no The Polar Express was the first stereoscopic 3D computer-animated feature film. The 3D version was solely release in Imax theaters. In November 2005, Walt Disney's first CGI-animated film in 3D. The film was converted from 2D into 3D in post production. nWave Pictures' Fly Me to the Moon (2008) was actually the first animated film created for 3D and released exclusively in 3D in digital theaters around the world. No other animation, Monsters vs Aliens, followed in 2009 and used a new digital rendering process called InTru3D, which was developed by Intel to create more realistic animated 3D images. InTru3D is not used to exhibit 3D films in theaters; they are shown in either RealD 3D or IMAX 3D. 2D to 3D conversion Main article: 2D to 3D conversion In the case of 2D CGI animated films that were generated from 3D models, it is possible to return to the models. to generate a 3D version. For all other 2D films, different techniques must be employed. For example, for the 3D re-release of the 1993 film The Nightmare Before Christmas, Walt Disney Pictures scanned each original frame and manipulated them to produce left-eye and right-eye versions. Dozens of films have now been converted from 2D to 3D. There are several approaches used for 2D to 3D conversion, most notably depth-based methods.[73] However, conversion to 3D has problems. Information for a perspective view. Some TVs have a 3D engine to convert 2D content to 3D. Usually, on high frame rate content (and on some slower processors) even normal frame rate) the processor is not fast enough and lag is possible. This can lead to strange visual effects. [74] Displaying 3D films Further information: 3D television and 3D Display Anaglyph Main article: Anaglyph 3D The traditional 3D glasses, with modern red and cyan color filters, similar to the red/green and red/blue lenses used to view early anaglyph films. Anaglyph images were the earliest method of presenting theatrical 3D, and the one most commonly associated with stereoscopy by the public at large, mostly because of the ease of their production and exhibition. The first anaglyph film was invented in 1915 by Edwin S Porter. Though the earliest theatrical presentations were originally shown polarized. [75] In an anaglyph, the two images are superimposed in an additive light setting through two filters, one red and one cyan. In a subtractive light setting, the two images are printed in the same complementary colors on white paper. Glasses with colored filters in each eye separate the appropriate images by canceling the filter color out and rendering the complementary colors on white paper. crossed eye stereograms, although the latter types offer bright and accurate color rendering, particularly in the red component, which is muted, or desaturated with even the best color anaglyphs. A compensating technique, commonly known as Anachrome, uses a slightly more transparent cyan filter in the patented glasses associated with the technique. Process reconfigures the typical anaglyph image to have less parallax. An alternative to the usual red and cyan filter system of anaglyph is ColorCode 3-D, a patented
anaglyph is colorCode 3-D, a patented in order to present an anaglyph is colorCode 3-D. ColorCode uses the complementary colors of yellow and dark blue on-screen, and the colors of the glasses' lenses are amber and dark blue. The polarization 3D system has been the standard for theatrical presentations since it was used for Bwana Devil in 1952,[75] though early Imax presentations were done using the eclipse system and in the 1960st and 1970s classic 3D films were sometimes converted to anaglyph for special presentations. The polarization system has better color fidelity and less ghosting than the anaglyph system. In the post-'50s era, anaglyph has been used instead of polarization in feature presentations where only part of the film is in 3D such as in the 3D segment of Freddy's Dead: The Final Nightmare and the 3D segments of Spy Kids 3-D: Game Over. Anaglyph is also used in printed materials and in 3D televisions and other displays only became available from several manufacturers in 2008; these generate polarization on the receiving end Polarization systems cardboard 3D linear polarized glasses from the 1980s similar to those used in the 1950s. Though some were plain white, they often had the name of the theatre and/or graphics from the film Main article: Polarized 3D system To present a stereoscopic motion picture, two images are projected superimposed onto the same screen through different polarizing filters. The viewer wears low-cost glasses which also contain a pair of polarized and blocks the light which is similarly polarized and blocks the light which is similarly polarized and blocks the light polarized differently, each eye sees a different image. This is used to produce a three-dimensional effect by projecting the same scene into both eyes, but depicted from slightly different perspectives. Since no head tracking is involved, the entire audience can view the stereoscopic images at the same time. Resembling sunglasses, RealD circular polarized glasses are now the