

The History of Animation

Imogen Edwards (2404867)

BA Illustration

Word count: 1,643

Chris Harrendence

“Though there are various claims and theories as to the precise origins of animation, as there are for the origins of cinema itself, we can broadly speaking agree that animation has recently celebrated its first century.” (Cavalier, 2011, p.8). Although this statement may be correct, in this essay I am going to discuss the origins of animation and how early narrative art like cave paintings could've led to the animations we know today. As well as exploring the ways in which motion was depicted, through sequence photography, stop motion and flipbooks, all the way up to the first ever hand drawn animations.

There is no doubt about it that cave paintings were the first depictions of narrative illustrations or illustrations in motion, both of which animation was inspired by.

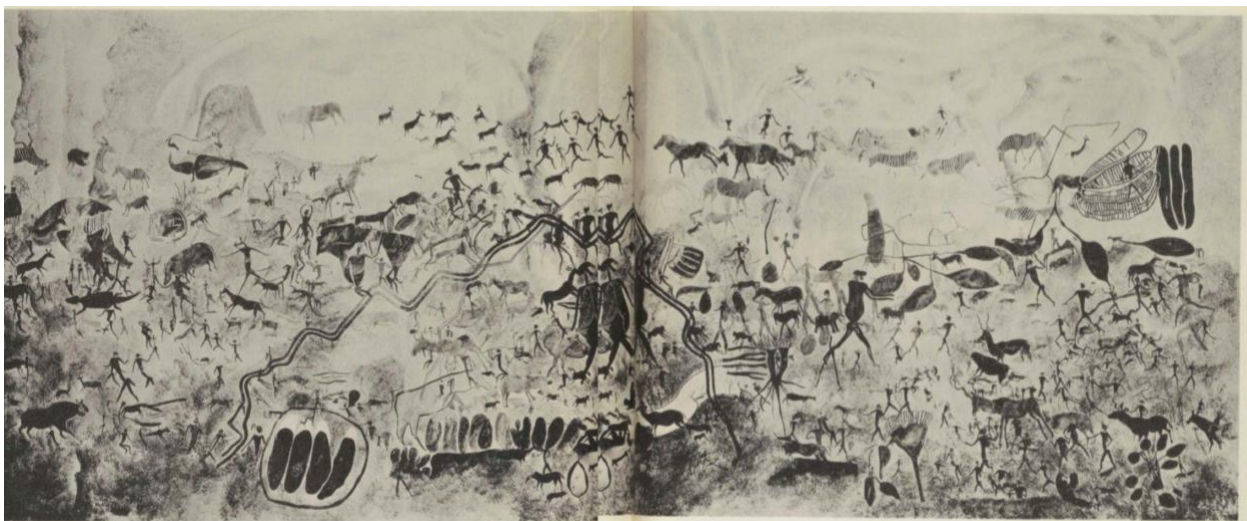


FIGURE 1 (Mtoko Cave Painting, Frobenius and Fox, 1937, p.64-65)

The photo above is a cave painting found in the Mtoko Cave in Southern Rhodesia, it depicts “Large elephants, quagga, antelopes, formlings and figures.” (*Frobenius and Fox, 1937, p.64*). During the prehistoric period cave paintings and scratching's were the only forms of storytelling, the photo above solidifies this as it clearly shows some sort of battle or hunt. This method of storytelling would later be adapted into tapestries, paintings, newspaper illustrations, comics and then animations.

One of the first inventions that simulated motion was the Thaumatrope.



FIGURE 2 (*Thaumatrope, Unknown author, Unknown date*)

According to David A. Cook author of ‘A History of Narrative Film’ published in 2016,

“A popular child's toy of the early nineteenth century was the Thaumatrope (from the Greek for “magical turning”), a paper disk with strings attached at opposite points on the perimeter so that it could be twirled between finger and thumb. A different image would be imprinted on each face, and when the disk was spun the images seemed to merge into a single unified picture (a rider would mount a horse, a parrot enter its cage, and so on).” (Cook, 2016, p.4).

ving.

