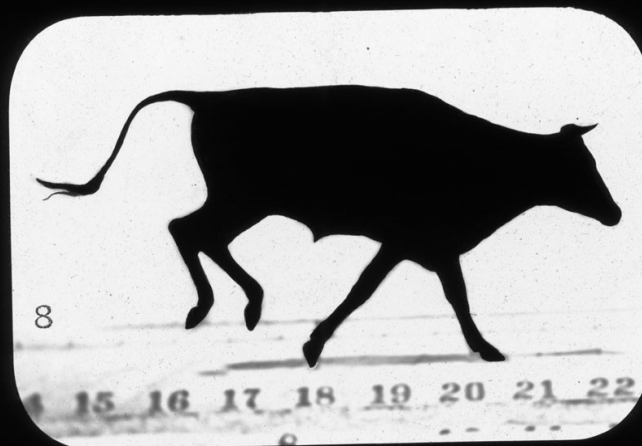


# Eadweard Muybridge



## TEACHERS AND STUDENTS NOTES

For use at Kingston Museum or in the classroom  
Suitable for teachers and students of Key Stage 2-5

By Caroline Burt and Alexandra Reynolds  
Kingston Museum and Heritage Service

This pack provides a brief introduction to the life and work of Eadweard Muybridge. The pack looks at a selection of works in detail, providing background information, discussion ideas and suggested activities.

**Cover Images** (clockwise from top left)

EM8132 *Muybridge greets athlete*

EM0052 *Woman dancing*

EM6880 *Ox. Walk, gallop, trot, run*

EM7838 *Fishing Boat coming ashore by moonlight, Guatemala/Panama*

All images in this pack are courtesy of Kingston Museum and Heritage Service unless otherwise stated

[www.kingston.gov.uk/museum](http://www.kingston.gov.uk/museum)

# Introduction

Eadweard Muybridge (Kingston upon Thames 1830 - 1904) was one of the world's most innovative and influential photographic pioneers. His extensive studies of humans and animals in motion played a critical role in the history of photography and moving image.

Eadweard Muybridge was born Edward Muggeridge to a merchant family in Kingston upon Thames on April 9th 1830. Before his death in 1904, Muybridge would emigrate to America, change his name three times, come close to death and suffer brain damage in a carriage accident.

As well as photographing the landscapes, people and cities of 19th Century America, Muybridge was also instrumental in the development of instantaneous photography. To accomplish his famous motion sequence photography, Muybridge designed his own high speed electronic shutter and electro-timer, to be used alongside a battery of up to 24 cameras. Muybridge used this technology to capture the movement of humans and animals in split-second detail, something that had never been seen before.

These studies and the sequences of photographs that he produced led Muybridge to invent a projection device, the Zoöpraxiscope. With this device, Muybridge lectured across Europe and America, using the Zoöpraxiscope to animate sequences from his motion studies.

Muybridge's pioneering motion sequence photography was a hugely influential photographic development and remains famous worldwide. In a time when trains and steamships were changing the way that people experienced time and distance, Muybridge's photography responded by visually dividing time and space into manageable chunks, capturing one moment at a time and allowing his audience to see movement in a completely different way.

Muybridge bequeathed his personal collection of material to his hometown, now held at Kingston Museum & Archive. This important collection includes Muybridge's original Zoöpraxiscope machine and 68 of only 71 glass Zoöpraxiscope discs known to exist worldwide. In addition, the Archive holds many personalised lantern slides, hundreds of collotype prints, rare early albums, Muybridge's own scrapbook in which he charts his entire career, a copy of his epic San Francisco Panorama and many other items that make the Kingston Muybridge Bequest a collection of major international significance.

This pack covers the four main areas of Muybridge's work; Landscape, Animals in Motion, People in Motion and Zoöpraxography. Each section includes discussion points, activities and images. There is also a Muybridge Timeline at the end of the pack.

