

Occident Trotting - A Strange Title

by Julian "Bud" Lesser

The world's first movie producer never got a screen credit because he did not know he had produced a movie. The year was 1879 and movies had not been invented yet.

Producer Leland Stanford scored a smash hit with the world's first photographed movie, *Occident Trotting*. It carried him and his cinematographer, the self-named Eadweard Muybridge, into a carnival of fame. Their California association then fractured, not over money but over credits.

It all began with a dare:

Stanford wanted to prove that all four hooves of a trotting horse leave the ground at the same time.

Besides being a railroad president and a former governor of California, Stanford was a horse expert. Born in 1824 and raised on a farm near Albany, New York, he had an uncanny, appreciative sense of animals. He began training horses in Sacramento

about 1870 when he firmed up his "all-four-hooves" conviction and gambled his reputation on it.

He argued with Eastern horse people about trotter hooves in the air, an action too fast for the eye to see. It had never been depicted, not even by the classic Greeks, skilled at sculpting horses in marble. Because horses were the main transportation in 1870, any question about them was as important as a question about cars today. For Stanford, the debate was at a personal level. He was seen as a bemused Westerner by other horse connoisseurs. His intelligence was being questioned.

Stanford had been impressed by anatomy professor Etienne Marey's experiments in Paris with trotters. Marey had attached ink-filled syringes to horses' hooves to make crude charts. Stanford discussed the thinking with his editor friend in San Francisco, Fred MacCrelly, who made a suggestion:

Stanford might prove his theory with the new craft, photography. MacCrellish recommended San Francisco photographer Eadweard Muybridge for the job.

Photography could also prove Stanford wrong, but he accepted the challenge. He invited Muybridge to meet him at his Sacramento home to discuss the photographic possibility.

Each man carried vivid credentials to the meeting.

Stanford had practiced law, then came to California in the gold rush as a storekeeper. A burly 200 pounder, he was quiet and slow-spoken. While in his twenties, Stanford was appointed justice of the peace by his frontier mining village, Michigan Bluff. According to Stanford biographer Edwin P. Hoyt, a miner complained to Stanford that the town blacksmith, a hot-tempered brute named Diltz, beat him up. Stanford had to act. He called a town meeting "to hear witnesses," then fined Diltz. Diltz glared at Stanford and rose to punch him. Stanford, brawny from lifting barrels in his store, gazed back at Diltz, motionless. He eyeballed Diltz down.

Stanford was also a master executive and, like today's young studio heads, he started early. At 35 he managed the infant Republican Party in Sacramento, the first delegation to nominate Abraham Lincoln for president. The party then ran Stanford, 37, for governor of California in 1861. He won by a large vote. That year he also became head of the Central Pacific Railroad and supervised building the line through the Sierras. He dug its first spadeful of earth in Sacramento and sledgehammered the golden spike in Utah to complete its national linkage in 1869.

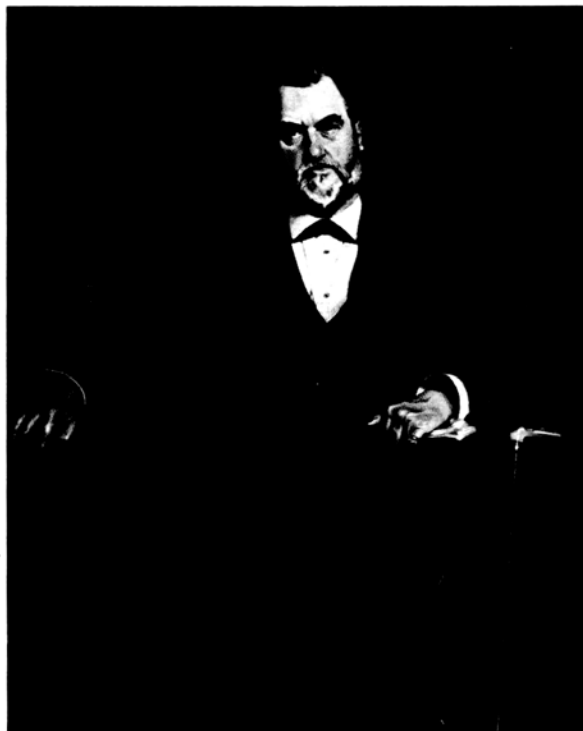
The man he was meeting in 1872 - Muybridge - was considered the finest photographer on the Pacific Coast. His spectacular Yosemite scenics sold widely as postcards and for stereoscope inserts. He was official photographer for several U.S. government expeditions. He loved his work. "He generally spurned money and would never make a view if he did not see beauty in it," said his photo studio senior, William Rulofson.

