Generalitat de Catalunya
Departament d'Ensenyament

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Subject: Literature and Cinema
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INS VICENÇ PLANTADA

GEP 1		Task 1 : Input & Cooperative /Collaborative learning in CLIL
Title of the lesson or topic		"The advent of cinema"
Course / year / age		4th ESO
Timing		2 hours divided in 2 sessions
Collaboration with …		The English Department will provide all the information needed about language content.
Short description of the session/s		These sessions offer an overview of breakthrough related to motion and optical effects that led to the birth of the motion picture and eventually the cinema as we know it nowadays.
The descriptions of the activities below should contain: 1. *type of input,* 2. *questions (explicit, implicit and referential) posed by the teacher to ensure the students' involvement* 3. *dynamic instructions with collaborative and cooperative activities,* 4. *materials used.*		
S E S S	Activity 1	First of all, in order to contextualize the main contents of the unit, the whole group will watch a video that summarizes the precursor inventions of the cinema evolution: **https://youtu.be/fb4RYyZ2OUk** (5'45 min). This audiovisual input allows the teacher to pose referential questions to ensure the students' involvement.

SESSION 1	Activity 2	After watching the video, the teacher will summarize the contents with a flow diagram created with Genially (https://www.genial.ly/es) to guarantee that all the evolution has been understood. It will be shown in the interactive whiteboard and will provide visual input to the students. Some explicit and implicit questions will been asked in order to ensure knowledge acquisition.
	Activity 3	Finally, we are going to do a Dictogloss (https://ealresources.bell-foundation.org.uk/information/great-idea-dictogloss) Dictogloss is a type of supported dictation that integrates the four skills of language learning and helps to introduce some new vocabulary or sentence structures. Besides, it is a visual and written input useful for cooperative work in small groups. To assess the activity, the teacher will check out the pictures organization of the groups and then the compositions will be read.
SESSION 2	Activity 4	We will start the second session with one spoken input: a Rally Robin in pairs, a cooperative Kagan activity that will allow students to remember the main concepts shown the previous session. Meanwhile the teacher should move around the class to ensure that all students are acquainted with the lexical content.
	Activity 5	As a final activity, students are going to create a Zoetrope. First of all, They will see one example in a video as visual input: https://youtu.be/SBg6dAE3mI0 . Then, we will start a practical hands-on input activity and they will create their own Zoetropes. Besides, they can watch another video https://youtu.be/lfAzr0GWknU that explains how to make one while we are working. All materials needed will be provided by the teacher.
In terms of academic content, what are the students learning and what are they learning		According to academic content, students are learning: - The history of the cinema and its evolution. - Inventions that allowed the birth of the cinema:

to do?	1. Theater of shadows 2. The Camera Obscura. 3. The Magical lantern. 4. The Optical boxes. 5. Photography. 6. Optical Toys: - The Thaumatrope - The Phenakistoscope - The Zoetrope - The Praxinoscope 7. Chronophotography 8. Optical theater 9. Kinetoscope 10. The Lumière cinematographer 11. Georges Méliès - To draw a chronological line. - To write a formal composition using the already learned vocabulary and past syntactic structures. - To recognise the main inventors that participated in the evolution of the cinema. - To practice oral skills and competencies as pronunciation and fluency. - To work in cooperative and collaborative activities. - To create a Zoetrope.
In terms of language, what are the students practicing or learning	Besides refreshing all the grammar content that students have learnt in previous years, in this unit they will practice and learn the next grammar aspects: - Using the past simple and past participle verbal forms. - Specific vocabulary about technical innovations.

to do?	- Using linkers in order to elaborate coherent argumentations. - The structure of formal compositions. - Temporal adverbs to contextualize chronological moments. - Practice phonetics aspects through the new vocabulary.
In what way is this lesson plan a good example of what we learnt in the GEP course session?	This lesson plan has been elaborated following the instructions and resources offered in the previous GEP classes. The main points can be summarized as follows: - First of all, It has been taken in account the three type of questions that allow students to understand, investigate and communicate: explicit, implicit and referential. - Secondly, all the 5 Clic input categories have been used in order to stimulated the multiple intelligences and to ensure that they become comprehensible. - Besides, the unit has been designed following the cummins matrix model to control the quantity and quality of the content and language we are dealing with. - As Bloom's Taxonomy suggests, creation must be at the top of the knowledge pyramid, hence student would produce their own original work which will be a Zoetrope. - Also, the unit proposes combined collaborative and cooperative activities and students are explicitly guided to work in groups, in pairs or individually. - Finally, some of the visual organisers suggested in the theoretical classes will be used in this lesson plan. Thus, students will have some examples of how they have to be used.
Other important information	In order to take care of the student's diversity, some of the activities, as well as the timing, could be modified and revised by the teacher at any time of the sessions.
ANNEXES (materials, handout, pictures… if not possible to include in the activity section.)	All the materials created to accomplish this unity are compile in the attached annex. Annex #1: The theoretical content used in the unit. Page: 7 Annex #2: The Genially presentation. Page: 30 Annex #3: The Dictogloss content and pictures used. Page: 31 Annex #4: Instructions and materials needed to create a Zoetrope. Page: 43

Self assessment Checklist

Task 1 : Input & Cooperative /Collaborative learning in CLIL	YES/NO
1. Students are presented with **multimodal** and **varied** input (spoken, written, visual, hands-on…)	YES
2. The input presented is used to **help** learners **understand** ideas and **construct** meaning	YES
3. The input is presented at the right **cognitive level** and the right **language level**, i.e. it is neither too challenging in terms of content nor too difficult in terms of language.	YES
4. Students are **helped** in some way to **understand,** i.e. input is made comprehensible	YES
5. Students are **helped** in some way to **process** the input presented, i.e. activities or questions make students think and construct meaning.	YES

6. The input and activities presented cater to **multiple intelligences**	YES
7. Students are presented with **good questions** (explicit, implicit and referential) that help them process input and that challenge them not only to understand, but to think, create...	YES
8. A variety of **collaborative learning strategies** are used throughout the session.	YES
9. At least one of the activities presented requires **cooperation** among students.	YES
10. Students are **explicitly taught** how to work in groups (or pairs).	YES
11. Students are **explicitly guided** to succeed in group/pair work **discussions** and **interactions**. Clear **support** to guide their interactions is provided.	YES
12. At least one **ICT tool** is used to promote **digital collaborative learning**.	YES

Annex #1: The theoretical content used in the unit.

INNOVATIONS NECESSARY FOR THE ADVENT OF CINEMA:

Optical toys, shadow shows, 'magic lanterns,' and visual tricks have existed for thousands of years. Many inventors, scientists, and manufacturers have observed the visual phenomenon that a series of individual still pictures set into motion created the illusion of movement - a concept termed *persistence of vision*. This illusion of motion was first described by British physician Peter Mark Roget in 1824, and was a first step in the development of the cinema.

A number of technologies, simple optical toys and mechanical inventions related to motion and vision were developed in the early to late 19th century that were precursors to the birth of the motion picture industry:

- [A very early version of a "magic lantern" was suggested in the mid-17th century by German Jesuit priest Athanasius Kircher in Rome. However, the official inventor of a usable device was prominent Dutch astronomer/scientist Christiaan Huygens in the 1650s. Like a modern slide projector (which has since gone out of date!), its main feature was a lens that projected images from transparencies onto a screen, with a simple light source (such as a candle).]
- 1824 - the invention of the **Thaumatrope** (the earliest version of an optical illusion toy that exploited the concept of "*persistence of vision*" first presented by Peter Mark Roget in a scholarly article) by an English doctor named Dr. John Ayrton Paris
- ca. 1826 or 1827 - the oldest recorded (and surviving) permanent photograph made in a camera was taken by French inventor Joseph Nicéphore Niépce. He used a *camera obscura* device which captured and projected a scene illuminated by sunlight. The photo image was "shot" at his estate named Le Gras from his studio's upstairs window in the Burgundy region of France in the early 1820s. It was a very rudimentary photograph (using principles of lithography) - the image is now known as *View from the Window at Le Gras*. His invention was called heliography, or "light writing."
- 1831 - the discovery of the law of *electromagnetic induction* by English scientist Michael Faraday, a principle used in generating electricity and powering motors and other machines (including film equipment)

- 1832 - the invention of the **Fantascope** (also called **Phenakistiscope** or "spindle viewer") by Belgian inventor Joseph Plateau, a pre-film animation tool that simulated motion. A series or sequence of separate pictures depicting stages of an activity, such as juggling or dancing, were arranged around the perimeter or edges of a slotted disk. When the disk was placed before a mirror and spun or rotated, a spectator looking through the slots 'perceived' a moving picture.

- 1834 - the invention and patenting of another *stroboscopic* device adaptation, the **Daedalum** (renamed the**Zoetrope** in 1867 by American William Lincoln) by British inventor William George Horner. It was a hollow, rotating drum/cylinder with a crank, with a strip of sequential photographs, drawings, paintings or illustrations on the interior surface and regularly spaced narrow slits through which a spectator observed the 'moving' drawings.

- 1839 - the birth of still photography with the development of the first commercially-viable *daguerreotype* (a method of capturing still images on silvered, copper-metal plates) by French painter and inventor Louis-Jacques-Mande Daguerre, following on the work of Joseph Nicéphore Niépce. It was the first commercially-available, mass-market means of taking photographs.