## Find out more

- [www.eadweardmuybridge.co.uk](http://www.eadweardmuybridge.co.uk)
- [www.muybridgeinkingston.com](http://www.muybridgeinkingston.com)
- [www.kingston.gov.uk/browse/leisure/museum/museum\\_exhibitions/muybridge.htm](http://www.kingston.gov.uk/browse/leisure/museum/museum_exhibitions/muybridge.htm)

# Landscape



*Valley of the Yosemite*  
EM7600



*Point Lookout, Yosemite*  
EM7603

# Landscape

Muybridge's first photographic project took place in Yosemite, California in spring 1867. He spent six months travelling the area to find examples of idyllic natural beauty. The images that Muybridge created were eventually published in a guide book called '*Yosemite: its Wonders and its Beauties*'.

Muybridge went on to explore and photograph much of North, South and Central America. These photographs document changes that were taking effect across the western world as capitalism took hold and industry and technology developed at speed. These developments began to dramatically alter the landscape inhabited by the 19th Century individual; physically, aesthetically and socially.

## For discussion

- What can a photograph of a landscape tell us? What is an 'ideal' landscape? Compare the two photographs below.
- How do humans fit into Muybridge's landscapes?
- These images raise interesting questions around how we perceive the natural environment. How do different sorts of environments affect us as human beings? What part does nature play in this?
- What do you think we feel nostalgia for in society today? Why do you think we have a desire to preserve or recreate the past?
- *Railway running through a Central American village* shows very clearly how landscapes were being altered as technology progressed. But what else can we deduce from this photograph?



Washington, Seattle, Madison Street Terrace  
EM8096



Railway running through a Central American village  
EM7639

# Activities

## Draw

Choose an object and make a drawing of it. Put the object out of sight and try to draw it again from memory. Choose another object and take a photograph of it. Again, put it out of sight and draw it from memory. What do you notice about how well you remember the objects? How could you explain this?

## Walk

Go for a walk in your town centre. Try to find a scene that you think defines the contemporary city and make a panorama of it. This could be a photographic panorama or a sketch.