standard for theatrical releases and theme park attractions. Circular polarization has an advantage over linear polarization, in that the viewer does not need to have their head upright and aligned with the screen for the polarization, in that the viewer does not need to have their head upright and aligned with the screen for the polarization. to go out of alignment with the screen filters causing the image to fade and for each eye to see the opposite frame more easily. For circular polarization, the polarization, the polarization, the polarization, the polarization and for each eye to see the image intended for it, and vice versa, without fading or crosstalk. Nonetheless, 3D cinema films are made to be viewed without head tilt, and any significant head tilt will result in incorrect parallax and prevent binocular fusion. In the case of RealD a circularly polarizing liquid crystal filter which can switch polarity 144 times per second is placed in front of the projector lens. Only one projector is needed, as the left and right eye images are displayed alternately. Sony features a new system called RealD XLS, which shows both circular polarized images simultaneously: A single 4K projector (4096×2160 resolution) displays both 2K images (2048×1080 resolution) on top of each other at the same time, a special lens attachment polarizes and projects the images.[77] Optical attachments can be added to traditional 35mm projectors to adapt them for projecting film in the "over-and-under" format, in which each pair of images is stacked within one frame of film. The two images are projected through different polarizers and superimposed on the screen. This is a very cost-effective way to convert a theater for 3-D as all that is needed are the attachments and a non-depolarizing screen surface, rather than a conversion to digital 3-D projection. Thomson Technicolor currently produces an adapter of this type.[78] A metallic screen is necessary for these systems as reflection from non-metallic surfaces destroys the polarization of the light. Polarized stereoscopic pictures have been around since 1936, when Edwin H. Land first applied it to motion pictures. The so-called "3-D movie craze" in the years 1952 through 1955 was almost entirely offered in theaters using linear polarizing projection and glasses. Only a minute amount of the total 3D films shown in the period used the anaglyph color filter method. Linear polarization was likewise used with consumer level stereo projectors. Polarization was also used during the 3D revival of the 1980s. In the 2000s, computer animation, competition from DVDs and other media, digital projectors, have created an opportunity for a new wave of polarized 3D films. [46][47] All types of polarization will result in a darkening of the displayed image and poorer contrast compared to non-3D images. Light from lamps is normally emitted as a random collection of polarizations, while a polarization filter only passes a fraction of the light. As a result, the screen image is darker. This darkening can be compensated by increasing the brightness of the projector light source. If the initial polarization filter is inserted between the lamp and the image contrast transmitted to the screen is not affected. Active shutter A pair of LCD shutter glasses used to view XpanD 3D films. The thick frames conceal the electronics and batteries. Main article: Active shutter 3D system In this technology, a mechanism is used to block light from each appropriate eye when the converse eye's image is projected on the screen. technology originated with the Eclipse Method, in which the projector alternates between left and right images, and opens and closes the shutters in the glasses or viewer in synchronization with the images on the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the Teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citation needed] This was the basis of the teleview system which was used briefly in 1922.[28][79] A newer implementation of the screen.[citatin needed] This was the basis of televi Eclipse Method came with LCD shutter glasses. Glasses containing liquid crystal that will let light through in synchronization with the images on the cinema, television or computer screen, using the concept of alternate-frame sequencing. This is the method used by nVidia, XpanD 3D, and earlier IMAX systems. A drawback of this method is the need for each person viewing to wear expensive, electronic glasses that must be synchronized with the display system using a wireless signal or attached wire. The shutter-glasses are heavier than most polarized glasses, though lighter models are no heavier than most polarized glasses. [80] However these systems do not require a silver screen for projected images. Liquid crystal light valves work by rotating light between two polarizing filters. Due to these internal polarizers, LCD shutter-glasses darken the display image of any LCD, plasma, or projector image source, which has the result that images appear dimmer and contrast is lower than for normal non-3D viewing. This is not necessarily a usage problem; for some types of displays which