- 1841 - the patenting of *calotype* (or *Talbotype*, a process for printing negative photographs on high-quality paper) by British inventor William Henry Fox Talbot

- 1861 - the invention of the **Kinematoscope**, patented by Philadelphian Coleman Sellers, an improved rotating paddle machine to view (by hand-cranking) a series of *stereoscopic* still pictures on glass plates that were sequentially mounted in a cabinet-box

- 1869 - the development of *celluloid* by John Wesley Hyatt, patented in 1870 and trademarked in 1873 - later used as the base for photographic film

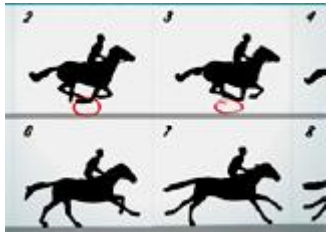
- 1870 - the first demonstration of the **Phasmotrope** (or **Phasmatrope**) by Henry Renno Heyl in Philadelphia, that showed a rapid succession of still or posed photographs of dancers, giving the illusion of motion

- 1877 - the invention of the **Praxinoscope** by French inventor Charles Emile Reynaud - it was a 'projector' device with a mirrored drum that created the illusion of movement with picture strips, a refined version of the Zoetrope with mirrors at the center of the drum instead of slots; public demonstrations of the Praxinoscope were made by the early 1890s with screenings of 15 minute 'movies' at his Parisian Theatre Optique

- 1879 - Thomas Alva Edison's first public exhibition of an efficient incandescent light bulb, later used for film projectors

Late 19th Century Inventions and Experiments: Muybridge, Marey, Le Prince and Eastman

Pioneering Britisher Eadweard Muybridge (1830-1904), an early photographer and inventor, was famous for his photographic loco-motion studies (of animals and humans) at the end of the 19th century (such as 1882's published "The Horse in Motion"). In the 1870s, Muybridge experimented with instantaneously recording the movements of a galloping horse, first at a Sacramento (California) race track. In June, 1878, he successfully conducted a 'chronophotography' experiment in Palo Alto (California) for his wealthy San Francisco benefactor, Leland Stanford, using a multiple series of cameras to record a horse's gallops - this conclusively proved that all four of the horse's feet were off the ground at the same time.



Muybridge's pictures, published widely in the late 1800s, were often cut into strips and used in a**Praxinoscope**, a descendant of the *zoetrope* device, invented by Charles Emile Reynaud in 1877. The Praxinoscope was the *first* 'movie machine' that could project a series of images onto a screen. Muybridge's stop-action series of photographs helped lead to his own 1879 invention of the **Zoopraxiscope** (or "zoogyroscope", also called the "wheel of life"), a primitive motion-picture projector

machine that also recreated the illusion of movement (or animation) by projecting images - rapidly displayed in succession - onto a screen from photos printed on a rotating glass disc.

True motion pictures, rather than eye-fooling 'animations', could only occur after the development of film (flexible and transparent celluloid) that could record split-second pictures. Some of the first experiments in this regard were conducted by Parisian innovator and physiologist Etienne-Jules Marey in the 1880s. He was also studying, experimenting, and recording bodies (most often of flying animals, such as pelicans in flight) in motion using photographic means (and French astronomer Pierre-Jules-Cesar Janssen's "revolving photographic plate" idea).

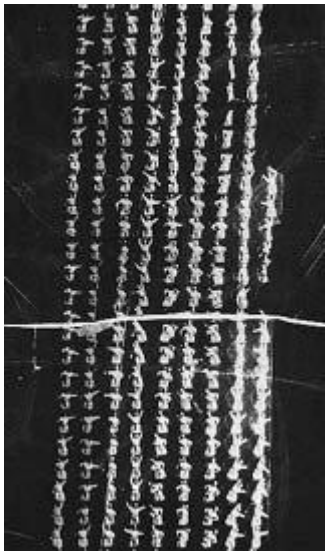
In 1882, Marey, often claimed to be the 'inventor of cinema,' constructed a camera (or "photographic gun") that could take multiple (12) photographs per second of moving animals or humans - called**chronophotography** or serial photography, similar to Muybridge's work on taking multiple exposed images of running horses. [The term*shooting a film* was possibly derived from Marey's invention.] He was able to record multiple images of a subject's movement on the same camera plate, rather than the individual images Muybridge had produced.

Marey's chronophotographs (multiple exposures on single glass plates and on strips of sensitized paper - celluloid film - that passed automatically through a camera of his own design) were revolutionary. He was soon able to achieve a frame rate of 30 images. Further experimentation was conducted by French-born Louis Aime Augustin Le Prince in 1888. Le Prince used long rolls of paper covered with photographic emulsion for a camera that he devised and patented. Two short fragments survive of his early motion picture film (one of which was titled *Traffic Crossing Leeds Bridge*).

The work of Muybridge, Marey and Le Prince laid the groundwork for the development of motion picture cameras, projectors and transparent celluloid film - hence the development of cinema. American inventor George Eastman, who had first manufactured photographic dry plates in 1878, provided a more stable type of celluloid film with his concurrent developments in 1888 of sensitized paper roll photographic film (instead of metal or glass plates) and a convenient "Kodak" small box camera (a still camera) that used the roll film. He improved upon the paper roll film with another invention in 1889

- perforated *celluloid* (synthetic plastic material coated with gelatin) roll-film with photographic, light-sensitive emulsion, and sprocket holes along the sides.

The Birth of US Cinema: Thomas Edison and William K.L. Dickson

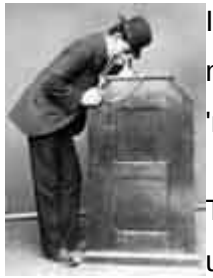


In the late 1880s, famed American inventor Thomas Alva Edison (1847-1931) (and his young British assistant William Kennedy Laurie Dickson (1860-1935)) in his industrial-research laboratories in West Orange, New Jersey, borrowed from the earlier work of Muybridge, Marey, Le Prince and Eastman. Their goal was to construct a device for recording movement on film, and another device for viewing the film. Dickson must be credited with most of the creative and innovative developments - Edison only provided the research program and his laboratories for the revolutionary work.

Although Edison is often credited with the development of early motion picture cameras and projectors, it was Dickson, in November 1890, who devised a crude, motor-powered camera that could photograph motion pictures - called a **Kinetograph**. It was the world's first motion-picture film camera - heavy and static, and requiring lots of light. This was one of the major reasons for the emergence of motion pictures in the 1890s. Edison Studios was formally known as the **Edison Manufacturing Company (1894-1911)**, with innovations due largely to the work of Edison's assistant Dickson in the mid-1890s. The motor-driven camera was designed to capture movement with a synchronized shutter and sprocket system (Dickson's unique invention) that could move the film through the camera by an electric motor. The Kinetograph used film which was 35mm wide and had sprocket holes to advance the film. The sprocket system would momentarily pause the film roll before the camera's shutter to create a photographic *frame* (a still or photographic image).

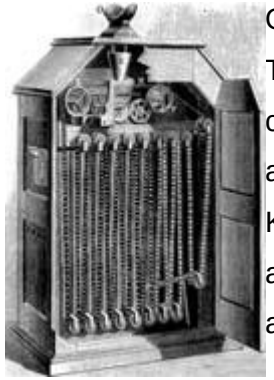
In 1889 or 1890, Dickson filmed his first experimental Kinetoscope trial or test film, **Monkeyshines No. 1 (1889/1890)**, the only surviving film from the cylinder kinetoscope, and apparently the *first* motion picture ever produced on photographic film in the United States. It featured the movement of laboratory assistant Sacco Albanese, filmed with a system using tiny images that rotated around the cylinder.

Dickson Greeting (1891), apparently the second film made in the US, was composed of test footage of William K.L. Dickson himself, bowing, smiling and ceremoniously taking off his hat. It was a three-second clip. It was used for one of the first *public* demonstrations of motion pictures in the US using the Kinetoscope, presented to the Federation of Women's Clubs.



In 1891, Dickson also designed an early version of a movie-picture projector (an optical lantern viewing machine) based on the Zoetrope - called the **Kinetoscope**. It was a peep-show device to allow one person at a time to watch a 'movie.' Dickson and Edison also built a vertical-feed motion picture camera in the summer of 1892.

The formal introduction of the Kinetograph in October of 1892 set the standard for theatrical motion picture cameras still used today. It used a film strip (composed of celluloid coated in light-sensitive emulsion) that was 1 1/2 inches wide. This established the basis for today's standard 35 mm commercial film gauge, occurring in 1897. The 35 mm width with 4 perforations per frame became accepted as the international standard gauge in 1909. However, moveable hand-cranked cameras soon became more popular, because the original motor-driven cameras were heavy and bulky.



On Saturday, April 14, 1894, a refined version of Edison's **Kinetoscope** began commercial operation for entertainment purposes. The floor-standing, box-like viewing device was basically a bulky, coin-operated, movie "peep show" cabinet for a single customer (in which the images on a continuous film loop-belt were viewed in motion as they were rotated in front of a shutter and an electric lamp-light). It held 40-50 foot rolls of 'film' - about 16 seconds of viewing time (of one single, uninterrupted shot). The Kinetoscope, the forerunner of the motion picture film projector (without sound), was finally patented on August 31, 1897 (Edison applied for the patent in 1891, granted in 1893). The viewing device quickly became popular in carnivals, Kinetoscope parlors, amusement arcades, and sideshows for a number of years.