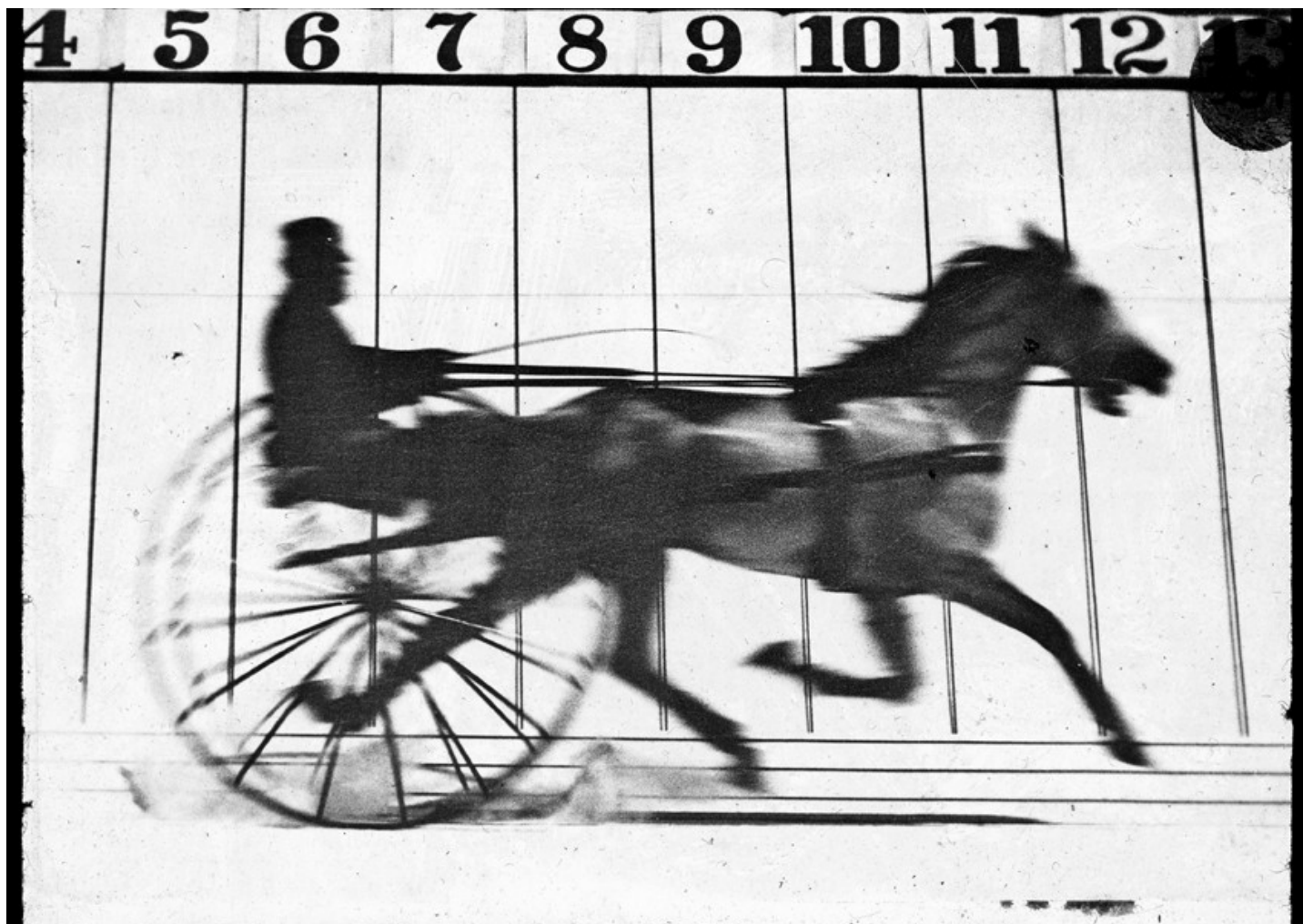
## Imagine

Imagine you have to get a ton of bananas from Central America to North America-before they go off!  
How would you achieve this? Which modes of transport would you use?  
Now think about the same problem, but the year is 1700, 1900 or 2100.  
Research the types of technology available to you, or invent something new to revolutionise the future of banana transportation.

## Create

Find or create an image of your idea of a perfect landscape. This could be rural or urban, busy and bustling or silent and still. It could include people, places or things that would be part of your ideal place.  
List the reasons why this is your perfect landscape.  
Now list the reasons why somebody else might see this as an imperfect landscape.

# Animals in Motion



*Horse (Edgington) Trot with sulky*  
EM6751

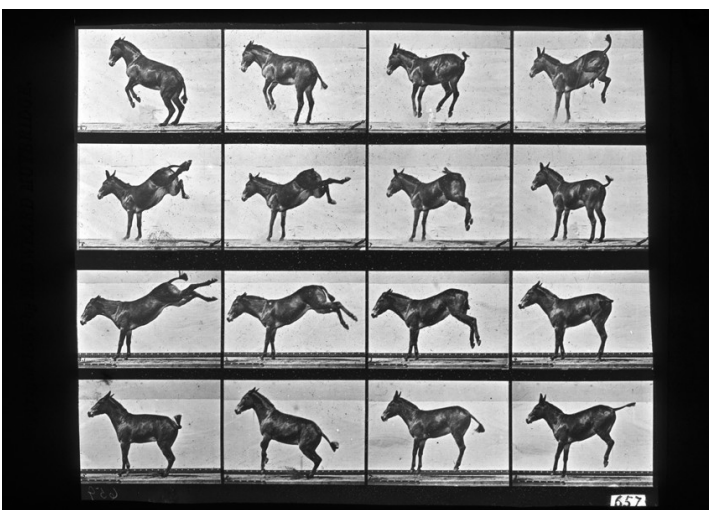
# Animals in Motion

Muybridge took over 100,000 images of animals between 1884 and 1886. Muybridge had developed a method of taking photographs in quick succession in order to record a split-second of movement. His invention was put to the test by Leland Stanford, businessman and racehorse owner. Stanford wanted to investigate whether all four of a horse's hooves left the ground when it cantered or galloped; something Muybridge's single shot motion photographs proved correct.