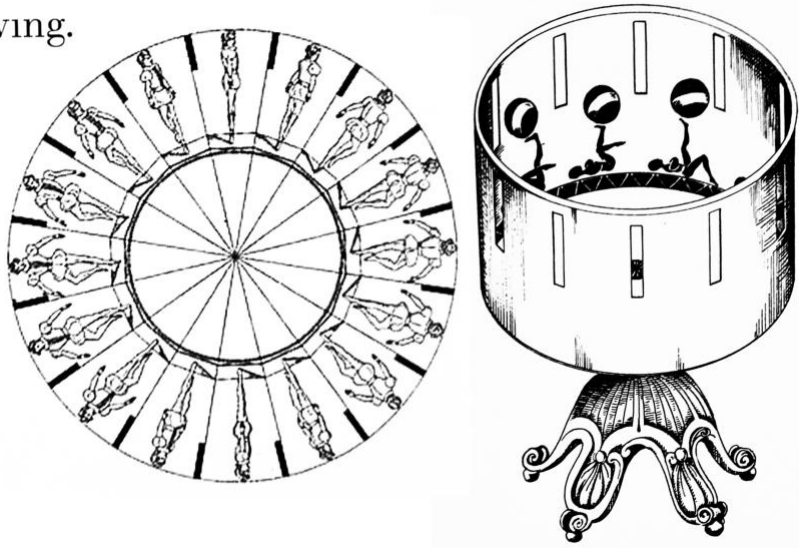


FIGURE 3 (Zoetrope and Phenakistoscope, Hahn, 2008, p.8)

As well as the Thaumatrope there was also the Zoetrope (on the right) created by George Horner, and a Phenakistoscope (on the left) created by Joseph Plateau, both of which were early animation devices popularized in the nineteenth century which would produce the illusion of motion through a rapid series of still pictures. According to Don Hahn author of 'The Alchemy of Animation' published in 2008,

"Inventors, including the Lumiere brothers in France and Thomas Edison in the United States, later found that showing a series of single images, photographed on motion picture film and projected at fast speeds, caused the brain to perceive a series of still images as moving. The physiological phenomenon behind this effect was called "persistence of vision", and it is still the underlying principle that makes films appear to be moving." (Hahn, 2008, p.8)

Everything changed when still photography was invented in 1839 by Jacques-Mande Daguerre, now phase drawings could be replaced by phase photographs which would simulate live action, and with the introduction of series photography by photographer Eadweard Muybridge animation was really starting to take shape.

However, a simpler way of simulating motion gained popularity in 1868 called the Kineograph created by John Barnes Linnett or as it's now widely known as, the Flip Book.

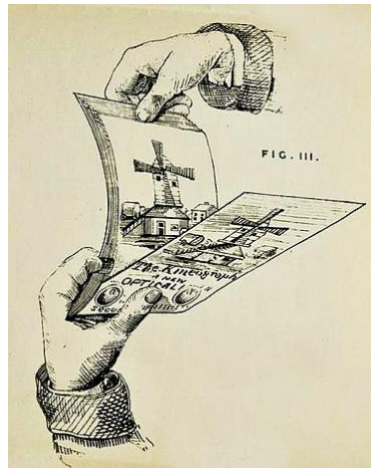


FIGURE 4 (Illustration of the Kineograph in Linnetts 1868 patent, Wikipedia, 2024)

“Linnett, a printer from London, created the first known flipbook. His patent marked the official start of what would become a long journey for animated story telling. Although simple in concept, his ‘moving picture book’ was groundbreaking for its time, offering a new way to present motion on paper. Linnett's invention was also affordable, making it accessible to the general public.” (FLIP BOOK STAR, 2024, Who Invented the Flipbook? A Look into The Origins of Interactive Storytelling).

Following on from the creation of still photography, Eadward Muybridge introduced a groundbreaking series of photographs in 1877 after being hired by wealthy businessman Leland Stanford to prove that at some point in its gallop a racehorse lifts all four hooves off the ground (a largely agreed upon rule in nineteenth-century graphic illustration that requires running horses to always be depicted with at least one hoof on the ground).