Muybridge was born in England in 1830 as Edward Muggeridge and, like a later Briton, Cary Grant (nee Archie Leach), he arrived in California with a new name. The "Eadweard" he took from ancient Anglo-Saxon kings.

Hardy, he carried heavy wooden cameras and crates of glass plates up mountains alone. In contrast to Stanfords bulk and black hair, he was wiry and his hair had turned partly white after a stagecoach accident. He dressed as an artist, rejecting the accepted Stetson or derby to wear a floppy, wide-brimmed felt hat.

Verbally effusive, Muybridge wrote many letters and copious memoirs. In comments accompanying his published photos, he used literary style to describe himself as "the photographer." The history of *Occident Trotting* relies heavily on Muybridge's documentation because the taciturn Stanford wrote little about his own activities. Stanford even asked a doctor friend to write his book on the horse movies.

Stanford University Museum of Art I2038/Stanford Family Collection



Jean Louis Meissonier's 1881 of Stanford. Note Muybridge photo: near his left elbow Opposite page: *Occident trotting* - 24 frames of movement

Muybridge worried about meeting Stanford. He wrote MacCrellish, "I candidly admit I was... amazed at the boldness of your proposition."

With good reason.

"Stanford's trotter would whip by Muybridge's still camera at over 20 miles per hour," says cinema historian Geoffrey Bell. "This was when emulsion speeds were so slow, photographers were using clamps to hold portrait subjects' heads rigid."

"The fastest shutter available to him was probably 1/2 second," adds still photo historian Stephen White. "Most photographers exposed by hand. They pulled off a lens cap and snapped it back on, timing by feel."

Thus, Muybridge wrote that in his first meeting with Stanford, he told the governor that photographing a horse at full speed was "unheard of. Photography has not yet arrived at such a wonderful perception."

Stanford replied, "I think if you will give your attention to the subject you will be able to do it, and I want you to try."

Muybridge agreed to try and as far as is known, they made this arrangement: Stanford would finance and have final approvals. There would be no fixed budget. Muybridge would supervise all photography, and retain both the copyrights and any patents developed.

Nothing was said about credits. As a result, Stanford was identified as the patron, the person who paid the bills and furnished the horse.

Stanford chose the Union Park Race Course, Sacramento, for tests. He "cast" his favorite horse, Occident, as the trotter.

Occident was a small gelding who had been

Muybridge at the time of the Occident experiment. Below: Flora Muybridge, photographed by her husband c. 1872.



Bancroft Library, University of California, Berkeley



Stephen White Collection

hauling a butchers cart until Stanford sensed potential in the way the animal moved and bought him. To train Occident, Stanford applied a personal magic. The method involved gentle treatment to gain the animal's confidence, maximum speed under whip in short bursts only. The year after *Trotting* started, Occident tied a worlds speed record.

To catch the fleet Occident with his still camera, Muybridge had to invent a faster shutter. He devised two sliding wooden slats, much like today's focal plane shutters, except his two moved opposite to each other, powered by India rubber bands. By two

apertures crossing each other, the calculated exposure could be reduced to 1/2,000 second.

Muybridge showed Stanford one still that he believed showed all accidents hooves in the air. The image was blurred and grainy, yet it was sufficient to encourage Stanford, who remarked, "I am convinced. Now I will convince others."

But the work was halted abruptly in 1874 by a murder.

Muybridge's wife Flora birthed a son whom, Muybridge discovered, he had not sired. He immediately stalked his wife's lover to a card party in Calistoga and killed him with a single pistol shot. He surrendered to guests, was jailed in Napa County and held for trial.

The premeditated killing posed a dilemma for Stanford. His wife, Jane, "was a very moral and proper lady," says Professor Henry Breitrose, head of Film Studies, Stanford University. "She shared with her husband the management of their affairs. She was no shrinking violet."

Stanford, respecting his wife's and his positions, publicly distanced himself from Muybridge.