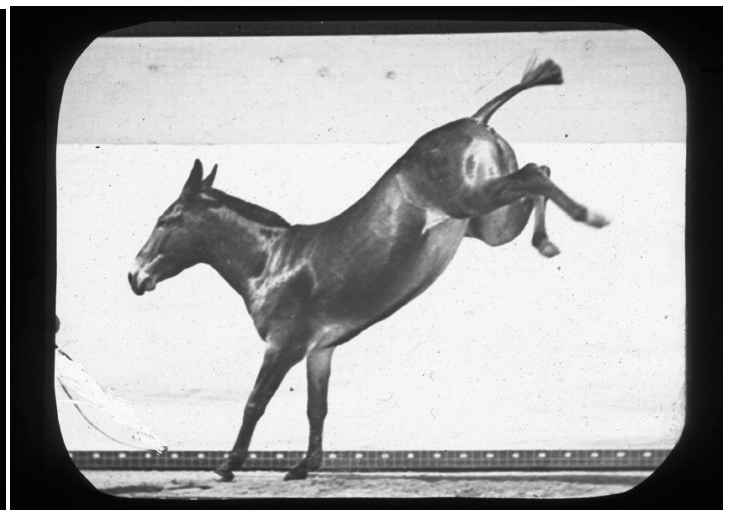
This became known as motion sequence photography. Muybridge studied a variety of creatures in this way, effectively stopping them mid-flight or mid-jump, freezing them in time against a grid. These images were very popular in Muybridge's time.

## For discussion

- Who benefitted from this work? Science, art, business?
- Why do you think the images were so popular?
- Muybridge was using a cutting edge technique. What would the equivalent be today?
- Why do you think Muybridge used a grid behind his subjects? What purpose does it have? What impression does it give? How useful is it?
- Compare Muybridge's work to that of Etienne-Jules Marey. How does the motion differ?
- Why might the relationship between motion and space have been something that photographers and the public found fascinating during this period?
- Is this science or art? What are the essential qualities of each?



Mule. Buck, kick  
EM6979



Mule. Buck, kick  
EM6975



# Activities

## Create

Make your own picture of motion (this does not have to be the same as Muybridge). How can you portray motion in art?

## Time

Use a stopwatch to see how quickly you can hop, run or walk a certain distance and make a chart of the results.

What does this say about space, time and movement?

## Invent

Muybridge's inventive photography of animal locomotion has inspired artists, writers and musicians since the 19th Century.

Get inventive too! Look at some of Muybridge's image of animals and imagine that you are seeing these creatures move for the very first time (a lot of people in Muybridge's audiences would be experiencing this).