The world's *first* film production studio - or "America's first movie studio," the**Black Maria**, or the Kinetographic Theater (and dubbed "The Doghouse" by Edison himself), was built on the grounds of Edison's laboratories at West Orange, New

Jersey. Construction began in December 1892, and it was completed by February 1, 1893, at a cost of $637.67 (about $16,000 in 2015). It was constructed for the purpose of making film strips for the Kinetoscope. The interior walls of the studio were covered with black tar-paper (to make the performers stand out against the stark black backgrounds). It had a retractable or hinged, flip-up sun-roof to allow sunlight in. It was built with a rotating base or turntable (on circular railroad tracks) to orient itself throughout the day to follow the natural sunlight.

Thomas Edison displayed 'his' Kinetoscope projector at the World's Columbian Exhibition in Chicago and received patents for his movie camera, the *Kinetograph*, and his electrically-driven peepshow device - the*Kinetoscope*. In early May, 1893, Edison also held the world's first *public* exhibition or demonstration of films at the Brooklyn Institute of Arts and Sciences. The exhibited 34-second film, **Blacksmith Scene (1893)**, was viewed on Dickson's Kinetoscope viewer, and was shot using a Kinetograph at the Black Maria. It showed three people pretending to be blacksmiths.

The first motion pictures made in the Black Maria were deposited for copyright by Dickson at the Library of Congress in August, 1893. On January 7, 1894, *The Edison Kinetoscopic Record of a Sneeze* (aka **Fred Ott's Sneeze (1894)**) became the *first* film officially registered for copyright. It was one of the first series of short films made by Dickson for the Kinetoscope viewer in Edison's Black Maria studio with fellow assistant Fred Ott. The short five-second film was made for publicity purposes, as a series of still photographs to accompany an article in *Harper's Weekly*. It was the earliest surviving, copyrighted motion picture (or "flicker") - composed of an optical record (and medium close-up) of Fred Ott, an Edison employee, sneezing comically for the camera. It was noted as the *first* medium-closeup.

A short film (about 21 seconds long) titled **Carmencita (1894)** was directed and produced by Edison's employee William K.L. Dickson. She was filmed March 10-16, 1894 in Edison's Black Maria studio in West Orange, NJ. Spanish dancer Carmencita was the first woman to appear in front of an Edison motion picture camera, and quite possibly the first female to appear in a US motion picture. In some cases, the projection of the scandalous film on a Kinetoscope was forbidden, because it revealed Carmencita's legs and undergarments as she twirled and danced. This was one of the earliest cases of censorship in the moving picture industry.

Most of the first films shot at the Black Maria included segments of magic shows, excerpts from stage plays, slapstick comedy, vaudeville performances (with dancers and strongmen), acrobatics, acts from Buffalo Bill's Wild West Show and other animal acts, various boxing matches and cockfights, and scantily-clad women. Most of the earliest moving images, however, were non-fictional, unedited, crude documentary, "home movie" views of ordinary slices of life - street scenes, the activities of police or firemen, or shots of a passing train. [Footnote: the 'Black Maria' studio appeared in Universal's comedy **Abbott and Costello Meet the Keystone Cops (1955)**.]

In the early 1890s, Edison and Dickson also devised a prototype sound-film system called the**Kinetophonograph** or **Kinetophone** - a precursor of the 1891 Kinetoscope with a cylinder-playing phonograph (and connected earphone tubes) to provide the unsynchronized sound. The projector was connected to the phonograph with a pulley system, but it didn't work very well and was difficult to synchronize. It was formally introduced in 1895, but soon proved to be unsuccessful since competitive, better synchronized devices were also beginning to appear at the time. The first known (and only surviving) film with live-recorded sound made to test the Kinetophone was the 17-second **Dickson Experimental Sound Film (1894-1895)**.

Kinetoscope Parlors and Films Flourish:

On April 14, 1894, the Holland Brothers opened the first Kinetoscope Parlor at 1155 Broadway in New York City and for the *first* time, they commercially exhibited movies, as we know them today, in their amusement arcade. Each film cost 5 cents to view. Patrons paid 25 cents as the admission charge to view films in five kinetoscope machines placed in two rows. The first commercial presentation of a motion picture took place here. The mostly male audience was entertained by a single loop reel depicting clothed female dancers, sparring boxers and body builders (such as **Sandow the Strong Man (1894)**), animal acts and everyday scenes. Early spectators in Kinetoscope parlors were amazed by even the most mundane moving images in very short films (between 30 and 60 seconds) - an approaching train or a parade, women dancing, dogs terrorizing rats, and twisting contortionists.

Soon, peep show Kinetoscope parlors quickly opened across the country, set up in penny arcades, hotel lobbies, and phonograph parlors in major cities across the US. One of the companies formed to market Edison's Kinetoscopes and the films was called the**Kinetoscope Exhibition Company**. It was owned by Otway Latham, Grey Latham, Samuel Tilden, and Enoch Rector. In the summer of 1894 in downtown New York City (at 83 Nassau St.), it set up a series of large-capacity Kinetoscopes (able to handle up to 150 feet of film), each one showing one, one–minute round of the six round **Michael Leonard-Jack Cushing Prize Fight (1894)** film (produced and filmed at Edison's Black Maria studio). Each viewing cost 10 cents, or 60 cents to see the entire fight. The popular boxing film was the first boxing film produced for commercial exhibition.

In June of 1894, pioneering inventor Charles Francis Jenkins became the first person to project a filmed motion picture onto a screen for an audience, in Richmond, Indiana, using his projector termed the**Phantoscope**. The motion picture was of a vaudeville dancer doing a butterfly dance - the first motion picture with color (tinted frame by frame, by hand). Some of the earliest color hand-tinted films ever publically-released were **Annabelle Butterfly Dance (1894)**, **Annabelle Sun Dance (1894)**, and**Annabelle Serpentine Dance (1895)** featuring the dancing of vaudeville-music hall performer Annabelle Whitford (known as Peerless Annabelle) Moore, whose routines were filmed at Edison's studio in New Jersey. Male audiences were enthralled watching these early depictions of a clothed female dancer (sometimes color-tinted) on a Kinetoscope - an early peep-show device for projecting short films.

Young Griffo v. Battling Charles Barnett (1895) was the first 'movie' or motion picture in the world to be screened for a paying audience on May 20, 1895, at a storefront at 156 Broadway in NYC. [This was more than seven months before the Lumière brothers showed their film in Paris (see below).] The 8-minute B&W silent film (shown on one continuous reel of film without interruption, using the "Latham Loop" to prevent tearing) was made by Woodville Latham and his sons Otway and Grey. The staged boxing match had been filmed with an Eidoloscope Camera on the roof of Madison Square Garden on May 4, 1895 between Australian boxer Albert Griffiths (Young Griffo) and Charles Barnett. Shortly thereafter, nearly 500 people became cinema's first major audience during the showings of films with titles such as *Barber Shop*, *Blacksmiths*, *Cock Fight*, *Wrestling*, and *Trapeze*. Edison's film studio was used to supply films for this sensational new form of entertainment. More Kinetoscope parlors soon opened in other cities (San Francisco, Atlantic City, and Chicago).

The Kiss (1896) *(aka The May Irwin Kiss)* was the first film ever made of a couple kissing in cinematic history. May Irwin and John Rice re-enacted a lingering kiss for Thomas Edison's film camera in this 20-second long short, from their 1895 Broadway stage play-musical *The Widow Jones*. It became the most popular film produced that year by Edison's film company (it was filmed at Edison's Black Maria studio, in West Orange, NJ), but was also notorious as the first film to be criticized as scandalous and bringing demands for censorship.

The American Mutoscope Company: Dickson's Split From Edison

Disgruntled and a disenchanted inventor, William K.L. Dickson left Edison to form his own company in 1895, called the **American Mutoscope Company** (see more further below), the first and the oldest movie company in America. A nickelodeon film producer who had been working with Thomas Edison for a number of years, Dickson left following a disagreement. Three others joined Dickson, inventors Herman Casler and Henry Marvin, and an investor named Elias Koopman. The company was set up at 841 Broadway, in New York - its sole focus was to produce and distribute moving pictures. The business was moved to Canastota, NY. Superior alternatives to the *Kinetoscope* were the company's invention of the **Mutoscope** - a hand-cranked viewing device utilizing bromide prints or illustrated cards in a 'flick-book' principle, and the **Biograph** projector, released in the summer of 1896 - a projector using large-format, wide-gauge 68 mm film (different from Edison's 35mm). The *Biograph* soon became the chief US competitor to Edison's*Kinetoscope* and *Vitascope*.

[Note: The *American Mutoscope Company* eventually became the *Biograph Company*.]

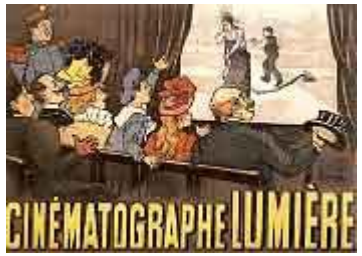
[By the 1897 patent date of the Kinetoscope, both the camera (kinetograph) and the method of viewing films (kinetoscope) were on the decline with the advent of more modern screen projectors for larger audiences.]