Privately, it was different, although Stanford admitted nothing. Muybridge had an outstanding legal defense and was acquitted ("justifiable homicide") in 1875. Stanford attended the trial. All signs pointed to him as the benefactor.

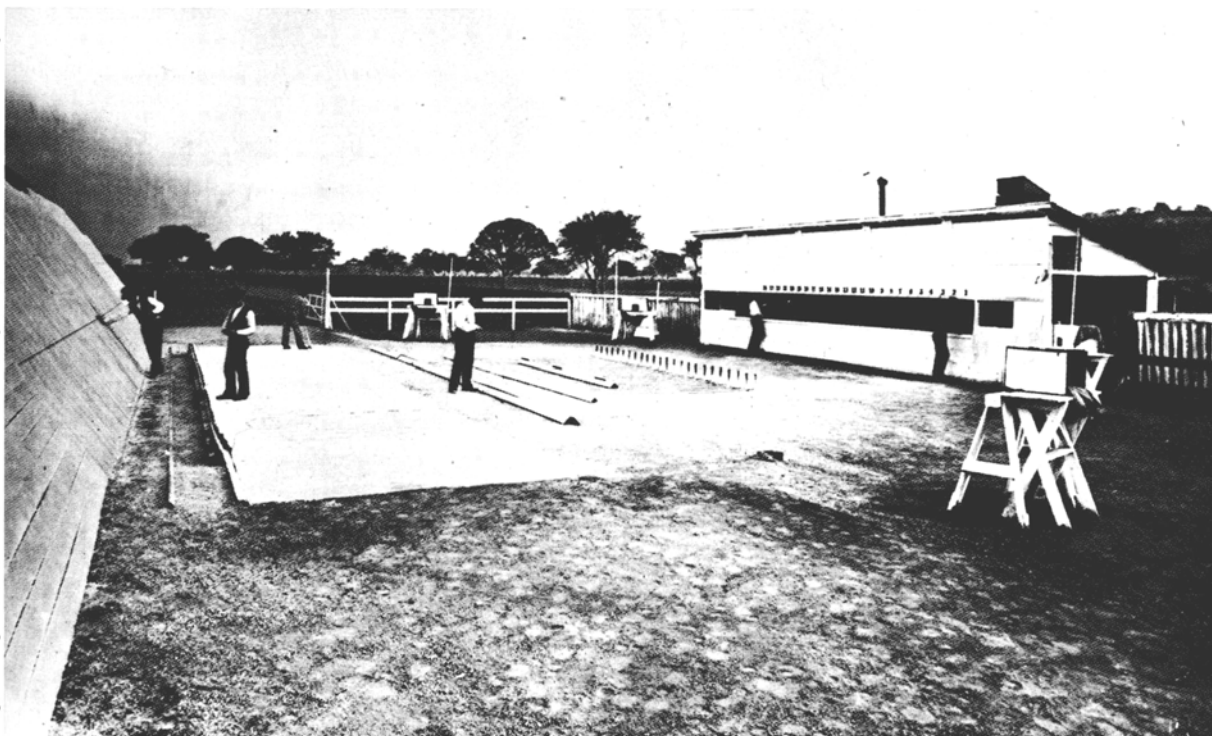
It was best that Muybridge "lie low" until the onus abated. He sailed for Panama and Guatemala to photograph exotic panoramas. In addition, Stanford commissioned him to record attractions for travelers, then shut down *Trotting* production.

During Muybridge's absence, Stanford bought a farm to train horses near Menlo Park, 45 miles south of San Francisco. He added contiguous property until he owned over 15 square miles. He named this ranch Palo Alto Farm and made it a Mount Olympus for horses. He built a three-story red barn capping multiple stables and training tracks, whose trotters set 18 worlds speed records between 1881 and 1891.

"Trotters probably interested Stanford because their speed is 84% that of thoroughbred race horses," says Dr. James Rooney, director, Gluck Equine Research Center, University of Kentucky, "but they maintain speed longer. And they are useful. Trotters haul carriages and wagons."

The trotter farm became the main shooting location after Muybridge returned from Guatemala. Actually, Muybridge was not "on call" continuously. He was more like an independent contractor. He left during waits between tests while new equipment was built and shipped. He had time to independently cover the Modoc War, San Francisco cityscapes, and Stanford's homes and family.