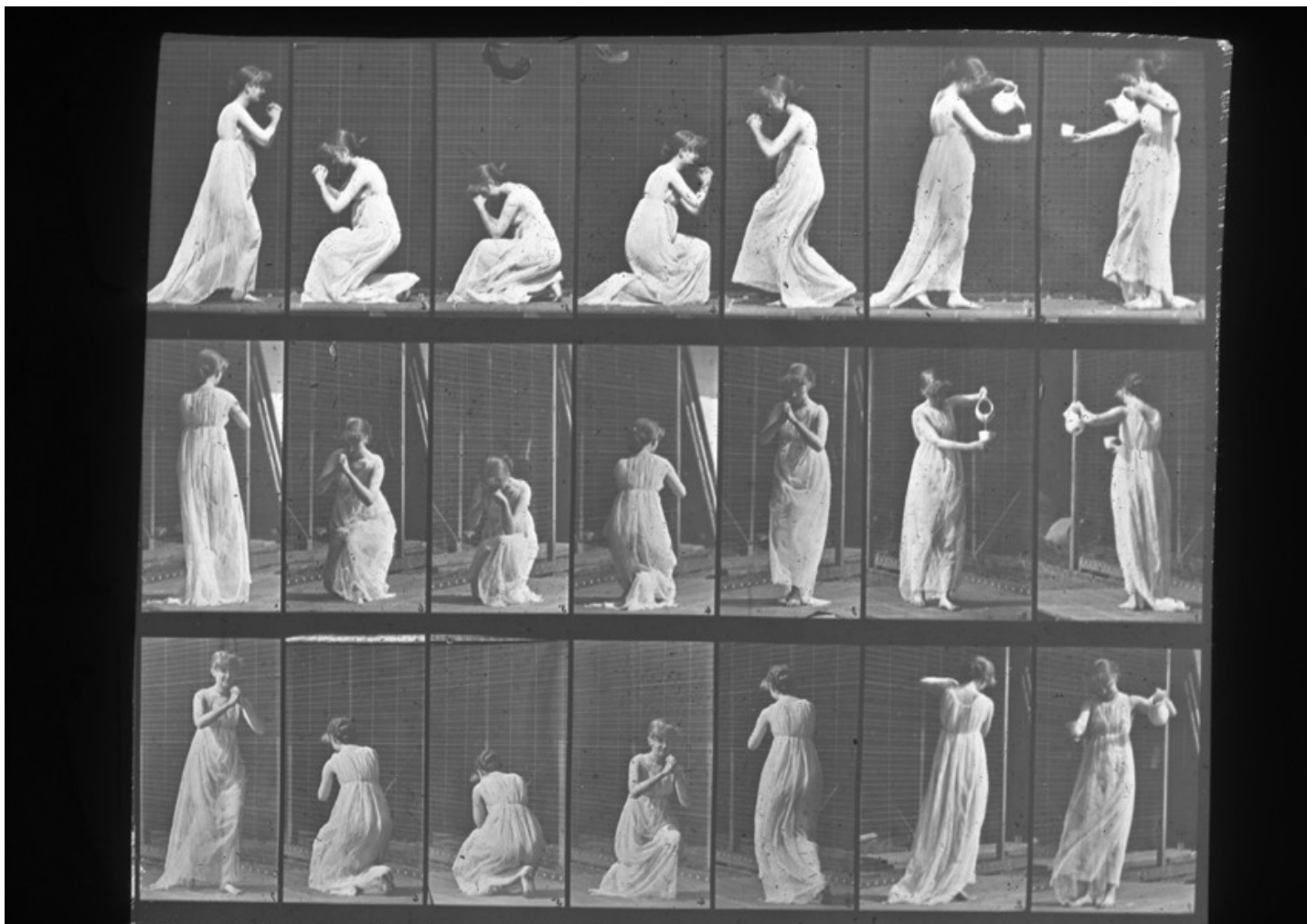
How would you describe the movement of the animals to someone who has never seen it before? What new words could you invent to describe the movement more accurately?

## Record

Muybridge used a machine called a chronograph which recorded the vibrations made when each of his camera shutters went off, and therefore made a sound recording of his photographic process.

Make your own sound version of an event or activity.