The Lumiere Brothers and the Cinematographe:

The innovative Lumiere brothers in France, Louis and Auguste (often called "the founding fathers of modern film"), who worked in a Lyons factory that manufactured photographic equipment and supplies, were inspired by Edison's and

Dickson's work on the Kinetoscope and Kinetograph. They created their own *combo* movie camera and projector - a more portable, hand-held and lightweight device (the camera could be cranked by hand) and could project movie images to several spectators. It was dubbed the **Cinematographe** and patented in February, 1895. The multi-purpose, all-in-one device (combining camera, printer and projecting capabilities in the same housing) was more profitable and financially-successful because more than a single spectator could watch the film on a large screen. They used a film width of 35mm, and a speed of 16 frames per second - an industry norm until the talkies. By the advent of sound film in the late 1920s, 24 fps became the standard.

A major difference between Edison's short films (mostly of stage performers) and the Lumiere's films was that the latter were factual shorts (or mini-documentaries), termed *actualities,* similiar to the mundane quality of home movies that documented every-day life. The first *public* test and demonstration of the Lumieres' camera-projector system (the Cinematographe) was made on March 22, 1895, in the Lumieres' basement. During the private screening to a scientific conference - a trial run for their public screening later at the end of the year (see below), they caused a sensation with their first film, *Workers Leaving the Lumiere Factory* (*La Sortie des Ouviers de L'Usine Lumiere a Lyon*). It consisted of an everyday outdoor image - factory workers leaving the Lumiere factory gate for home or for a lunch break.



As generally acknowledged, *cinema* (a word derived from *Cinematographe*) was born on December 28, 1895, in Paris, France. The Lumieres presented the first *commercial* and public exhibition of a projected motion picture to a paying public in the world's first movie theatre - in the *Salon Indien*, at the Grand Cafe on Paris' Boulevard des Capucines. [In 1897, a cinema building was built in Paris, solely for the purpose of showing films.] It has often been considered "the birth of film" or "the First Cinema" since the*Cinematographe* was the first advanced projector (not experimental) and the first to be offered for sale.

The 20-minute program included ten short films with twenty showings a day. It included the following:

1. *La Sortie des Ouviers de L'Usine Lumière à Lyon (1895)* (*Workers Leaving the Lumiere Factory*) (46 seconds)
2. *La Voltige (1895)* (*Horse Trick Riders*) (46 seconds)

3. *La Pêche aux Poissons Rouges (1895)* (*Fishing for Goldfish*) (42 seconds)
4. *Le Débarquement du Congrès de Photographie à Lyon (1895) (The Disembarkment of the Congress of Photographers in Lyon)*(48 seconds)
5. *Les Forgerons (1895)* (*Blacksmiths*) (49 seconds)
6. *Le Jardinier (l'Arroseur Arrosé) (The Gardener* or *The Sprinkler Sprinkled) (1895)* (49 seconds)
7. *Le Repas (de Bébé) (1895)* (*Baby's Meal*) (41 seconds)
8. *Le Saut à la Couverture (1895)* (*Jumping onto the Blanket*) (41 seconds)
9. *La Place des Cordeliers à Lyon (1895)* (*Cordeliers Square in Lyon*) (44 seconds)
10. *La Mer (Baignade en Mer) (1895)* (*Bathing in the Sea*) (38 seconds)

The ten shorts included the famous first comedy (# 6) of a gardener with a watering hose (aka *The Sprinkler Sprinkled, Waterer and Watered,* or *L'Arrouseur Arrose*), the factory worker short (# 1, see above), a sequence (# 9) of a horse-drawn carriage approaching toward the camera, and a scene (# 7) of the feeding of a baby. The Lumieres also became known for their 50-second short *Arrivee d'un Train en Gare a La Ciotat (1895)* (*Arrival of a Train at La Ciotat*), which some sources reported was startling to some of its viewing audience. By 1898, the Lumiere's company had produced a short film catalog with over 1,000 titles.

Other Developments in Projecting Machines:

1. Two brothers in Berlin, Germany - inventors Emil and Max Skladanowsky - created their own film device for projecting films in November, 1895.
2. Also in 1895, American inventor Major Woodville Latham (who had been working with Eugene Lauste and W.K.L. Dickson) developed an unpopular projector called an **Eidoloscope** (or **Panoptikon** projector). In New York on Frankfort Street, it was demonstrated by Latham for the NY press on April 21, 1895. It was one of the first public exhibitions of motion pictures in the world. Latham's most innovative and long-lasting was his **Latham Loop** invention - a feature of movie projectors. It involved the addition of a slack-forming loop to the film path (above and below the projector's lens) to restrain the inertia of the take-up reel, and prevent the tearing of sprocket holes due to tension. It also allowed for films longer than three minutes. (This showing preceded the landmark exhibition of the Lumieres in Paris by about eight months. See above.) On June 1, 1895, Latham applied for a

patent for his "Projecting-Kinetoscope" with the "Latham Loop." It was granted and lasted until its expiration in 1913. By 1905, virtually all movie projectors used the Latham Loop. (The loop is still used in virtually all film cameras and projectors almost to this day.)

3. And American inventors Thomas Armat and Charles Francis Jenkins developed the **Phantascope** in 1893, an improved device (with intermittent-motion mechanisms) for projecting films on a screen. In September-October, 1895, they debuted their projection device (projecting Kinetoscope films, but not using a Kinetoscope) at the Cotton States Exposition in Atlanta, Georgia, and then patented it.
4. In London in January of 1896, Birt Acres also developed a machine to project films, called a **Kinetic Lantern**.
5. In the same year of 1896, another Englishman Robert William Paul also developed and manufactured a popular projector which he called a **Theatrograph**. He became a pioneering film producer in Britain through his The Northern Photographic Works company.

In 1896, Edison's Company (because it was unable to produce a workable projector on its own) purchased an improved version of Thomas Armat's movie projection machine (the **Phantascope**, originally invented by C. Francis Jenkins in 1893), and renamed it the**Vitascope**. It was hailed as Edison's latest invention, although he had only commercialized the *Phantascope*. The Vitascope was the*first* commercially-successful celluloid motion picture projector in the US. On April 23, 1896, Thomas Edison presented the *first*publically-projected *Vitascope* motion picture (with hand-tinting) in the US to a paying American audience on a screen, at Koster and Bial's Music Hall in New York City (at 34th Street and Broadway), with his latest invention - the projecting kinetoscope or *Vitascope*. Customers watched the Edison Company's *Vitascope* project a ballet sequence in an amusement arcade during a vaudeville act. At the time, the *Vitascope* was showing films in only one location, this one in NYC, but that wouldn't last for long.

The **"Pathé-Frères" Company** was founded in 1896 in Paris by Charles and Emile Pathè. By the next decade, it would become the largest producer of films in the world. Around 1906-7, only one-third of the films released in the US were American-made. Pathé-Frères was responsible for over one-third of the films shown on US screens.

By 1897, the 35 mm film gauge became widely accepted as the standard gauge for motion pictures, although American Mutoscope and other film companies continued to use other gauges. In 1909, the 35 mm width with 4 perforations per frame became accepted as the international standard film gauge.

More Notable Films and Developments:

- **The Corbett-Fitzsimmons Fight (1897)**, another filmed boxing match, reported to be 100 minutes in length (the longest film ever to be released by that date), and shown by the *Veriscope Company*, had its debut on May 22, 1897 at the Academy of Music in New York City. Some consider it the world's first feature film. It included all fourteen 3-minute rounds of the bout, in addition to a 5-minute introduction, and non-stop filming during the one-minute rest period between rounds. Running commentary was provided by an expert sports announcer from the side of the ring - the first of its kind.
- One of the earliest projects the Edison Studios created (probably in July of 1897) was the advertising film **Admiral Cigarette (1897)**, promoting the slogan "We All Smoke." The 28 second-long silent film was the first prototype commercial for the Admiral Cigarette company. Edison's film was the first advertising film, or commercial, to be submitted for copyright, on August 5, 1897.
- The Spanish-American War in 1898 drew camera operators to Cuba, but they were shut out by the US Army. Since they could not capture the battles on film, many went into studios and created them using models and painted backdrops -- the start of scale-model effects.

The First Permanent Movie Theatres:

Films were increasingly being shown as part of vaudeville shows, variety shows, and at fairgrounds or carnivals. Audiences would soon need larger theaters to watch screens with projected images from Vitascopes after the turn of the century, using stage and opera houses and music halls. The earliest 'movie theatres' were converted churches or halls, showing *one-reelers* (a 10-12 minute reel of film - the projector's reel capacity at the time). The primitive films were usually more *actualities* and comedies.

After showing films in a lakefront park, William "Pop" Rock and Walter Wainwright transformed a converted vacant store (at 623 Canal St.) in New Orleans, Louisiana into **Vitascope Hall**. On July 26, 1896, it became the first "storefront theater" in the US dedicated exclusively to showing motion pictures, although it screened films for only two months. The theatre accommodated 400 people, and had two shows per day, with admission 10 cents.

The world's first *permanent* movie theatre exclusively designed for showing motion pictures was the **Edisonia Vitascope Hall**, a 72 seat theatre which opened in downtown Buffalo, New York on Monday, October 19, 1896 in the Ellicott Square Building on Main Street. It was created by Buffalo-based entrepreneur Mitchell H. Mark, a supreme visionary of the future of motion picture theaters. It was likely that the opening night's showing

including US premieres of the Lumiere films (see above), since Mark had contracted with the Lumieres (and Pathe Freres) in France to exhibit their films in the US. The Vitascope Theater in Buffalo remained open for nearly two years. With his brother Moe, Mitchell Mark would open other theaters in Buffalo, as well as New York City, Boston and elsewhere. They were responsible for one of history's earliest "movie palaces," the 2800-seat Mark Strand Theater in NYC.