are already very bright with poor grayish black levels, LCD shutter glasses may actually improve the image quality. Interference filter technology Main article: Anaglyph 3D § Interference filter systems Dolby 3D uses specific wavelengths of red, green, and blue for the right eye, and different wavelengths of red, green, and blue for the left eye. Glasses which filter out the very specific wavelengths allow the wearer to see a 3D image. This technology eliminates the expensive silver screens required for polarized systems such as RealD, which is the most common 3D display system in theaters. It does, however, require much more expensive glasses than the polarized systems. It is also known as spectral comb filtering or wavelength multiplex visualization The recently introduced Omega 3D/Panavision 3D system also uses this technology, though with a wider spectral comb filtering or wavelength multiplex visualization. bands per eye eliminates the need to color process the image, required by the Dolby system. Evenly dividing the visible spectrum between the eyes gives the viewer a more relaxed "feel" as the light energy and color balance is nearly 50-50. Like the Dolby system, the Omega system can be used with white or silver screens. But it can be used with
either film or digital projectors, unlike the Dolby filters that are only used on a digital system with a color correcting processor provided by Dolby. [81] In June 2012 the Omega 3D/Panavision 3D system was discontinued by DPVO Theatrical, who marketed it on behalf of Panavision, citing "challenging global economic and 3D market conditions". [82] Although DPVO dissolved its business operations, Omega Optical continues promoting and selling 3D systems to non-theatrical markets. Omega Optical's 3D system contains projection filters and 3D glasses. In addition to the passive stereoscopic 3D system, Omega Optical has produced enhanced anaglyph 3D glasses. The Omega's red/cyan anaglyph glasses use complex metal oxide thin film coatings and high quality annealed glass optics. Autostereoscopy In this method, glasses are not necessary to see the stereoscopic image. Lenticular lens and parallax barrier technologies involve imposing two (or more) images on the same sheet, in narrow, alternating strips, and using a screen that either blocks one of the two images' strips (in the case of parallax barriers) or uses equally narrow lenses to bend the strips of image and make it appear to fill the entire image (in the case of lenticular prints). To produce the stereoscopic effect, the person must be positioned so that one eye sees one of the two images and the other sees the other. Both images are projected onto a high-gain, corrugated screen which reflects light at acute angles. In order to see the stereoscopic image, the viewer must sit within a very narrow angle that is nearly perpendicular to the screen, limiting the size of the audience. Lenticular was used for theatrical presentation of numerous shorts in Russia from 1940 to 1948[71] and in 1946 for the feature-length film Robinson Crusoe.[83] Though its use in theatrical presentations has been widely used for a variety of novelty items of numerous shorts in Russia from 1940 to 1948[71] and in 1946 for the feature-length film Robinson Crusoe.[83] Though its use in theatrical presentations has been widely used for a variety of novelty items of numerous shorts in Russia from 1940 to 1948[71] and in 1946 for the feature-length film Robinson Crusoe.[83] Though its use in theatrical presentation of numerous shorts in Russia from 1940 to 1948[71] and in 1946 for the feature-length film Robinson Crusoe.[83] Though its use in the screen, limiting the size of the audience. and has even been used in amateur 3D photography.[84][85] Recent use includes the Fujifilm FinePix Real 3D with an autostereoscopic LCD displays on monitors, notebooks, TVs, mobile phones and gaming devices, such as the Nintendo 3DS. Health effects Main article: Health effects of 3D Some viewers have complained of headaches and eyestrain after watching 3D films. [86] Motion sickness, in addition to other health concerns, [87] are more easily induced by 3D presentations. One published study shows that of those who watch 3D films, nearly 55% experience varying levels of headaches nausea and disorientation.[88] There are two primary effects of 3D film that are unnatural for human vision: crosstalk between the eyes, caused by the difference between an object's perceived position in front of, or behind the screen and the real origin of that light on the screen. It is believed that approximately 12% of people are unable to properly see 3D images, due to a variety of medical conditions.[89][90] According to another experiment up to 30% of people have very weak stereoscopic vision preventing them from depth perception based on stereo disparity. This nullifies or greatly decreases immersion effects of digital stereo to them.