# People in Motion



Woman. Pouring water  
EM6331

# People in Motion



*Man. Somersault*  
EM 6128, 6129, 6130, 6131

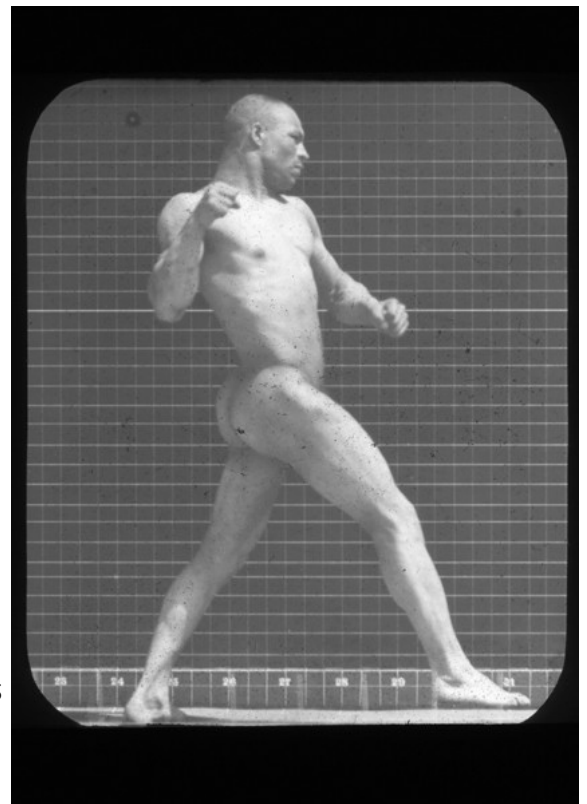
# People in Motion

Using his motion sequence photography technique, Muybridge photographed men, women and children variously running, jumping, falling and carrying out athletic or everyday activities. The types of activity vary according to the gender of the model, giving us a view of how Muybridge perceived the roles of men, women and children in society.

In his motion photography, Muybridge only used one non-white model, Ben Bailey, a mixed race male. Interestingly, Muybridge never used an anthropometric grid behind his subjects until he photographed Bailey, and never photographed the human figure without one afterwards (Brown, 2005 p637).

## For discussion

- What 'everyday' activities are the male and female models performing? What might this tell us about gender roles in the 19th century?
- Muybridge used the grid when he photographed Ben Bailey. What does this tell us?
- Why do you think that photography might be a particularly powerful way of confirming social stereotypes? How do you think adverts play on this in current society? Do we live in an equal world?
- How does the imagery in Trevor Appleson's work overleaf compare to that of Muybridge? How has the role of women changed?
- Sometimes Muybridge would edit his sequences to produce a narrative, almost like a short film, but his images were marketed as scientific studies of motion. Do you think his work is closer to art or science?
- Compare Muybridge's work with that of Sam Taylor-Wood and Jonathan Shaw (overleaf). How are male and female figures portrayed? Do the contemporary artists reinforce or oppose the gender roles assigned by Muybridge?



*Ben Bailey*  
EM6079

## Trevor Appleson: *Dance of Ordinariness*

"As a self-taught artist, having never been through formal education, the work of Eadweard Muybridge only came onto my radar properly after a recent project in Mexico. I was immediately struck by how contemporary and innovative his work was, especially given it had been created in the late 19th Century. I was also struck by certain similarities to my own recent practice - namely, working with an outdoor portable studio, and asking people to perform or recreate actions or movements.

Having at the time started a residency at The London Contemporary Dance School, and still struggling to learn what dance was, and make some sense of what I was trying to do, I eventually decided to base my dance piece on everyday movement (which is where all dance comes from anyway), but in this case, the everyday movements inspired by those in Muybridge's collotype works. This proved to be a major breakthrough in the process, and after some consultation with the choreographers and teachers at the school to ensure what I was trying to do was of sound practice, I embarked on making the moving image work, now titled *Dance of Ordinariness*. It is a solo dance piece, and in its current manifestation, is a four screen installation work, 44.30 minutes in length."