Stanford had been thinking. He surmised that a single camera working to pinpoint accidents fraction of a second in the air was too chancy. According to Kevin MacDonnell in his book, *Eadweard Muybridge, The Man Who Invented the Moving Picture*,



The "set." Cameras were housed in shed-darkroom at right. Background reflector at left was tilted back 30° to reflect maximum sunlight for back lighting.

Stanford asked Muybridge, "Would it be possible to line up a number of cameras in quick succession?" It would insure catching every fraction of accidents gait.

It was a \$64 billion question, but neither man was aware of the implications. Until then, the two were making pictures of motion. Thereafter, they would be making motion pictures.

Muybridge's solution to Stanford's request is what an experienced cinematographer today might devise for the same assignment: Record a horse run-by with still cameras. No Mitchell, no Arri, no motion picture camera of any kind would be available.

Muybridge designed and ordered 12 still cameras from Scoville, New York, with lenses from Dallmeyer London. He placed them shoulder-to-shoulder, 21 inches apart, on an outside track rail facing a set across the track. He built a shed over his cameras to protect them in fixed positions. The shed was also his darkroom where he coated, loaded and developed his collodion wet plates.

For the set Muybridge built a white canvas backing 15 feet high by 50 feet long against the inside track rail. On it he marked a grid so each frame could disclose minute changes of Occident's movement. He put numbers on top to slate each frame. He tipped it backwards 30 degrees to kick in maximum sunlight. That built contrast, but he wanted it; Stanford needed sharp detail, even if the images were silhouettes. He reflected in additional light by sprinkling white lime on the track.

His puzzle was how to trip the shutters. Occident would pass all cameras in under 'h second, too fast to hand trip evenly. Muybridge, or perhaps Stanford, decided that the horse going through could precisely trip the shutters and take his own pictures.

Muybridge placed rods under the track. accidents sulky wheels would hit the rods and trigger the shutter action.

However, the shutter trippers remained balky. Stanford sent that problem to technicians at his Oakland, California railroad yard. Seventeen-year-old engineer John Isaacs suggested electric circuitry. He and Muybridge tinkered and perfected workable magnetic trippers. The rail technicians thus became the world's first special effects department.

"Like many special effects groups these days, its personnel did not come from a film background," says Professor Breitrose. "They came from engineering. In current special effects facilities you'll find many people from engineering and pure science."

The 12-camera tests were so good, Stanford arranged a press preview. Guests witnessed a run-by shoot and Muybridge's immediate development of prints. Correspondents, brought from Sacramento and San Francisco by train and carriage, were dazzled.

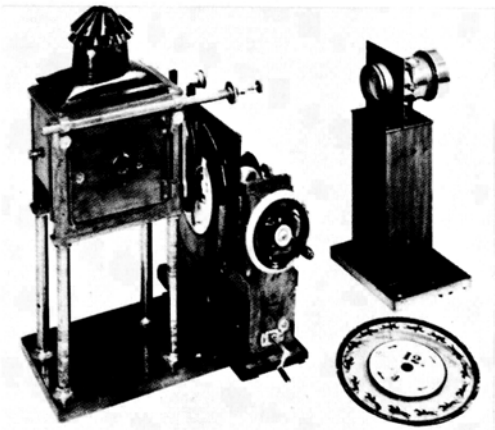
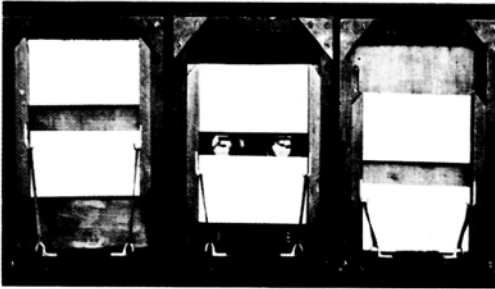
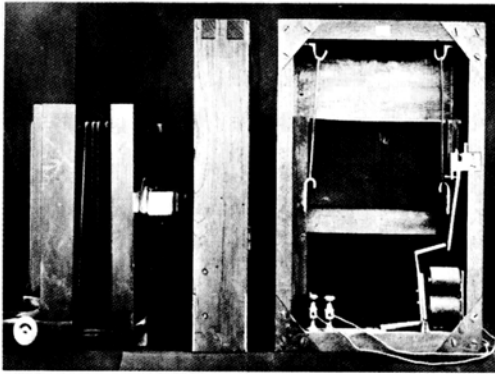
"The experiment was to reproduce the action of a horse at every point in his stride," reported *Pacific Life* June 22, 1878. "The result was so successful as to be beyond . . . cavillings. To Governor Stanford must be accorded the merit of first broaching (the plan). To Mr. Muybridge, great praise is due for... such a grand impulsion in the history of . . . photography"

Photography had solidly proven Stanford's contention about hooves in the air.