[91] It has recently been discovered that each of the rods and cones in animal eyes can measure the distance to the point on the object that is in focus at the particular rod or cone. Each rod or cone can act as a passive LIDAR (Light Detection And Ranging). The lens selects the point on the object that is in focus at the particular rod or cone. for each pixel to which the distance is measured; that is, humans can see in 3D separately with each eye.[92] If the brain uses this ability in addition to the stereoscopic effect and other cues no stereoscopic system can present a true 3D picture to the brain. The French National Research Agency (ANR) has sponsored multidisciplinary research in order to understand the effects of 3D film viewing, its grammar, and its acceptance.[93] Criticism After Toy Story, there were 10 really bad CG movies because everybody thought the success of that film was CG and not great characters that were beautifully designed and heartwarming. Now, you've got people quickly converting movies from 2D to 3D, which is not what we did. They're expecting the same result, when in fact they will probably work against the adoption of 3D because they'll be putting out an inferior product.— Avatar director James Cameron[94] Most of the cues required to provide humans with relative depth information are already present in traditional 2D films. For example closer objects occlude further ones, distant objects are desaturated and hazy relative to near ones, and the brain subconsciously "knows" the distance of many objects when the height is known (e.g. a human figure subtending only a small amount of the screen is more likely to be 2 m tall and far away than 10 cm tall and close). In fact, only two of these depth cues are not already present in 2D films: stereopsis (or parallax) and the focus of the eyeball (accommodation). 3D film-making addresses accurate presentation of stereopsis but not of accommodation). shortcoming were presented at the 2010 Stereoscopic Displays and Applications conference in San Jose, U.S.[95] Film critic Mark Kermode[96] argued that 3D adds "not that much" value to a film, and said that, while he liked Avatar, the many impressive things he saw in the film had nothing to do with 3D. Kermode has been an outspoken critic of 3D film describing the effect as a "nonsense" and recommends using two right or left lenses from the 3D glasses to cut out the "pointy, pointy 3D stereoscopic vision", although this technique still does not improve the huge brightness loss from a 3D film.[97] Versions of these "2-D glasses" are being marketed.[98] As pointed out in the article "Virtual Space - the movies of the future"[99][failed verification] in real life the 3D effect, or stereoscopic vision, depends on the distance between the eyes, which is only about 2+1/2 inches. The depth perception this affords is only noticeable near to the head - at about arms length. It is only useful for such tasks as threading a needle. It follows that in films portraying real life, where nothing is ever shown so close to the camera, the 3D effect is not noticeable and is soon forgotten as the film proceeds. Director Christopher Nolan has criticised the notion that traditional film does not allow depth perception, saying "I think it's a misnomer to call it 3D versus 2D. The whole point of cinematic imagery is it's three dimensional... You know 95% of our depth cues come from occlusion, resolution, color and so forth, so the idea of calling a 2D movie a '2D movie a '2D movie' is a little misleading."[100] Nolan also criticised that shooting on the required digital video does not offer a high enough quality image[101] and that 3D cameras cannot be equipped with prime (nonzoom) lenses.[100] Late film critic Roger Ebert repeatedly criticized 3D film as being "too dim", sometimes distracting or even nausea-inducing, and argued that it is an expensive technology that adds nothing of value to the film-going experience (since 2-D films already provide a sufficient illusion of 3D).[102] While Ebert was "not opposed to 3-D as an option", he opposed it as a replacement for traditional film, and preferred 2-D technologies such as MaxiVision48 that improve image area/resolution and frames per second.[102] Brightness of the picture considerably - the light loss can be as high as 88%. Some of this loss may be compensated by running the projector's bulb at higher power or using more powerful bulbs.[103] The 2D brightness cinema standard is 14 foot-lamberts (48 candela per square metre), as set by the SMPTE standard for 3D brightness. According to the industry de facto standard, however, the "acceptable brightness range" goes as low as 3.5 fL (12 cd/m2) - just 25% of the standard 2D brightness.[104] Among others, Christopher Nolan has criticized the huge brightness loss: "You're not that aware of it because once you're 'in that world,' your eye compensates, but having struggled for years to get theaters up to the proper brightness, we're not sticking polarized filters in everything."[105] In September 2012, the DCI standards body issued a "recommended practice" calling for a 3D projection brightness of 7 fL (24 cd/m2), with an acceptable range of 5-9 fL (17-31 cd/m2).[2] It is not known how many theaters actually achieve such light levels with current technology. Prototype laser projection systems have reached 14 fL (48 cd/m2) for 3D on a cinema screen.