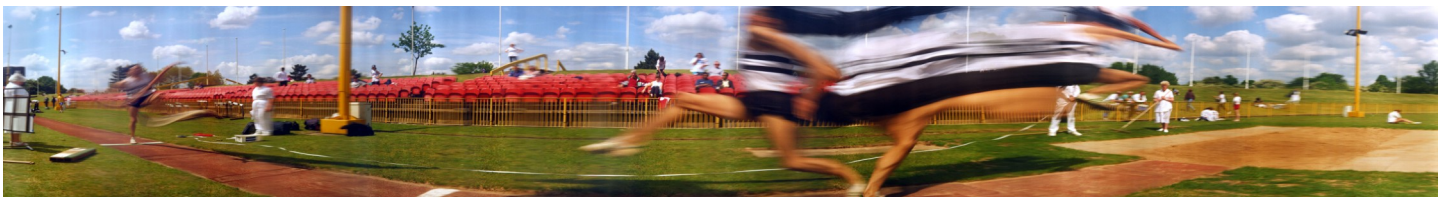
*Dance of Ordinariness* 2010. Film still.

Trevor Appleson

Courtesy the Artist & Hales Gallery.



*Bram Stoker's Chair VII*  
Sam Taylor-Wood



*Triple Jump. Alexander Stadium, Birmingham.*  
June, 1996, Image courtesy of Jonathan Shaw  
See <http://www.jonathan-shaw.com>

# Activities

## Debate

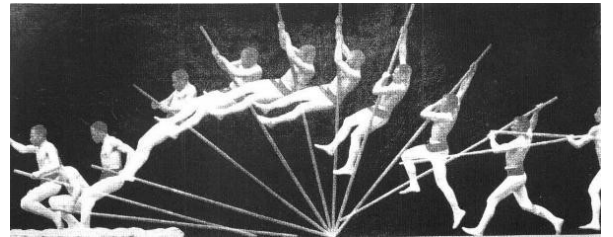
Art or science? Stage a debate to argue whether Muybridge was an artist or a scientist.

## Perform

Mime an everyday task and see if others can guess what you are doing. Work as a group to act out the stages of the movement to make a living motion sequence photograph.

## Describe

Think of words that you could use to describe Muybridge's sequences. Now do the same for Marey's images. What do you notice?



*Pole vaulter*  
Jules Marey c. 1882

## Create

Make your own gridded portrait of yourself or a friend. How does the grid allow you to measure distance? How do you think it will affect the way you or your friend might appear to a viewer?

## Design

Look at a range of adverts for beauty products, fashion and food. Try to make your own advert which helps get across your own ideas on identity, beauty and health.

## Animate

Create a stop-motion animation using types of movement that you would use during ordinary, everyday activities.

## Dance

Stage a dance workshop exploring different forms of movement.

# Zoöpraxography



Monkey Climb  
Zoöpraxiscope disc



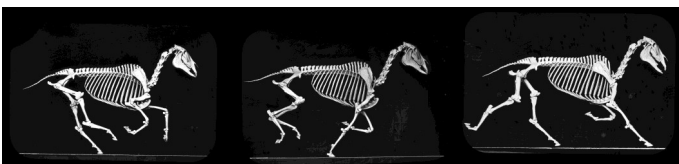
# Zoöpraxography

Muybridge invented his projection device, the Zoöpraxiscope, in summer 1879. Muybridge's Zoöpraxiscope occupies a fascinating position in the rich history of the moving and projected image, being the first device to animate sequences taken from photographs accurately. It also has links to many contemporary forms of moving image technology such as film, rotoscoping and CGI.

The Zoöpraxiscope brought together two existing visual technologies popular in the 19th Century, a projection device known as the magic lantern, and a moving image toy called the phenakistoscope. Muybridge borrowed the method of projection from the magic lantern, and twinned this with an illusion of motion made in a similar way to the phenakistoscope, thus creating his own unique way to project moving images.

Other 19th Century inventions had already projected moving images. Muybridge's Zoöpraxiscope was so amazing to his audiences because it was the only device which used actual motion sequence photographs of movement, and therefore produced extremely lifelike moving images.