Trotting also opened a window of promise. Further wonders awaited in the motion cameras. Stanford approved new projects.

- They doubled the number of cameras to 24. It yielded the superb 1879 sequence with Occident reprinted here. Twenty-four was a prophetic number.

Top: Muybridge's Scoville cameras, side and back, showing the magnetic shutter tripper. Center: Front view showing rubber-powered shutters. Double lenses were for stereoscopic option. Bottom: Muybridge's pioneer projector put his inert horse stills into motion.



make *Pig Running*, *Goat Running*, and other menagerie runbys.

- They made *Man in Motion*. Stanford invited tumblers from the San Francisco Olympic Club to somersault down the track.

- They scored a "first" for the movie industry with each step. One step merits an overdue salute to Muybridge, made clear by Production Manager Francisco "Chico" Day (*Patton*, *Shane*, *Ten Commandments*). Day asks, "Who yelled up the track, We're ready. Run him through!" That is, with 24 cameras cocked and Occident hitched to his sulky, pawing the dirt, who shouted for the driver to move?

"Muybridge was in charge," says Day, "so it was Muybridge or someone at his signal." With that call for action, Muybridge became the worlds first motion picture director. "Stanford was the money man," adds Day, "so he would be the producer. Muybridge was the director."

- Their final project was monumental. Without it the photography was frozen. The 24 stills were as dead as any film case waiting in a projection booth today. *Occident* had to get up off the floor and run. He had to be projected. But there were no projectors.

Stanford asked Muybridge to devise something to show his horses running for his friends. Muybridge drew on toys Stanford collected, a magic lantern and a turning zoetrope that made drawings appear to move. In the lantern he revolved a glass wheel with *Trotting* transparencies around the rim, similar in design to the current Kodak Disc Camera load. To mask the change of frames, he counter-rotated a wheel with black arms like a Maltese cross. It was the shutter. Together, the elements worked. In several ways, the two men gave movies a running start.

Muybridge projected *Trotting* and other subjects on a wall in Stanford's Menlo Park home to delighted guests in the fall, 1879. The next year, Muybridge projected the program at the San Francisco Art Association hall to the worlds first paying audience. The periodical *Alta California* asserted presciently that Muybridge "laid the foundation of a new method of entertaining."

Trotting and its sequels reached sufficient stature to arouse antagonists.

"Bosh," reported the *Philadelphia Photographer* in 1878.

An Australian paper carried a complaint. The Work had "torn into tatters ten thousand prized paintings of horses."

Parisian sculptor Auguste Rodin said, "The artist is truthful. . . photography. . . lies."

The *Boston Globe* headlined, "Horses in the air. Professor Muybridge and his Queer (Projector)."

"Turfmen sneered at a horse getting itself into the position represented," writes author Kevin MacDonnell.

Regardless, *Trotting* moved steadily upward. American publisher Currier and Ives had issued a lithograph, *Occident Trotting* in 1873. Currier engravers added lines to the photo to clearly and artistically display all four hooves in the air.

Since the introduction of sound on film, theatrical movies have been projected at 24 frames per second.

- They made a sequel, *Sallie Gardner Galloping*. They switched from a trotter and galloped Stanford's racing mare, Sallie Gardner, past the cameras. Sallie pulled no sulky. She carried a jockey. So instead of wheels hitting rods in the track, Sallies chest broke strings across the track to trigger the shutters.

Galloping disclosed something unexpected. It shocked the artistic community. The photos contradicted the way galloping horses had always been painted and sculpted. Ever since primitive man, artists had shown gallopers hunting, in battle, in races or wherever, speeding with their legs extended in the air, in the hobbyhorse position still seen in children's nurseries. But Sallies galloping legs were bunched or akimbo in the air, not extended in pairs. *Galloping* demonstrated that famed paintings were unreal. It changed the rules of art instruction.