[3] Post-conversion Main article: 2D to 3D conversion Another major criticism is that many of the films in the 21st century to date were not filmed in 3D, but converted into 3-D after filming. Filmmakers who have criticized the quality of this process include James Cameron (whose film Avatar was created mostly in 3D from the ground up, with some portions of the film created in 2D,[106] and is largely credited with the revival of 3D) and Michael Bay.[94] However, Cameron has said that quality 2D to 3D conversions can be done if they take the time they need and the director is involved.[107] Cameron's Titanic was converted into 3D in 2012, taking 60 weeks and costing \$18 million. In contrast, computer-animated films for which the original computer models are still available and does not need to be inferred or approximated. This has been done with Toy Story, among
others.[108] See also Film portal Cinematography Digital cinema List of 3D films (1914-2004) List of 3D films (2005-present) 2D to 3D conversion Depth perception Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3D display 3-D Film Preservation Fund Motion capture Stereoscopy 3-D Film Preservation Fund Motion capture Ster RealD 3D Dolby 3D XpanD 3D MasterImage 3D IMAX 3D 4DX References ^ Goldberg, Matt (April 6, 2018). "3D Is Dead (Again)". Collider. ^ "animation | History, Movies, Television, & Facts | Britannica.com. Retrieved April 18, 2022. ^ Belgique, Académie Royale des Sciences, des Lettres et des Beaux-Arts de (1849). 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Popular Science: 97-99. April 1953. Retrieved December 23, 2016. Retrieved from " 33D film with physical effects that occur in the theater This article's tone or style may not reflect the encyclopedic tone used on Wikipedia. Relevant discussion may be found on the talk page. See Wikipedia's guide to writing better articles for suggestions. (April 2022) (Learn how and when to remove this template message) 4D venue complete with motion-enhanced seating and multisensory olfactory technology. 4D film is a high technology presentation system combining motion pictures with physical effects that are synchronized and occur in the theatre. Effects simulated in 4D films include motion, vibration, scent, rain, mist, bubbles, fog, smoke, wind, temperature changes, and strobe lights.[1][2] Advanced seats in 4D venues vibrate and move during these multisensory presentations. Other common effects include air jets and water sprays. Auditorium effects may include smoke, rain, lightning, bubbles, and scent. 4D films are exhibited in every major global market in stadium seating multiplexes and are exhibited via worldwide theatrical releases.[3] In 4D theaters, sitting closer to screens[4] produces a cinematic virtual reality simulator, flight simulator, and flying theatre multisensory immersive experience.[5][6][7] Notable motion-enhanced 4D motion pictures include Top Gun: Maverick, Oppenheimer, Mission: Impossible - Dead Reckoning Part One and Part Two, Avatar: The Way of Water, Jurassic World Dominion, and the Space X project with Tom Cruise and Elon Musk as producers.[8] As Cruise and David Ellison are frequent 4D film collaborators.[9] Multinational mobile 4D theatres include Cinetransformer venues.[10] And as of 2022, 4D films are exhibited in more than 65 countries globally.[11] 4D motion pictures are also exhibited in theme parks.[12] To exhibit 4D films, XR smartglasses and headsets are currently being used. History The precursors of the modern 4D film presentation include Sensurround, and it was supplanted by Dolby Stereo in 1977, which featured extended low frequencies and made subwoofers a common addition to cinema .[13] Other notable efforts at pushing the boundaries of the film viewing experience include Fantasound, the first use of stereo sound, Cinemiracle, and Cinerama, both widescreen formats utilizing multiple projectors. The Sensorium is regarded as the world's first commercial 4D film and was first screened in 1984 at Six Flags Power Plant in Baltimore. It was produced in partnership with Landmark Entertainment.[14] 4DX, D-Box Technology in global stadium seating multiplexes.[15] Canvas 4D Conference Film 21 is the first 4D Sync Technology Liberal Arts and Humanities Conference for 4DX Theatres made by American Entrepreneur, Innovator and Playboy Laxmikanth Dorai, Missouri S&T Alumnus, that Streamed in YouTube and Vimeo (Lift-Off Global Season Awards, Finalist) based in prestigious Pinewood Studios commemorating Festival de Cannes 75 Years, inspired by 4D film Featuring former U.S. President Barack Obama in USA pavilion at Expo 2010 Shanghai World Expo , when Laxmikanth was presentation systems for film theatres. Format Motion Seat Effects Remarks Notes Source 4DX CI 4D Plex Stereoscopic 3D ves motion, vibration, scent/olfactory, water