Sequences copied from Muybridge's motion photography were painted onto the glass Zoöpraxiscope discs. Muybridge chose to animate monkeys, kangaroos, dancing women, horses and leapfrogging boys among others. However, Muybridge also applied at least one set of motion photographs directly onto a disc - the horse skeleton. If Muybridge's painted images anticipate animated film, this photographic disc shows the beginning of photographic cinema.



*Horse skeleton*  
EM7481, 7482, 7483



*Horse skeleton*  
EM0027

## For discussion

- Muybridge gave his scientific lectures with the Zoöpraxiscope by standing in front of a live audience. This tradition carried on into early film showings in theatres. What do you think happened to the lecturer's role as film developed?
- What sort of connections can you see between Muybridge's Zoöpraxiscope and other forms of moving image? (e.g. film, animation, CGI, Wallace and Gromit, The Matrix, Avatar)
- Muybridge often edited his sequences and added his own creative elements. Why do you think he did this during scientific lectures?
- How do you think it would have felt for the Victorian audience to see a moving image for the first time? Can you think of a time when you have seen something completely new? How did it feel?

## Activities

### Make

Muybridge showed the most desirable, exotic and magical aspects of Victorian society in his Zoöpraxiscope animations.

Make a zoetrope strip showing something that is considered desirable, exotic or magical now.

Discuss the differences between your animations and Muybridge's.

### Present

Muybridge gave lectures in front of a screen. Later in film history the lecturer moved behind the camera to become the narrator. Choose six images from this pack and use them to create a storyboard.

Write a narrative or story that links all of the images together, then present this to the class with the images projected behind you.

### Rotoscope

The Zoöpraxiscope discs were created using drawn animation, animation drawn from photographs and actual photographs. The technique of drawing over photographs or film to make an animation is called rotoscoping.

Take a series of photographs of a movement sequence, then trace over your photos to make an original animation. You could then use stop-motion or a zoetrope to animate your drawings.

### Debate

Art and technology are used together in the Zoöpraxiscope to create something totally new. Debate the role of technology in the development of art, and vice versa.

# Muybridge Timeline

1830 April 9: Eadweard James Muybridge is born in Kingston upon Thames, England. His real name is Edward James Muggeridge.

1851/2 Muybridge moves to America and begins to sell books in New York.

1855 Muybridge settles in San Francisco and changes his surname to Muygridge.

1860 Muybridge's stagecoach overturns, leaving him with serious head injuries.

c. 1866 Muybridge takes up landscape photography in San Francisco.

1867 Muybridge visits Yosemite and takes many photographs of the scenery.

1867-1881 Muybridge takes over 1000 photographs of San Francisco and its bay area.

1868 Another name alteration - to Edward J Muybridge. Muybridge travels by steamship to Alaska and takes many photos – some for the US war department!

1871 Muybridge and Flora Shallcross Stone are married.

1873 Muybridge takes his first motion photograph of a horse called 'Occident', owned by Leland Stanford. In May, Muybridge photographs the Modoc War.

1874 Muybridge then discovers his wife has been having an affair with Major Harry Larkyns. Muybridge shoots Harry Larkyns dead.

1875 Muybridge gets away with murder! He goes on trial for the murder of Larkyns and is acquitted. Flora Muybridge dies and Muybridge places his son in an orphanage.

1877-9 Muybridge continues his motion sequence photography and publishes two huge panoramas of San Francisco.

1879 Muybridge invents his Zoöpraxiscope projection machine.

1880-3: Muybridge lectures throughout the US and Europe on animal locomotion.

1884-1886 Muybridge works for Pennsylvania University taking 30,000 photographs.

1888-90 Muybridge travels throughout the US and Europe giving lectures.

1893 Muybridge lectures at World's Columbian Exposition in Chicago in a specially built Zoopraxographical hall.

1894-99 Muybridge travels back and forth to England

May 8, 1904 Muybridge dies at 2 Liverpool Road, Kingston-on-Thames, England

**Sources: Gordon Hendricks, Stephen Herbert, Rebecca Solnit, Phillip Prodger.**