Early Jewish film pioneer Sigmund Lubin (aka Siegmund Lubszynski) constructed the first purposely-built movie theater in West Philadelphia, PA for the National Export Exposition, in 1899. **Lubin's Cineograph Theatre** was a small, modest portable theatre built on the esplanade or midway of the fair. It was possibly the world's first structure erected expressly for the presentation of motion pictures. For ten cents, patrons could view "continuous shows" of the Spanish-American War, reproductions of boxing matches, and several of Lubin's own home-made productions. The film billed as "The Sensation of the Hour" was *The Dreyfus Court Martial Scene*. It was evidence of Lubin's early work as a motion picture distributor and exhibitor, to showcase his projectors, cameras, and films.

Later on in 1902 in downtown Los Angeles, Thomas L. Talley's storefront, 200-seat **Electric Theater** was another of the *first*permanent US theaters to exclusively exhibit movies - it charged patrons a dime, up from a nickel at the nickelodeons.

Alice Guy (Blaché): The First Female Movie Director

French-born Alice Guy (Blaché) started in the film business as a secretary for Léon Gaumont in 1894. In 1896, she joined Gaumont in his new company founded in Paris in 1895, the **Gaumont Film Company**, and began making primitive sound films when she was promoted to be the head of motion picture production at the studio. She is generally acknowledged as the world's first female director in the motion picture industry (with France's *Gaumont Film Company*). Her first film made in April of 1896 was the one-minute in length fictional film *La Fée aux Choux* (*The Cabbage Fairy*). Some historians consider it the first ever narrative fiction film. She became one of the key figures in the systematic development of the narrative film.

Georges Melies: French Cinematic Magician

Aside from technological achievements, another Frenchman who was a member of the Lumiere's viewing audience, Georges Melies, expanded development of film cinema with his own imaginative fantasy films. When the Lumiere brothers wouldn't sell him a*Cinematographe*, he developed his own camera (a version of the **Kinetograph**), and then set up Europe's first film studio in 1897. It was the first movie studio that used artificial illumination, a greenhouse-like structure that featured both a glazed roof and walls and a series of retractable blinds. It was an influential model on the development of future studios.

Parisian French film-maker Georges Méliès wrote, designed, directed, and acted in hundreds of his own fairy tales and science fiction films, and developed dazzling techniques such as stop-motion photography, double and multiple-exposures, time-lapse photography, "special effects" such as disappearing objects (using stop-trick or substitution photography), and dissolves/fades. His main goal was to entertain audiences with surprising illusions. He created about 500 films (one-reelers usually) over the next 15 years (few of which survived), and screened his own productions in his theatre.

Melies' Special Effects		
		
The Haunted Castle (1896)	**The Four Troublesome Heads (1898)**	**The Man With the Rubber Head (1901)**
Skeleton Turned Into a Bat - The First "Horror" Film	Multiple Exposure of Objects on a Black Background	A Zoom Shot of A Head to Magnify It and Then Superimposed

His first film based on a trick of substitution (one of the earliest instances of trick photography with stop-action - an early special effect) was **Escamotage d'une Dame au théâtre Robert Houdin (1896)** *(aka The Conjuring of a Woman at the House of Robert Houdin)*. The roots

of *horror films* (and vampire films in particular) may also be traced back to Georges Méliès' two-minute short film **Le Manoir du Diable (1896)** *(aka Manor/House of the Devil, or The Devil's Castle, or The Haunted Castle)*, although it was meant to be an amusing, entertaining film.

Melies became the film industry's first film-maker to use artificially-arranged scenes to construct and tell a narrative story, with his most popular and influential film to date, **Cendrillon (1899)** *(aka Cinderella)*. In late 1911, he contracted with French film company Pathe to finance and distribute his films, and then went out of business by 1913.

An illusionist and stage magician, and a wizard at special effects, Melies exploited the new medium with a pioneering, 14-minute science fiction work, **Le Voyage Dans la Lune - A Trip to the Moon (1902)**. It was his most popular and best-known work, with about 30 scenes called *tableaux*. He incorporated surrealistic special effects, including the memorable image of a rocketship landing and gouging out the eye of the 'man in the moon.' Melies also introduced the idea of narrative storylines, plots, character development, illusion, and fantasy into film, including trick photography (early special effects), hand-tinting, dissolves, wipes, 'magical' super-impositions and double exposures, the use of mirrors, trick sets, stop motion, slow-motion and fade-outs/fade-ins. Although his use of the camera was innovative, the camera remained stationary and recorded the staged production from one position only.

Further US Development:

The key years in the development of the cinema in the U.S. were in the late 1800s and early 1900s, when the Edison Company was competing with a few other burgeoning movie companies. The major pioneering movie production companies, mostly on the East Coast, that controlled most of the industry were these rivals:

- the **Edison Manufacturing Company -** began producing films for the Kinetoscope in 1891, with headquarters and production facilities in West Orange, NJ (see above); formally became a company in 1894. Afterwards, Edison intensely fought for control of 'his' movie industry by harrassing, sue-ing, or buying patents from anyone he thought was threatening his company.

- the **Selig Polyscope Company** (originally called **The W.N. Selig Company**), was founded in 1896, in Chicago, Illinois by "Colonel" William Selig. Initially, the company specialized in slapstick comedies, "jungle" films, historical subjects, serials, travel films, and the early westerns starring Tom Mix.
- the **American Vitagraph Company**, formed by British-born Americans J. Stuart Blackton and Albert E. Smith in 1896. The company's first fictional film was *The Burglar on the Roof*, filmed and released in 1897. It soon became the largest film company, turning out 200 films a year.
- **American Mutoscope Company**, founded in 1895 in New York City, NY by disenchanted Edison worker William K. L. Dickson, Herman Casler, Henry Marvin and pocket lighter inventor Elias Koopman. Their first motion picture machine was the **Mutoscope** - a peephole, flip-card device similar in size to a Kinetoscope. Instead of using film, a spinning set of photographs mounted on a drum inside the cabinet gave the impression of motion. This was followed by a projector - the **Biograph Projector**, that was first demonstrated in New York City in 1896. It was the first time projected images from an American film company were shown to an American movie theatre audience. They also devised a hand-cranked camera called the **Mutograph** (originally called the **Biograph**) that didn't use sprocket holes or perforations in the motion-picture film. The company released its first film in 1896, titled *Empire State Express*.

Soon, the *American Mutoscope Company* became the most popular film company in America. They were formally renamed the **American Mutoscope and Biograph Company** in 1899 (and simply *Biograph* by 1909). They marketed their own films and their new *Biograph* projector, thus becoming the foremost motion picture company in the US. The *American Mutoscope Company*'s **The Haverstraw Tunnel (1897)** became its most popular film - it was the first "phantom ride" film in which a camera was mounted on the front of a train, and recorded its passage into a tunnel.

They were also known for many firsts:

- the early documentary **Divers at Work on the Wreck of the Maine (1898)** - the first film shot in Havana, Cuba at the location of the sunken warship
- W.L.K. Dickson's filming of Pope Leo XIII in Rome, **M.H. Pope Leo in a Chair (1898)** - Leo XIII was the *first* Pope captured on film at the Vatican
- the first production company to be contracted by the White House, in 1899, and the first studio to record films of a living president, William McKinley
- in 1903, establishment of the first movie studio in the world (in NYC) to rely exclusively on artificial light

- makers of the first western film shot and produced in the West, **A California Hold Up (1906)**
- in 1906, Biograph's Florence Lawrence was the world's first "movie star" -- dubbed: "The Biograph Girl"
- the first major motion picture company in southern California to make an actual film in Los Angeles -- **A Daring Hold-Up in Southern California (1906)**
- makers of the first film shot specifically in the village north of LA known as "Hollywood" - a "Latino" melodrama titled **In Old California (1910)**
- makers of one of the first full-length feature films, D. W. Griffith's epic **Judith of Bethulia (1914)**

Edison Vs. Mutoscope:

In May of 1898, Edison filed a patent-infringement suit against the *American Mutoscope Company*, claiming that the studio had infringed on his patent for the *Kinetograph* movie camera. [Note: Edison's competitors had developed other motion-picture devices, which became the *Biograph* and the *Mutoscope*.] After years of legal battles, in July of 1901, a U.S. Circuit Court in New York ruled that Biograph had infringed on Edison's patent claims. Biograph appealed the ruling, claiming it had a different camera design. The decision was reversed in March 1902 by a U.S. Court of Appeals. It ruled that Edison did not invent the motion-picture camera, but allowed that he had invented the sprocket system that moved perforated film through the camera. The new ruling essentially disallowed Edison from establishing a monopoly on motion picture apparatus - and ultimately on the making of films. By 1903, most studios made films using the 35mm format. (See more about the development of *Biograph* further below)

"Moving pictures" were increasing in length, taking on fluid narrative forms, and being edited for the first time. Two of the earliest*westerns* (or cowboy-related) films were both Edison Manufacturing Company films made at Black Maria:

- the one-shot (less than one minute short) **Thomas Edison's Cripple Creek Bar Room Scene (1899)** - with the 'first' western saloon setting
- **Poker at Dawson City (1899)**

Breakthrough Films of Edwin S. Porter - the "Father of the Story Film":

Inventor and former projectionist Edwin S. Porter (1869-1941), who in 1898 had patented an improved Beadnell projector with a steadier and brighter image, was also using film cameras to record news events. Porter was one of the resident Kinetoscope camera operators, producers, editors and directors at the **Edison Company Studios** in the early 1900s, who worked in different film genres. Porter was hired at Edison's Company in late 1900 and began making short narrative films, such as the 10-minute long **Jack and the Beanstalk (1902)**. Edison was actually uncomfortable with Porter's innovative editing techniques, including his use of close-ups to tell an entertaining and engaging storyline.