sprays, wind/air, snow, fog, strobes, lightning, bubbles Cineworld, Cinépolis D-Box D-Box Technologies Stereoscopic 3D ves motion, vibration, scent/olfactory, water sprays, wind/air, snow, fog, strobes, lightning, bubbles Cineworld, Cinépolis D-Box D-B fog, strobes, lightning, bubbles Paramount, Showcase [16] 4D E-Motion Lumma Stereoscopic 3D yes motion, vibration, scent/olfactory, water sprays, air shots, wind, strobes, colour lights, fog, bubbles, Branded as Super 4D in Lotte Cinema installations. Selected filmography Title Year Release venue/Country Notes The Scent of Mystery 1960 Specially outfitted general-release theaters Scent/olfactory The Sensorium 1984 Six Flags Power Plant, Baltimore, MD The first 4D film Captain EO 1986 Epcot, Disneyland, Disneyland Paris and Tokyo Disneyland Closed in the mid-late 1990s and reopened in 2010 as a tribute to the late Michael Jackson. Muppet*Vision 3D 1991 Disneyland, Disneyland, Disneyland Paris and Tokyo Disneyland Sponsored by Kodak, closed in all locations in May 2010 and was replaced with Captain EO. Terminator 2 3D: Battle Across Time 1996 Universal Studios Japan Directed by James Cameron Pirates 4D 1997 SeaWorld Ohio, Busch Gardens Williamsburg, Thorpe Park in the UK, Busch Gardens Tampa Bay Produced by Busch Entertainment, Directed by Keith Melton. The Amazing Adventures of Spider-Man 1999 Islands of Adventure, Universal Studios Japan, Water, smoke, strobe, and vibration. PandaDroom 2002 The Efteling, Netherlands Same film released in other parks without 4D effects SpongeBob SquarePants 4-D 2002, 2006 Six Flags over Texas, Moody Gardens, Shedd Aquarium, Adventure Dome, Six Flags Great Adventure, Movie Park Germany, Adventure Aquarium, Kings Dominion, (formerly at Paramount Parks), Indianapolis Zoo, Carowinds, Camden Aquarium (Camden, NJ), Flamingo Land Theme Park and Zoo and other locations Mickey's PhilharMagic 2003 Magic Kingdom, Hong Kong Disneyland, Tokyo Disneyland, and Disney Park and Zoo and other locations Mickey's PhilharMagic 2003 Magic Kingdom, Hong Kong Disneyland, Tokyo Disneyland, Tokyo Disneyland, and Disney Park and Zoo and other locations Mickey's PhilharMagic 2003 Magic Kingdom, Hong Kong Disneyland, Tokyo Disne Lighthouse[a] 2003 Flamingo Land Theme Park and Zoo Shrek 4-D 2003 Universal Studios Florida, Universal Studios Florida to the Moon 2008 Six Flags over Texas Journey to the Center of the Earth 4-D Adventure 2008 Vibrant 5D, Raipur Stone Mountain Park, Dollywood, Warner Bros. Movie World Fly High: The Legend of Black Man 2017 First Indian 4D Film; directed by Rahul Rathish Kumar Avatar in 4D 2009 South Korea, Hong Kong In 4DX. James Cameron, Director London Eye 4D Experience 2009 London Eye Beyond All Boundaries 2009 WWII Museum, New Orleans Produced by Tom Hanks ENERGIA The Spirit of the Earth 2009 Cité de l'énergie, Shawinigan (Quebec) Spectators are seated on a revolving platform. Features wind, snow, smoke, rain, vibration and lighting effects. Marvel Super Heroes 4D 2010 Madame Tussauds London, Trans Studio Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, & Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[17] Rabid Rider 2010 Cincinnati Zoo Star Tours—The Adventures Continue 2011 Disneyland, Bandung[18] Shalem 2011? Jerusalem Time Elevator, Jerusalem Shalem and smell enhancements, along with a 'light and sound' show highlighting real artifacts. A similar system, 'The Time Mine', has been installed at the Timna Valley park near Eilat, and another at the main hall of the Herzl Museum in Jerusalem. Spy Kids: All the Time in the World 2011 Universal Studios Hollywood, Universal Studios Florida The Bourne Legacy 2012 Multinational In 4DX Despicable Me: Minion Mayhem 2012 Universal Studios Florida, Universal Studio 2012 Flint Hills Discovery Center, Manhattan, Kansas Features wind, snow, smoke, and lightning effects[20] Prometheus 2012 Cinepolis Galerias Guadalajara, Mexico In 4DX. Ridley Scott, Director Titanic 2012 Multinational 4DX re-release,[21] James Cameron, Director The Adventures of Tintin 2011 Nickelodeon Resorts, Paramount Parks, North Carolina Zoo, and Alton Towers 14-minute condensed version of the film. Iron Man 3 2013 Korona World Theatre Nagoya, Japan, [22] Seoul, South Korea Labeled as 4DX featuring strobe lights, tilting seats, blowing wind and fog, and odor effects. 47 Ronin 2014 Multinational In 4DX Interstellar 2014 Multinational In 4DX Interstellar 2014 Multinational In 4DX Interstellar 2014 Multinational In 4DX Fury 201 4DX. Christopher Nolan, Director Rio 2014 San Diego Zoo, Kentucky Kingdom, North Carolina Zoo, Indianapolis Zoo, Cincinnati Zoo 12-minute ride to various Indian temples including Kedarnath, Badrinath, Gangotri, Rameshwaram, and Dwarka produced by Modern Techno Projects Private Ltd. Star Wars: The Force Awakens 2015 Multinational In 4DX. J.J. Abrams, Director Ice Age: No Time for Nuts 4D 2015 United States 4D-remastered version of the 2006 short film of the same name. Rogue One 2016 Multinational In 4DX Batman v Superman: Dawn of Justice 2016 Seoul, Korea and New York City, New York Labeled as 4DX including fog, wind, motion, rain, lightning, vibrations and scents. Pixels 2016 Taguig, Philippines Labeled as 4DX including models, arcade, explosives, and shoots. Mass Effect: New Earth 4D 2016 California's Great America 4+1/2-minute film, 60-foot screen with 4K resolution, live performers, wind, water, leg pokers, neck ticklers, 80-channel surround sound LEGO Nexo Knights 4D: The Book of Creativity[23] 2016 Legoland parks and Legoland Discovery Centre parks worldwide 12+1/2-minute 4D film of LEGO Nexo Knights shown at Legoland, along with The LEGO Movie 4D Produced by Alexander Lentjes[24] for M2Film and Merlin Entertainments Gravity 2018 Multinational 4DX rerelease,[25] Alfonso Cuarón, Director Life of Pi 2018 Multinational 4DX re-release,[26] Ang Lee, Director The Lion Multinational In 4DX, [27] Sam Mendes, Director Life of Pi 2018 Multinational In 4DX. Ang Lee, Director The Lion