“On the 7 August 1877 in a letter (a copy of which I have before me) I suggested to you a plan for making a series of electro-photographs, automatically, by which the consecutive phases of a single stride could be successfully photographed. Being much interested in this subject, I offered to supply you with what copies of the results you required for your

personal use if you would pay the actual expenses of obtaining them, omitting any payment for my time.” (Clegg, 2007, p.119)

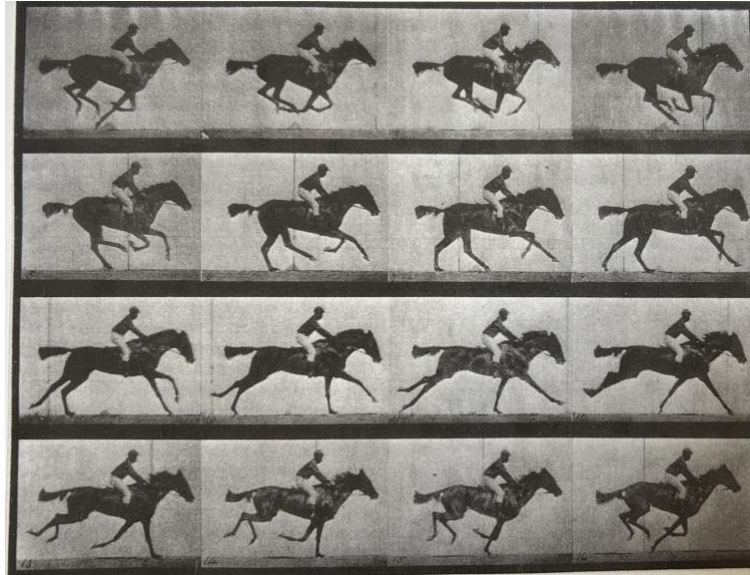


FIGURE 5 (Eadweard Muybridge’s glass-plate series photographs, Cook, 2016, p.5)

And so, in the summer of 1877 Eadweard Muybridge completed his goal. He did this by “Setting up a battery of twelve electrically operated cameras along a Sacramento racetrack and stretching wires across it that would trip the cameras’ shutters. As a horse came down on the track, its hooves tripped each shutter individually and caused the cameras to photograph it in successive stages of motion during the gallop.” (Cook, 2016, p.5).

Later in the nineteenth-century, 1882 to be more specific, a French physiologist named Etienne-Jules Marey invented the ‘chronophotographic gun’ which was able to record a series of photographs “of live action in a single camera, which as it so happens, was also portable.”(Cook, 2016, p.6). Marey used his chronophotographic gun to take a series of photos of birds mid-flight.

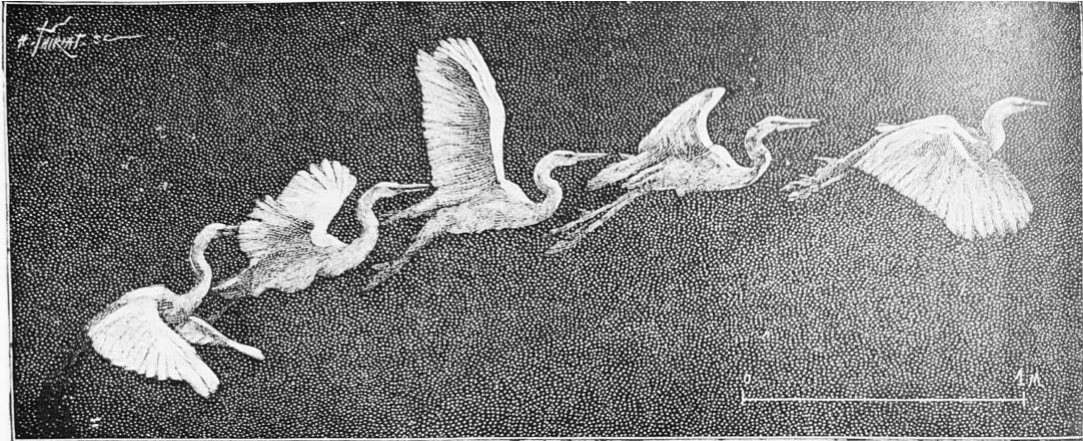


FIGURE 6 (The Flight of a Heron, Cook, 2016, p.6)

Marey's invention was able to take twelve instant photographs of movement per second and imprinted them onto a rotating glass plate, however a year later he switched to paper roll film. This would eventually introduce the film strip to cinematography.