- They reached into Stanford's barnyard to

French professor Marey, whose studies had originally intrigued Stanford, saw the Farm stills in the French magazine, *La Nature*. He wrote Muybridge, "I am lost in admiration," and invited Muybridge to collaborate with him.

As acceptance mounted it was time for the two men to take bows. Stanford took his with accustomed reserve. He methodically planned a book on his findings, *The Horse in Motion*. He asked a doctor familiar with anatomy, J. D. B. Stillman, to write it. To publish it, he chose James R. Osgood, Boston, whose list included Henry W. Longfellow and Harriet Beecher Stowe. Stanford arranged for fine artists to delineate the photos as had Currier and Ives. He limited his remarks to a short preface stating:

"I have for a long time entertained the opinion that the accepted theory of the relative positions of the feet of horses in rapid motion was erroneous. ... Under this conviction I employed Mr. Muybridge, a very skillful photographer, to institute a series of experiments. "

The validity of his conviction was easily granted, but the ingenious way he proved it commanded rising awe coast to coast and beyond. When Stanford went to London with his family, he was toasted by leading citizens of England for making possible the new technique.

The Stanfords went to Paris in 1881 to have his portrait painted by the lion of French artists, Jean Meissonier. Meissonier was solidly booked, but he became entranced with Stanford's Trotting stills. He not only painted a portrait of Stanford with the stills, he "proposed that Muybridge be brought to Paris to elaborate (on them)," writes Dr. Robert Bartlett Haas in his book, *Muybridge, Man in Motion*. "Muybridge and Professor Marey should work... under Stanford's patronage." A flattered Stanford brought Muybridge to Paris.

When Muybridge arrived, "he was rewarded with. . . undiluted glory," Dr. Haas continues. He and Marey became devoted colleagues... Marey gave a reception... with Muybridge as the guest of honor."

For Muybridge the acclaim was intoxicating. He wrote Stanford's assistant, "... I should have blushed. ... "

He was a gifted entertainer. His Ph hour presentation of the Farm photography was a sensation. He first projected slides of "false" horse paintings dating back to those in Pharaohs' tombs. To audience hilarity, he exposed imaginative gallopers painted by famed artists and contrasted them with the truth he recorded at the Farm. Then he made the animals move, and the tumblers somersault. He toured this one-man road show on the Continent and in America for over a decade.

The era favored Muybridge. There had never been a film producer, but there were renowned photographers like Louis Daguerre and Matthew Brady. So photographer Muybridge was seen as *Trotting's* sole maker. Muybridge's ownership of the copyrights and



patents verified the impression; he had been selling the Farm stills for years.

At its apogee the productive association soured. The two men became foes. They had no way of knowing that collaboration is a movie "must," even after a show is finished.

Injured pride unraveled the bonds.

Stanford's injury came at the social level. He was apparently regarded by the painter, Meissonier, as merely another rich client. Meissonier gave a second party to honor Muybridge at the Meissonier home. Among the 200 guests were leading Parisian artists, writers and scientists including Goupil, Bonnat, Millet and Alexander Dumas. The guest list omitted Leland and Jane Stanford.

The Stanfords left Paris the same day.

Muybridge's trauma arrived with the 1881

publication of Stanford's book, *The Horse in Motion*. The text relegated him to minor participation and ignored writings he had prepared. He resented the preface stating Stanford "employed" him.

Stanford's book brought Muybridge a stinging putdown in England, his mother country, after the Royal Institute booked his movie presentation. The excited audience included the Prince of Wales, the Duke of Edinburgh, Gladstone, Huxley and Lord Tennyson. Muybridge asked the ultimate reward, that the Royal Society publish his book, *Attitudes of Animals in Motion*.

The Society judge rejected him because his conclusions "do not differ in any notable manner than those of Stillman. They are certainly much less. . . well expressed. "

Thereupon, a devastated Muybridge sailed for Boston to sue publisher Osgood. He alleged Osgood injured him by publishing Stanford's book. He claimed ownership of the photos and sole vending rights.

Osgood denied responsibility, replying that they owned nothing, that they were only Stanford's agents. The court agreed and dismissed the case.

Muybridge then sued Stanford, seeking large personal damages. He claimed the book diminished

Occident, the world's first movie star.



his employment. Stanford's reaction is in a letter he wrote Stillman, "I fear the fame we gave him has turned his head." Stanford did not countersue.