King 2019 Multinational In 4DX. Jon Favreau, Director Inception 2020 Multinational In 4DX re-release, [28] Christopher Nolan, Director Canvas 4D Conference 21 2021 Multinational In 4DX. Lana Wachowski, Director Canvas 4D Conference 21 2021 Multinational In 4DX. Lana Wachowski, Director Canvas 4D Conference 21 2021 Multinational In 4DX. Lana Wachowski, Director Canvas 4D Conference 21 2021 Multinational In 4DX. Multinational In 4DX. Tom Cruise, David Ellison, Producers Oppenheimer 2023 Multinational In 4DX. Christopher Nolan, Director[29] See also Film portal Avatar: Flight of Passage List of 4DX motion-enhanced films Tribeca Enterprises Walking simulator Notes ^ Also known as R. L. Stine's Haunted Lighthouse 4-D) References ^ Archived at Ghostarchive and the Wayback Machine: "4DX Cinemas Next Generation - Motion Seats, Wind, Fog, Lighting, Bubbles, Water & Scents". 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Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater puts you inside the movie at Regal Atlantic Station". Review: 4DX theater 27. ^ "Inception in 4DX at Cineworld | Cineworld cinemas". www.cineworld.co.uk. Retrieved 2022-03-27. ^ Nolan, Christopher (2023-07-21), Oppenheimer (Biography, Drama, History), Atlas Entertainment, Syncopy, Universal Pictures, retrieved 2022-03-27. Atlas Entertainment, Syncopy, Universal Pictures, retrieved 2022-03-27. 4DXLogo used since 20194DX seats at the Cinema Sunshine Heiwajima in TokyoWebsite 4DX is a 4D film format developed by CJ 4DPlex, a subsidiary of South Korean cinema chain CJ CGV. It allows films to be augmented with various practical effects, including motion-seats, wind, strobe-lights, simulated-snow, and scents. First introduced commercially in 2009, it presents films in both stereoscopic 3-D and monoscopic 2-D formats.[1] CJ has licensed the technology worldwide. As of September 2019[update], CJ 4DPlex operates 678 4DX theaters in 65 countries through partnerships with more than 80 theaters, including Wanda Cinemas, Cineworld, Regal Cinemas, Cinépolis, Event Cinemas, Village Cinemas, and Nu Metro. The company recorded an annual growth rate of more than 50 percent from 2013 to 2018.[2] History South Korea.[4] Following the success of Avatar, the technology expanded to more theaters in South Korea.[4] Mexico In June 2011, Mexico-based Cinépolis have invested \$25 million and made an agreement with the CJ Group to bring the 4DX technology's debut in the Americas and outside the Asia region, and the technology expanded throughout Mexico since its debut. In 2019, the company announced that they would install the "4DX Screen" theater, a theater with an expanded multi-sided screen with the 4DX theaters, in the country in the summer season of 2020.[6] South America In 2012, Cinépolis has expanded its 4DX reach to South America, opening its first location at a theater in São Paulo, Brazil.[7] The company later premiered the 4DX theater in Colombia at the El Limonar Shopping Center in Cali in July 2013.[8][9] Cine Hoyts (now part of Cinépolis) opened the first 4DX theater in Chile in 2013.[10] United States At CinemaCon in March 2014, CJ 4DPlex announced that it had reached an agreement with AEG and Regal Cinemas to introduce the country's first 4DX auditorium at Regal Cinemas L.A. Live in downtown Los Angeles.[11] In 2018, CJ and Regal's new parent company Cineworld announced that it planned to expand 4DX to at least 79 Regal locations.[12] As of 2020, there is an approximate total of 32 locations throughout the United States, primarily from various Regal locations, one Marcus Theatres location in Gurnee, two Cinépolis locations, and CGV's second U.S. at The Source OC in Buena Park.[13][14][15] Canada Cineplex Entertainment premiered a 4DX auditorium at one of its Toronto locations on 4 November 2016.[16] It opened a second location in Calgary in August 2019.[17] Currently, there are six 4DX locations in Canada. India In India, only few 4DX screens are currently available - PVR Cinemas has nine in Ahmedabad, Indore, Noida, Hyderabad, Chennai, Bangalore, Kochi, Gurgaon and Mumbai and Cinépolis also has five screens in Thane, Navi Mumbai, Saket and New Delhi. The first 4DX theatre in Kerala was launched at the Lulu International Shopping Mall in Kochi on 20 December 2021 with the release of Spider-Man: No Way Home. Talking to press after signing the agreement, Ajay Bijli, CMD at PVR said, "In a small time since the launch in Noida, 4DX format has outperformed by far all other formats." Japan Since opening its first theater in partnership with Korona World Cinemas in April 2013, the theater chain has seen an increase in the installation of 4DX theaters. It operates 4DX theaters and United Kingdom, France, Austria, Denmark and Romania) In 2015 4dx opened in Romania with a lot of hype since it was the first one.