The Life of an American Fireman (1903)

Edwin S. Porter was responsible for directing this six-minute long narrative film - often alleged to be the *first* American documentary, docudrama, fictionalized biopic or realistic narrative film, with non-linear continuity. It combined re-enacted scenes, the dreamy thoughts of a sleeping fireman seen in a round iris or 'thought balloon', and documentary stock footage of actual fire scenes. It was the first film to be dramatically edited with *parallel action* and *inter-cutting* (aka *cross-cutting* or *jump-cutting*) between two or more events occurring simultaneously in two different locations -- the exterior and interior of a burning house.

Porter's Cross-Cutting Editing Technique (Parallel Action)		
		
Woman in Burning Building	Window Rescue (Inside View)	Window Rescue (Outside View)

The Great Train Robbery (1903)

With the combination of film editing and the telling of narrative stories, Porter produced one of the most important and influential films of the time to reveal the possibility of fictional stories on film. The film was the one-reel, 14-scene, approximately 10-minute long **The Great Train Robbery (1903)** - it was based on a real-life train heist and was a loose adaptation of a popular stage production. His visual film, made in New Jersey and not particularly artistic by today's standards - set many significant milestones (tools and techniques) at the time that shaped narrative film grammar:

- it was the first narrative Western film with a storyline, and included various western cliches (a shoot-out, a robbery, a chase, etc.) that would be used by all future westerns [Note: the same claim was made for the earlier 21-minute **Kit Carson (1903)**]
- it was a ground-breaking film - and one of the earliest films to be shot out of chronological sequence (and not in a strictly linear fashion), again using revolutionary parallel *cross-cutting* (or *parallel action*) between two simultaneous events or scenes; it did not use fades or dissolves between scenes or shots
- it dispensed with a static camera, and used shots known as a pan (for example, the escaping bandits fleeing through the trees to their horses) and a tilt
- it effectively used rear projection in an early scene (the image of a train seen through a window), and two impressive panning shots
- it was the first 'true' western, but not the first actual western [Note: Edison's **Cripple Creek Bar-Room Scene (1899)** was probably the first western.]
- it was the first real motion picture smash hit, establishing the notion that film could be a commercially-viable medium
- it featured a future western film hero/star, Gilbert M. Anderson (aka "Broncho Billy")

In an effective, scary, full-screen closeup (placed at either the beginning or at the end of the film at the discretion of the exhibitor), a bandit shot his gun directly into the audience. The film also included exterior scenes, chases on horseback, actors that moved toward (and away from) the camera, a camera pan with the escaping bandits, and a camera mounted on a moving train. Porter also developed the process of film editing - a crucial film technique that would further the cinematic art. Most early films were not much more than short, filmed stage productions or records of live events shot with a static camera. In the early days of film-making, actors were usually unidentified and not even trained actors. The earliest actors in movies, that were dubbed "flickers," supplemented their stage incomes by acting in moving pictures.

Nickelodeons: Expanded Film Exhibition

In the early 1900s, motion pictures ("flickers") were no longer innovative experiments. They soon became an escapist entertainment medium for the working-class masses, and one could spend an evening at the cinema for a cheap entry fee. Kinetoscope parlors, lecture halls, and storefronts were often converted into*nickelodeons*, the first real movie theatres. The normal admission charge was a nickel (sometimes a dime). Nickel- was attached to the Greek word for theater -- "odeon." Hence the name *nickelodeon*. They usually remained open from early morning to midnight.

The first nickelodeon, a small storefront theater or dance hall converted to view films, was opened in Pittsburgh by Harry Davis and John Harris in June of 1905, showing **The Great Train Robbery**. Urban, foreign-born, working-class, immigrant audiences loved the cheap form of entertainment and were the predominent cinema-goers.

Most of the earliest films were known as "*one-reelers*" - about 10-16 minutes in length (equivalent to one reel of film). One-reel shorts, silent films, melodramas, comedies, or novelty pieces were usually accompanied with piano playing, sing-along songs, illustrated lectures, other kinds of 'magic lantern' slide shows, skits, penny arcades, or vaudeville-type acts. Standing-room only shows lasted between ten minutes and an hour. The demand for more and more films increased the volume of films being produced and raised profits for their producers.

But newspaper critics soon denounced their sensational programs (involving seduction, crime, sex and infidelity) as morally objectionable and as the cause of social unrest and criminal behavior - and they called for censorship. They also criticized the unsanitary and unsafe conditions in the often makeshift nickelodeons. By the early 20th century, nickelodeons were being transformed into more lavish *movie palaces* (see more below) in metropolitan areas. By 1908, there were approximately 8,000 neighborhood theatres.

The Growing Film Industry:

Businessmen soon became interested in the burgeoning movie industry. Studios began to form when entertainment companies became large enough to create their own production facilities (offices, sound stages, props, costumes, and editing rooms). Some

PRODUCTION

DISTRIBUTION

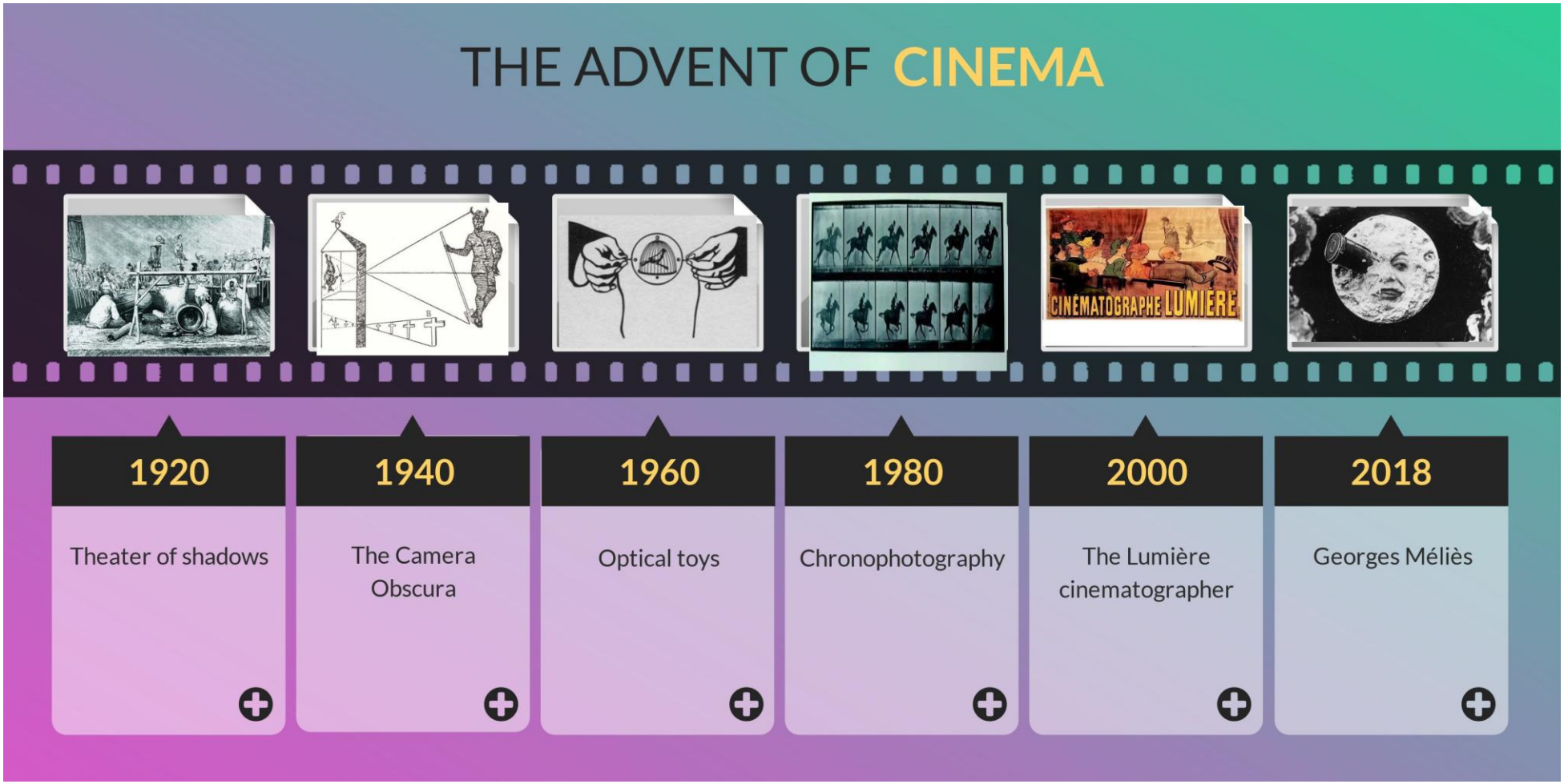
EXHIBITION

of the biggest names in the film business first got their start as proprietors, investors, exhibitors, or distributors in nickelodeons. For example, future movie mogul Carl Laemmle opened his first nickelodeon in Chicago in 1906. But then, early film pioneers realized that further profits could be derived by creating new systems of distribution (to market the films and deliver them to the theater exhibitors), and by expanding the film audience to the middle-class, women, and children. In the earliest days of the US film industry, New York (and the East Coast) was the epi-center of film-making, not Los Angeles (Hollywood) on the West Coast.