It was in 1896, however, that the first worldwide stop-motion animation was created.



FIGURE 7 ('Le voyage dans la lune', cavalier, 2011, p.43)

Georges Melies was a magician and owner of a theatre in Paris when he watched the Lumiere brothers' Cinematographe near his own theatre in 1895 and immediately became inspired to create something similar. He had all of his equipment custom-made, and after some early attempts and films he began to apply his magician's skills and showmanship to his filmmaking.

According to Stephen Cavalier author of 'The World History of Animation' 2011, "*He discovered by accident, when his camera jammed and then restarted, the crucial magic of stop frame*" (Cavalier, 2011, p.42). Because of this new discovery he could create the illusion of 'real magic' and use it to his advantage. He carried on making stop frame films up until 1902 when his most famous film 'Le voyage dans la lune (A Trip to the Moon)' was created, it was a worldwide hit. However, it fell victim to piracy as Melies received hardly any money from its success.

Then in 1906 James Stuart Blackton created 'Humorous Phases of Funny Faces' which is said by many to be the first drawn animation recorded on film. Blackton started his career as a journalist and "*During an interview with Thomas Edison, he mentioned that he was interested in drawing. Edison asked Blackton to draw his portrait while being filmed. This changed the direction of Blacktons career and started him on the path to becoming one of the founders of animation.*" (Cavalier, 2011, p.49).



FIGURE 8 ('Humorous Phases of Funny Faces', Cavalier, 2011, p.49)

Most of the earliest drawn animations were films of performances called 'Chalk takes' or 'Lightning sketches' where someone would draw a quick sketch of a caricature of a member of the audience. Blackton made many films of this type including his most famous one 'Humorous Phases of Funny Face' in 1906, which featured many scenes such as a man smoking a cigar and a dog performing tricks.

Inspired by Blacktons 'Humorous Phases of Funny Faces' came 'Fantasmagorie' by Emile Cohl. Cohl used the same method as Blackton by filming a black line drawn on white paper and then using negative exposure to appear inverted (white line on black).

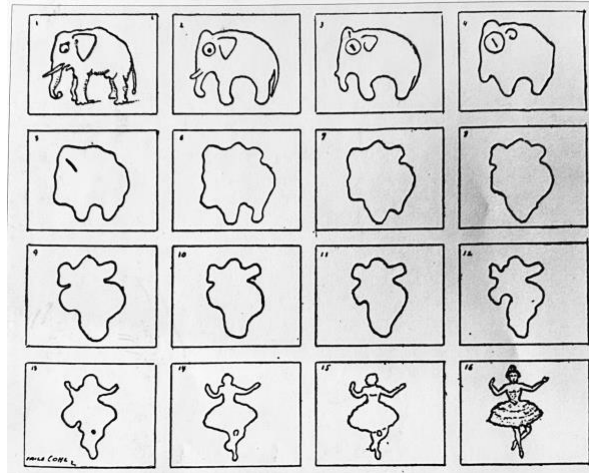


FIGURE 9 ('Fantasmagorie', Cavalier, 2011, p.50)

"Considering its short length, 'Fantasmagorie' contained an impressive number of transformations and wild scenarios, each joyously and spontaneously created by Cohl in his stream of consciousness, bohemian style as he traced over his own drawings, changing details frame by frame, and working out the timing as he went along." (Cavalier, 2011, p.50).

Fantasmagorie was certainly a breakthrough in hand drawn animation, until 1914 when Winsor McCay debuted the first ever 'interactive' character animation, 'Gertie the Dinosaur'.