[19] In 2017, CJ 4DPLEX partnered with France's Pathé and Denmark's Nordisk Film Kino to open its first 4DX theater in Europe.[20] It quickened its expansion in Europe by signing partnerships with Austrian theater operator Hollywood Megaplex in February 2017 and Cineworld in the United Kingdom.[21] China CJ 4DPLEX started integrating 4DX within the Chinese market in cooperation with its parent company CJ CGV in 2006. In 2013, it signed contracts with UME, a local theater operator in China. In 2014, CJ 4DPLEX made partnerships with Woosang More, WoMai, Beijing Jinbo, and Golden Harvest. In December 2014, CJ 4DPLEX formed a partnership with Wanda Cinema, a Chinese theater operator.[22] Costa Rica, the 4DX technology made its commercial debut at Cinépolis in 2014.[23] South Africa In 2015, CJ 4DPLEX and Nu Metro Cinemas entered a partnership to open 5 4DX theaters in South Africa, making its debut in the African continent.[24] It opened the first 4DX auditorium in December that year with the release of Star Wars: The Force Awakens at the V&A Waterfront theater. [25] Australia At CinemaCon 2017, 4DX signed a contract with Australian theater operator Village Cinemas to open its first 4DX theater within a year. [26] It opened at the Century City theater in Melbourne, Victoria on 27 October 2017 with the release of Thor: Ragnarok.[27] It was the first time that the company entered Oceania and the Australian continents, and it made the technology available to all six continents.[28][27] Box office performance In August 2019, 4DX reached 2.7 million moviegoers. The top three performance In August 2019, 4DX reached 2.7 million moviegoers. Shaw, The Lion King, and Aladdin. The local films The Bravest and One Piece: Stampede performed well in China and Japan. [29] As of 6 August 2019 [update], the top five movie titles of 4DX global box office hits in the first half of 2019 were: Avengers: Endgame (\$34,705K) Aladdin (\$24,759K) Aquaman (\$21,301K) The Lion King (\$16,841K) Captain Marvel (\$14,133K) In 2018, the company attracted a cumulative 24 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR The 4DX technology has expanded to virtual-reality, also known as 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR The 4DX technology has expanded to virtual-reality, also known as 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million in ticket sales globally.[30] Variations 4DX VR, the company attracted 3.07 million viewers and \$38 million vie which utilizes a set of specific 4DX model seats consisting of VR headsets, similar to that of virtual reality amusement rides, and is described to be the "world's first VR theater".[31] First showcased at the AAE 2017 and later IAAPA Attractions Expo 2017, it plays exclusive virtual reality-produced films, as well as games and movie trailers. [32][33] There are at least six versions of the 4DX VR technology brand: Disk for horizontal rotation, Ride which consists of four-to-eight seats on a 6-axis motion-platform, Racing for presentations focused on the racing genre, Sway and Twist in which seats enable twist and side movements, motion-chair which is a singular 4DX chair consisting of the VR headsets, and Sports for sports-focused presentations with specific bike, snowboard, and kayak designs.[32] 4DX Screen The Both technologies are owned by CJ 4DPLEX. Awards 2014: 4DX won the I3DS (International 3-D and Advanced Imaging Society) "Cinema Innovation of the Year" award.[35] 2015: 4DX was chosen as one of "The Most Innovative Companies of 2017" for the Live Events Category by the magazine Fast Company.[36] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual Communication Entertainment Category.[37][38] 2018: 4DX and ScreenX won the Edison Awards, Silver Prize for Media and Visual iResearch Award, Originative Cinema Technology Category. [40] 2019: 4DX was chosen as one of "The Most Innovative Companies of 2019" for the Live Events Category by Fast Company. [41] Films Further information: List of 4DX at the Pathé Carré de Soie in Lyon, France. 4D Venue in Los Angeles, United States. 4DX theater at a shopping mall in Salvador, Brazil. See also MX4D IMAX 4D film ScreenX CJ CGV References ^ Sharp, Jasper (21 June 2012). "4DX: Here come the feelies". Sight & Sound Magazine. British Film Institute. Retrieved 12 January 2013. ^ Foster 2019-09-24T12:10:00+01:00, Alana. "C] leads next-gen cinema experiences with 4DX". IBC. Retrieved 27 September 2017. Retrieved 17 February 2020. Sunhee, Han (5 February 2010). "Avatar' goes 4D in Korea | Variety". Variety. Retrieved 6 August 2013. García Sánchez, Rubén (2 June 2011). "Cinépolis presenta sus salas más costosas". El Economista. Retrieved 16 April 2013. ^ "Cinépolis to be the First to Bring the Innovative and Award-Winning '4DX with ScreenX' Format to LATAM". PR Newswire. 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