Damaging to Muybridge's case was the testimony of John Isaacs, Stanford's young rail engineer who suggested the magnetic shutters. The court held for the defendant. Muybridge lost. Stanford was vindicated, but he did not "win."

His book sold poorly and, sued for his efforts, he abandoned movie making for other activities. His only child, Leland Junior, died of typhoid fever in 1884. The Stanfords organized a university in his name and donated their entire Farm. In 1885 Stanford was elected to the U.S. Senate.

With Stanford out, Muybridge gained backing from the University of Pennsylvania in 1884 to continue production. He made over 700 subjects of people and animals in motion. Here Muybridge fingered the ultimate potential of the motion picture, the ability to transmit the human condition. In his novelty sequences,

- A mother spans a naughty child.
- A woman pours a bucket of water over another woman who runs away.
- An astonished waiter serves wine to a seated jackass.

Historians have dismissed these forays with an "oh, pshaw" reaction, excusing Muybridge for attempts at humor.

However, Hollywood can view them differently. They can be seen as the first movies to depict how people think and feel and act in ways that make them human. Audiences can tire watching how a man climbs a ladder. They can be entertained watching a thief climb a ladder to a high window when they see an open garbage truck about to hit the ladder.

However, once Stanford and Muybridge separated, progress in public movies went dormant. Nothing in projection could match *Trotting's* draw until 16 years after its 1879 "premiere." Finally, the Lumiere brothers showed *Workers Leaving the Factory* with their camera projector in 1895, using Edison style roll film. Thereafter, an industry accelerated with the Edison-Armat-Dickson projector (1896), Georges Melies' *A Trip to the Moon* (1902) and Edwin Porters *The Great*

Train Robbery (1903).

Stanford died in 1893, Muybridge in 1904.

Props from their story exist as though they still lived. Meissonier's painting of Stanford with horse frames hangs in the Stanford University Art Museum. A working Muybridge projector rests in the Heritage Museum, Kingston upon Thames, England.

Two items *are* alive. One is the modern motion picture in thousands of theatres and on millions of television screens, each a fast-moving series of stills that originated with *Occident Trotting*.

The other is the red barn, Stanford University's direct link with its founders rural beginnings. It now shelters Occident's kin.

"Bud" Lesser produced theatrical and television films, was a member of the Academy Documentary Committee and the Marine Corps Photo Section. He was sales rep for J>E. Brulatour (Eastman Films) in the 1930s. His father was film pioneer Sol Lesser.

Resources (unattributed)

Heritage Museum, Kingston on Thames, England; Marion Shipley, Los Angeles Public Library, Margaret Herrick Library, Academy of Motion Picture Arts and Sciences. Stanford Historical Society; Dorothy Regnery, Stanford University: Archives, Robin Chandler; Art Museum, Carol Osborne and Susan Roberts-Manganelli; Knight Fellowship, Harry Press; News & Publications, Cindi Romaine. Sunset Magazine: L. W. Lane Jr., Flovd E. Shaw. U.C., Berkeley, Bancroft Library (Americana): Lawrence Dinnean, Ollin Blue. U.C. L.A., Extension (Journalism): Eleanor Harder, John Wilson, Joan Zyda. Thursday Writers' Group: Mary McDevitt, Randy Malat, Paula Berinstein.

Books - Newhall, Beaumont: *History of Photography*. Mozley, Anita and Haas, Robert Bartlett: *Muybridge, the Stanford Years*. Tutorow, Norman: *Leland Stanford, Man of Many Careers*.

Rerun the World's First Movie

With scissors and a stapler you can re-run the world's first motion picture. It is an actual short subject, a bit under one second long.

On page 34, *American Cinematographer* reproduces Muybridge's photography of Occident trotting, published in 1881. Cut out the frames and staple them together on the left edge in the order of Muybridge's numbers (circled) and riffle the pack with your thumb. Occident will trot again, exactly as he did a century ago.

Frames 6 and 16 show Occident's four hooves in the air

While the original photography was on 24 separate glass plates, it is the same configuration as any movie today. The only major difference is the improvement Thomas Edison added in the late 1880s. Edison placed all frames on a continuous roll of film with perforations at the sides. Cliffs entered the perforations and pulled the film forward.

With that improvement, *Trotting* evolved into motion pictures as we know them.