**Lumière, Auguste (b. Oct. 19, 1862, Besançon, France; d. April 10, 1954, Lyon) and Lumière, Louis (b. Oct. 5, 1864, Besançon, France; d. June 6, 1948, Bandol)**

**Summary**

The Lumière brothers, Auguste and Louis, invented the Cinématographe, a motion-picture camera and projector, and used it to create the film *La Sortie des ouvriers de l’usine Lumière* (*Workers Leaving the Lumière Factory*) in 1895. The Lumières’ public performances began on 28 December, 1895 with a program of ten titles in Paris. Louis Lumière was already an accomplished photographer with a keen eye for visual compositions, and he shot most of the brothers’ first films, while August appeared frequently in front of the camera. Even the earliest films demonstrated Louis’ sophisticated visual sense and contained the seeds of several genres including comedy and documentary. The Lumières sent cameramen around the world to record images of other lands and cultures in order to show the world to their audiences. The Lumières held on to their invention and the advantage it afforded them for public exhibition for a couple of years, but from1897 onwards they began selling Cinématographes to other companies, which helped spread the cinema around the world more quickly. After some financial reverses, the brothers ceased producing films in 1905 but continued research in still photography.

**Main Entry**

In late 19th and early 20th centuries, several inventors on both sides of the Atlantic were working on machines intended to project moving images, and mechanisms that created the illusion of motion using sequential photographs that had been around for several years. In fact, projected moving images to convey a story using drawings had been exhibited to audiences since 1888 with Charles-Emile Reynaud’s Projection Praxinoscope. Furthermore, Thomas Edison perfected the Kinetoscope in 1893 that exhibited moving pictures with sequential photographic images on a strip of film, but one viewed them by looking into the cabinet housing the film and the drive mechanism. The Lumière brothers, Auguste and Louis, invented the Cinématographe, a motion-picture camera and projector, and used it to create the film *La Sortie des ouvriers de l’usine Lumière* (*Workers Leaving the Lumière Factory*) in 1895, which signaled the birth of cinema.

The Cinématographe performed three functions: (1) it captured sequential photographic images on a strip of film; (2) it could be used to develop that film; and (3) when linked to a magic lantern for a light source, it could project the images on that film strip onto a screen for viewing by a large audience. An operator could, in effect, shoot a film in the morning, process it in the afternoon, and project it in the evening, all with the same piece of equipment.

The Lumières received a French patent for their invention on 13 February, 1895. They made their first film on 19 March, 1895, and their first Cinématographe exhibition took place three days later at the Société d’Encouragement à l’Industrie National (Society for the Encouragement of National Industry) on 22 March, 1895. Public performances began on 28 December, 1895 with a program of ten titles (each about fifty seconds long) in the Salon Indien of the Grand Café on the Boulevard des Capucines in Paris.

The Lumières were the first to succeed in putting together the elements of narrative, illusory motion, a strip of film, projecting it onto a screen for viewing by an audience. The Cinématographe was hand-cranked and, weighing about four kilograms, was relatively light compared to contemporary similar devices. These features made it very portable and flexible to use, since it allowed for techniques such as varying the recommended speed of sixteen frames per second to achieve various special effects.

Louis Lumière was already an accomplished photographer with a keen eye for visual compositions, and he shot most of the brothers’ first films, while August appeared frequently in front of the camera. Even the earliest films demonstrated Louis’ sophisticated visual sense. His very first film *La Sortie de l’Usine LUMIÈRE à Lyon* (*Workers Leaving the Lumière Factory in Lyon*,1895) divides the screen space into the open street in front of the factory, and the implied largely unseen space of the factory interior from which the workers emerge to move along diagonals within the street space. This film also demonstrates the Lumières’ clever business sense, since the multitude of cheerful workers emerging from the Lumière factory suggests its efficiency and proficiency, and this film was used repeatedly to promote the family business. Subsequent Lumière films continued the self-promotion by frequently including posters advertising the Cinématographe itself for its shows. At least three versions shot at different times of the year exist of the workers’ exit, make this also the first instance of a movie re-make.

The first Lumière programs contained the seeds of several genres. *Le Jardinier* (*The Gardener*), later called *L’Arroseur arosé* (*The Sprinkler Sprinkled*), still amuses with its simple slapstick gag wherein the gardener gets sprayed in the face when he tries to see what is blocking his hose. *Démolition d’un mur* (*Demolition of a Wall*) documents August directing workmen tearing down a wall and then presents a trickfilm scene when the action is run in reverse. *Les Pompiers* (*The Firemen*) consists of four separate films chronicling the response to a fire and taken together in sequence represents one of the first examples of editing in the cinema. *L’Arrivée d’un train en gare de la Ciotat* (*The Arrival of a Train at La Ciotat Station*) drives the train into the frame on a strong diagonal and then has passengers disembarking and moving past the camera, signifying space behind the camera or past the fourth wall of the screen. This single shot film startled the audiences who screamed and ducked since the train appeared to crash into the hall. Lumière frequently relied on such diagonal movements and diagonal perspective to accentuate the depths of his images. He also explored the space within his images by filming locales and actions that effectively divided his screen into different levels, either stacked one on top of the other or ranked one behind the other, with action occurring in all of them. These early Lumière films displayed a remarkable depth of field, since everything in the image was in focus. Audiences were aware of background details such as leaves moving in the wind and smoke coming from passing trains -- things which affected the play of light, to which the audiences had perhaps become attuned by virtue of the Impressionist movement in the static visual arts.

The Lumières sent their cameramen around the world to record images of other lands and cultures in order to show the world to their audiences. Louis insisted that they shoot their films in the streets and focus on common people. And when Louis saw the dynamic footage of passing scenery that one of his operators had shot from a moving train, he urged all his cameramen to shoot from moving conveyances as much as possible.

On the business side of the cinema, the Lumières held on to their invention and the advantage it afforded them for public exhibition for a couple of years, but from1897 onwards they began selling Cinématographes to other companies, which helped spread the cinema around the world more quickly. In 1897 a horrendous fire at a Paris screening killed about 125 people, mostly from the upper classes. Fashionable urban viewers lost some enthusiasm for the cinema as a result, and the film business in France declined. At the same time, competition from more innovative rivals also cut into Lumière revenues, and the brothers ceased production in 1905. Louis and Auguste continued research in still photography, however, and Auguste also became involved in medical research.

**References and Further Readings**

Elsaesser, T., ed. (1990) *Early Cinema: Space – Frame – Narrative.* London: British Film Institute.

Grieveson, L. and Krämer, P., eds. (2004) *The silent Film Reader.* Lobndon: Routledge.

Liesegang, F. (1986) *Dates and Sources:A contribution to the history of the art of projection and to cinematography.* London: The Magic Lantern Society of Great Britain.

**Selected Filmography**

*The Lumière Brothers’ First Films* Kino Video DVD 1996 (Lumière films 1895-1897) presented in association with The Lumière Institute. A collection of 85 Lumière films, with narration by Bertrand Tavernier.

**Paratextual**

Many images are available on the web site of L’Institut Lumière <<http://www.institut-lumiere.org/english/frames.html>>, including a video of the workings of the Cinématographe <<http://www.institut-lumiere.org/english/frames_lum.html>>

*Danse Serpentine* (1896), hand-colored dance film on UbuWeb: <http://www.ubu.com/film/lumieres_danse-serpentine.html>

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