FIGURE 10 ('Gertie the Dinosaur', Cavalier, 2011, p.63)

'Gertie the Dinosaur' was a massive success and took audiences by storm at the 'realistic' animation and the way it 'interacted' with McCay and her onstage 'trainer'. She could eat, drink, dance and cry all in response to her 'trainers' commands. All of this, plus being aided by the advertisement company led audiences to believe they would be seeing a live dinosaur.

Throughout history animation and ways of showing motion have been there since the beginning and although I've covered the very early stages of modern animation, this essay has barely scratched the surface. So, the next time you watch an animated film or see a silly cartoon and think nothing of it, just remember the amazing breakthroughs in technology and art invented by the animators before our time, and most importantly, remember the time and effort animation teams spend day-to-day just to get underpaid and brushed off by big corporations (I'm looking at you Disney). At the end of the day the concept of animation has fundamentally changed history and has opened new and amazing opportunities to many people, so it should get the appreciation and respect it truly deserves.

Bibliography

Ball, R. and Beck, J. (2006). *Animation art : from pencil to pixel, the history of cartoon, anime & CGI*. London Flame Tree Publ.

Cavalier, S. (2011). *The World History of Animation*. London Aurum.

Clegg, B. (2007). *The man who stopped time : the illuminating story of Eadweard Muybridge : pioneer photographer, father of the motion picture, murderer*. Washington, D.C.: Joseph Henry Press.

Cook, D.A. (2016). *A History of Narrative Film*. 5th ed. New York: W.W. Norton & Company.

Furniss, M. (2008). *The Animation Bible*. Laurence King Publishing.

Gombrich, E.H. (1989). *Story of Art. 15th Ed. 1989*. Phaidon Press Limited.

Hahn, D. (2008). *The alchemy of animation : making an animated film in the Modern Age*. New York: Disney Editions, C.

history-of-animation.webflow.io. (n.d.). *history of animation*. [online] Available at: <https://history-of-animation.webflow.io/#Section-2>.

Maccarthy, H. (2010). *Hayao Miyazaki : master of Japanese animation ; films, themes, artistry*. Berkeley, Calif.: Stone Bridge Press.

New, A., Frobenius, L. and Fox, D.C. (1937). *Prehistoric Rock Pictures in Europe and Africa*. Arno Press.

STAR, F.B. (2024). *Who Invented the Flipbook? A Look into the Origins of Interactive Storytelling*. [online] Flip Book Star. Available at: <https://www.flipbookstar.com/post/who-invented-the-flipbook-a-look-into-the-origins-of-interactive-storytelling>.

Wikipedia Contributors (2019). *Flip book*. [online] Wikipedia. Available at: https://en.wikipedia.org/wiki/Flip_book.

Figures

FIGURE 1: New, A., Frobenius, L. and Fox, D.C. (1937). *Prehistoric Rock Pictures in Europe and Africa*. Arno Press. P.64-65

FIGURE 2: history-of-animation.webflow.io. (n.d.). *history of animation*. [online] Available at: <https://history-of-animation.webflow.io/#Section-2>.

FIGURE 3: Hahn, D. (2008). *The alchemy of animation: making an animated film in the Modern Age*. New York: Disney Editions, C. P.8

FIGURE 4: Wikipedia Contributors (2019). *Flip book*. [online] Wikipedia. Available at: https://en.wikipedia.org/wiki/Flip_book.

FIGURE 5: Cook, D.A. (2016). *A History of Narrative Film*. 5th ed. New York: W.W. Norton & Company. P.5

FIGURE 6: Cook, D.A. (2016). *A History of Narrative Film*. 5th ed. New York: W.W. Norton & Company. P.6

FIGURE 7: Cavalier, S. (2011). *The World History of Animation*. London Aurum. P.43

FIGURE 8: Cavalier, S. (2011). *The World History of Animation*. London Aurum. P.49

FIGURE 9: Cavalier, S. (2011). *The World History of Animation*. London Aurum. P.50

FIGURE 10: Cavalier, S. (2011). *The World History of Animation*. London Aurum. P.63