In the first few decades of US film production, many of the early film companies became *vertically-integrated*, bringing together all components of the industry. All of the steps in film-making were controlled by a single company-studio or entity, in order to maximize profits and wield tremendous power. The earliest studios owned the three tiers of the entire system: the production (or manufacturing) company (the actors, directors, and the production studio), the marketing and distribution (or supplier) network, and the exhibition company (the theater chains). At first, the defining objective of the earliest studios was to complete as many films as possible on the production-assembly line (like Henry Ford in the auto industry), regardless of quality. Films (and the necessary projection machinery and equipment) were sold, not rented, to exhibitors, but then, as film production increased, cinema owner William Fox was one of the first (in 1904) to form a distribution company (a regional rental exchange) that bought shorts and then rented them to exhibitors at lower rates.

Others entrepreneurial independents included the Warner Brothers, Adolph Zukor, Marcus Loew, Jesse Lasky, Sam Goldwyn (originally named Goldfish), and Louis B. Mayer.

Annex #2: The Genially presentation.



Annex #3: The Dictogloss content and pictures used.

DICTOGLOSS CONTENT

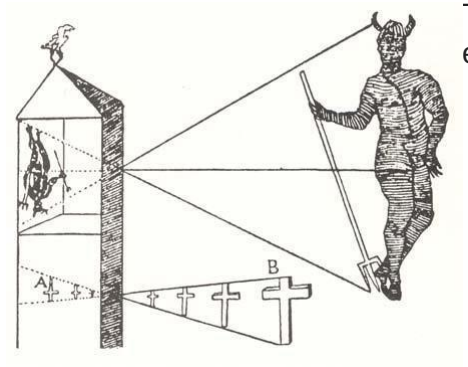
ÍNDEX:

1. Theater of shadows:

The shadow spectacles are the oldest precedent of the projection of images. It is difficult to date chronologically and geographically their appearance. Its origin is very remote; the myth of the cave of Plato could be considered one of the oldest antecedents of this type of spectacle.

2. The *Camera Obscura*:

It is a room or a box completely empty and dark where the outside light only penetrates by a small hole located on the wall or on one side of the box. The ray of light that penetrates from the outside projectes to the opposite wall of the box or camera the smallest outer image, inverted, and with its natural colors.



The dark room allows to observe in a surface the reflection of the external phenomena. The images are ephemeral, they are light that can not be retained.

3. The Magic lantern:

It could be said that the magic lantern works exactly the reverse of the dark room. The flashlight is an empty box where a light bulb is introduced, initially candles and oil lamps, and later other more evolved lighting systems. The magic lantern consists of a hole and a goal with lenses where the light comes out that allows you to project on a wall, screen or fabric. Between the focus of light and the goal, they placed a series of glass plates illustrated and painted with bright colors; In fact, the magic lantern has the same operation as a slide projector.

4. The Optical boxes:

The optical boxes allowed to visualize at the same time a small number of people, engraved with images from different places within a box. Looking at a hole with a lens, 'spectator lost all external references and he felt inside the image. This experience allowed «to see the world through a hole».

5. Photography:

The word "photography" comes from Greek phos, which means light, and graphein, write. When a photograph is taken, the shutter button is pressed and the object is opened for a moment, where a light beam enters, leaving a trace in the photo roller, which is photosensitive (light sensitive) thanks to the silver salts it contains. In this process we get a negative photo where everything is in reverse (the places where silver has received more light are black and vice versa). It will be necessary for this negative to be revealed so that later copies are made in a positive way that allow us to see the photograph as we have done.

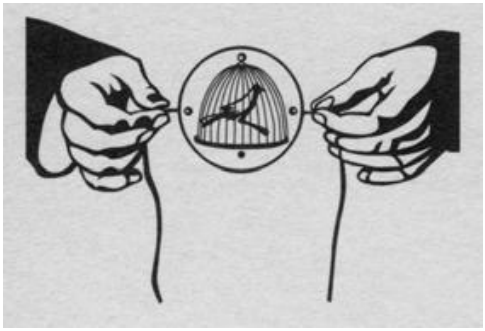
6. Optical toys:

Throughout the 18th and 19th centuries, scientists studied optical phenomena that initially called retinal persistence. They realized that when the human eye perceives an image, this remains latent in the retina for a few moments. This would explain, for example, the fact that if you look fixedly at a point of light and suddenly close your eyes, you still see the point of light even if you have eyes closed, or why when you blink, we do not realize the closure of the eyes .

Throughout the 19th century a series of gadgets were invented to find the measure of retinal persistence and to calculate the time that the images were recorded in the retina, the so-called optical toys. Later, scientists discovered that this phenomenon had nothing to do with the retina, it was a psychic and brain characteristic that they called the phi effect. This effect was and is the cause of different optical illusions such as those that we can experience at the wheel of Newton, the Faraday disc, the Nollet balloon or the most famous of all, the Thaumatrope.

- **The Thaumatrope**: Taumatrop (W.H. Fitton - Dr Paris, Great Britain, 1825) from Greek *thauma* (wonder) and *tropos* (action to turn).

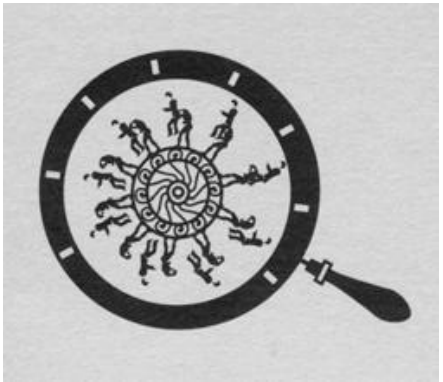
It consists of a circle or rectangle of cardboard, drawn by both sides and attached to the ends by some threads, so that if it is rotated quickly, and thanks to the phi effect, mix it of impressions that leave the two drawings cause that the viewer sees a third, complete, with the union of two parts.



- **The Phenakistoscope**: Phenakistoscope: (Plateau, Belgium, 1832)from Greek *phénakistisco*s (deceive) and *scopein* (examine, look).

It allowed to synthesize a series of drawings with the decomposition of movements through a disk that worked as a shutter with so many slots as there were drawings. By turning the disc at high speed, the shutter prevents seeing the change from one drawing to the other and thus the magic, the illusion takes place: it seems that the images take movement, since it is seen as a continuous sequence . The movement of the images generated by the

Phenakistoscope, despite being repetitive, was much more natural, real, than what could be seen in the magic flash spectacles. It is the first device that manages to animate a sequence of drawings that are tics that break down the different phases of a movement.



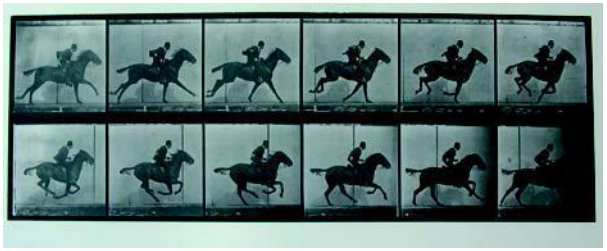
- The **Zoetrope**: Zoetrope (Horner, Great Britain, 1834). From the Greek *zoo*n (animal) and *tropos* (action to turn).
  He was inspired by the Phenakistoscope, but with the advantage that the moving image could be observed by more people at the same time The drawings were placed on bands of paper longitudinal and placed inside a metal drum or Cardboard with several vertical slots through which He had to look as he turned to feel the movement.

- **The Praxinoscope**: From Greek *praxis* (movement) and *skopein* (examine, look).
  It was built by perfecting the zoetrope, since the slots of the Drums are replaced by mirrors placed inside them, mirrors that reflected the images of the band, giving one
  feeling of movement less sudden and more luminous, since the sealing time was eliminated. The success of this ingenuity goes lead to create other similar toys such as praxinoscope theater (1879) and toupie fantoches (1879).

These toys will be of vital importance for, years later, to reach the invention of cinema. For the first time, static images can be provided with movement, in this case not real, because the animated sequences were about drawings. The technical basis to achieve this was very similar to what time later it would be used in the cinematographer and the key piece was and is the shutter. You just have to replace the drawings for photographs, and get a repetitive sequence to become a story based on multiple and different actions.

7. Chronophotography:

Chronophotography was a technique that allowed to impress on the same glass plate, or on a photosensitive celluloid film, the photographic sequence of a moving body. It was, without a doubt, the most immediate precedent of cinematographic films.



8. Optical theater:

Another innovation that appears in this the same time is the Reynaud optical theater. This visual spectacle allowed the projection of hand-painted animated stories on semiridal lantern plates magical The plates were placed inside a band of flexible fabric, with perforations to each band that allowed his drag This band rolled up in a coil that was dragged manually the projection was done with two magical lanterns: one for the bottom of the scene, which was fixed, and the other for the stories lively.

9. Kinetoscope:

In order to be able to see real moving images captured and fixed thanks to the chronograph, Thomas Alva Edison, his assistant Dickson patented in 1891 the kinetoscope, an individual viewer that allowed to see images of a 35 millimeter perforated film that shot at high speed in a continuous way. But what's missing to get to the movies? The projection of these films on a screen. Edison was not able to see the economic potential that these projected images would have had, and on the other hand, he had to solve the intermittent drag problem of the kinetoscope movie.

10. The Lumière cinematographer:

After seeing the operation of the kinetoscope, Auguste and Louis Lumière thought that if images were projected on a screen they could see more people at once. The Lumière brothers were the owners of a thriving photographic material company, although there were many who realized the new possibilities, they were the ones who had the economic resources and the ingenuity they needed to do so reality

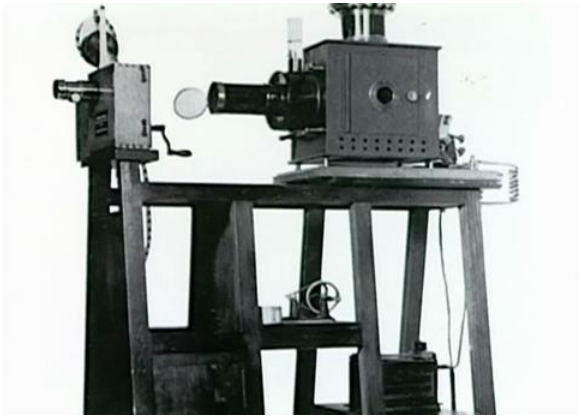
Origins:

That's how late in 1894 they resolved Edison's projection problem and devised a mechanism of intermittent movie dragging by inspiring in it The Kinetoscope. On February 13, 1895, the cinematographer was patented (from Greek kinema or kinematos, movement, and graphien, write).

Operation:

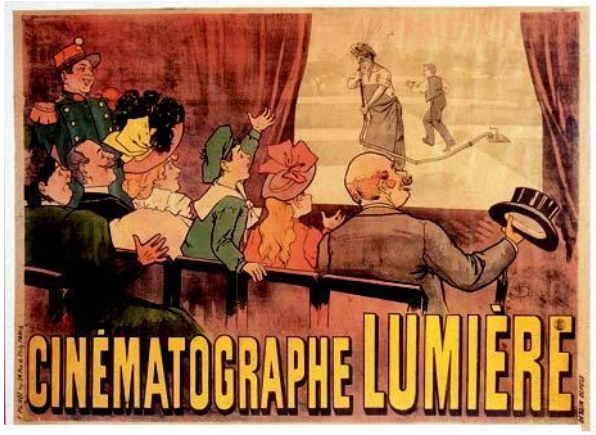
The Lumière cinematographer allowed to project the films on a screen thanks to the incorporation of a flashlight, and with the same device, it was also possible to shoot and shoot copies of the films. He used a 35 mm film, perforated (two circular perforations on both sides), 17 meters long, and allowed to project at the rate of 16 images per second.

This intermittent movement is the one that allows you to drag the film correctly in front of the shutter. In this way our eyes retain the frame a hundredth of a second until they see the next and our brain can unite the two photographs or frames creating the sensation of movement.



On December 28, 1895 there was a moment in history: the first public projection of payment with the invention of the Lumière brothers, at the Indian Grand Café Hall, at number 14 of the Boulevard des Capucines in Paris. A group of 33 spectators paid a franc to see the first 10 animated stories of the story. Films like The factory exit, The arrival of the train to the station or The watering canister were very successful.

This projection was announced with a poster that has become famous everywhere and it is known as an official date of the appearance of cinema.

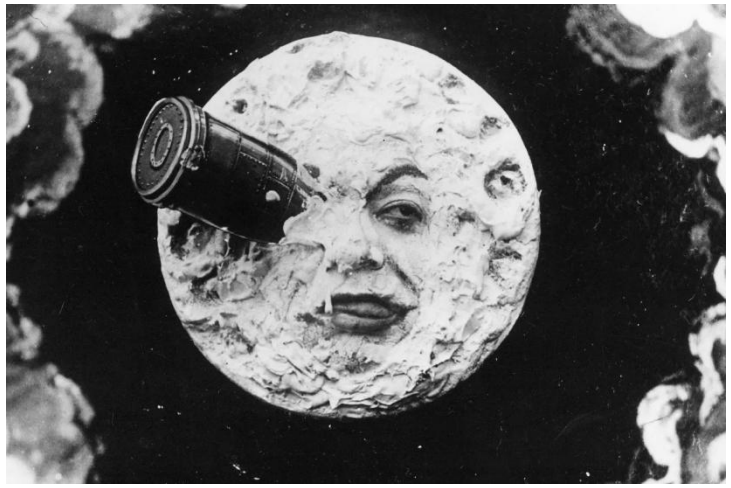


Every year, every December 28, is celebrated the anniversary of the birth of cinema. The films of the

Lumière brothers, however, are they just represented everyday reality. He what matters most to them was the technical aspect of the cinema, the fact of watching pictures in motion, and they put aside a possible argument.
That was the reason that, soon, when everything just the cinematographer had two years of
existence, led to the boredom of the public in front of those so repetitive images. This and other reasons (the competition of other devices, the difficulty of controlling an organization on a global scale ...) made the projections of the Lumière brothers' films into crisis, but new characters appeared soon that revived this show.

11. Georges Méliès:

New creators such as Frenchman Georges Méliès or Spanish Segundo de Chomón were among the audience of the first screenings. Soon they realized the expressive and communicative capacity of cinema. They will be the precursors of the first cinematic pieces, the clearest precedent of the current animation film.
Méliès was astonished at the technical possibilities of the cinematographer and wished to be able to integrate his magic into the new invention. He wanted to buy one of these wonderful gadgets to the Lumière brothers, but they refused to. Finally, he built his own cinematographer from an English projector model and turned his theater into a projection room.
The chance wanted that on a day of 1896, recording outside the Paris Opera House, the machine was blocked for a moment. Méliès re-paste the film and continued recording. Later, when he projected what he had recorded, he noticed that a horse-drawn tramway suddenly turned into a funeral car. In this way, stopping the camera, replacing the objects or people, and continuing to roll, began to make a lot of movie calls such as Journey to the Moon or 20,000 travel and submarine languages, full of gags, totally different from those that the public was accustomed to, much more fun and full of magic. I had discovered the cinematic trick. From there, Méliès continued to explore the infinite possibilities of the call: substitutions, overprints, models ... The result of this discovery was a cinema full of magic and fantasy and, why not say it, the first cinema with special effects.



12. Synthesis:

To reach the invention of cinema, human beings have come a long way that has not yet come to an end. In the first part of this document we have talked about the first images of the projection of images (static), in particular, a journey has been made to discover performances with shadows and magic lanterns. Also mention has been made of the first ingenuity that allowed to capture real images, the dark room, and talk about the first system of fixing real images, photography.

In the second part of the document, the technical advances that have led to the projection of moving images and, definitively, to the cinema, have been reviewed. We have seen how the first films and the first screenings of cinema were, as cinema becomes an art and an industry. Also how new devices appear that move the magic of making cinema to amateurs and children.

But the history of visual images and shows is endless. Cinema n 'is another chapter, which will give rise to new techniques and new shows. Who would have told the Lumière brothers that digital images can now be obtained, to give just one example. But the engine that moves the human being is the same that for thousands of years: to explain, to narrate, to show stories with images inspired by the reality that surrounds us, but that often places us in fictitious, magical spaces and, at the same time, unbeatable .

Annex #4: Instructions and materials needed to create a Zoetrope.

ACTIVITY: LET'S BUILD A ZOOTROPE!

Optical toys became devices that allowed the movement to static images. We propose you to create one, specifically the zootrope, which consisted of drawings that were distributed in longitudinal bands of paper and were placed inside a metal drum or cardboard with several vertical slots through which had to be watched while turning. The effect was the sensation of the continuous movement of the image.

For the realization of the zootrop you will need card, glue, scissors and a pencil (better if it is cylindrical instead of hexagonal).

Here are instructions for making a zootrop and the necessary parts:

1. Cut out pieces 1 and 2 for the discontinuous lines. Attach the two resulting rectangles on a card (to strengthen the support) by joining the pieces 1 and 2, so that there is only one continuous strip of drawn horses.

2. Cut out the contour of the resulting strip, taking into account the tabs that are in the lower part, the incisions on the top and the tab on the side. Give it a watchful cylinder shape that the face of the horse's drawing stays in the inner part of the cylinder. Use the latch on the side to close the cylinder. You have built the zootrop band.

3. Cut piece 3 (the disc) and paste it as the base of the cylinder that you have formed with the strip, using the tabs of the cylinder strip. The part with the drawing of the spiral must remain inside the cylinder. You have built the zootrop drum. The disc can also be strengthened by sticking it to a card before trimming it.

4. Cut out piece 4 following all the marked lines. Roll it by helping with a pencil, matching the two tabs on the ends. Push these two tabs. You will get a cylinder with four tabs. Roll the cylinder around the pencil and open the four tabs outwards.

5. Attach the four tabs to the center of the base of the cylinder (part 3) by the bottom part (the one that does not have the spiral) making sure that it is as perpendicular as possible. Remove the pencil when attaching the tabs.

6. Place the pencil in the cylinder of the four tabs again (better if it is cylindrical so that it rotates better). Hold the device at eye level and make it turn quickly. If you look through the holes, you will see how the images take movement.

7. Following as a model the zootrope of the horse, you can draw your own zootrope band and, once done, place it in the drum to give it movement. The effect is amazing!