William Kentridge: A Fine Artist's Relationship to Animation History

In the process of exploring the work of William Kentridge, I found a number of articles and books that examined his work from the impact it had on fine art. Much of the writing has focused on his techniques, political symbolism, drawing and theater influences. These authors understand his relevance based on criteria that represents their spheres of expertise, in particular, post-modern ethics and the historical art aesthetic. But, because Kentridge has engaged in the use of movement either through animation with camera, mechanical movement in dioramas, or the use of anamorphic art with animation, he has added the dimension of time and in many cases narrative to his art. Yet, very few authors are discussing the influence the pioneers and modern practitioners of animation have had on his work or the impact of his work on the field of animation. My goal in this paper is to examine his work in this regard and to bring a new dimension of relevance to this artist.

There are three areas I will be focusing on: pioneers of seeing and movement and their connection to Kentridge's work, film and animation techniques and their employ in Kentridge's art, and finally, his place in the context of animation history.

1. An Alternative Universe of Seeing and Movement

William Kentridge's fascination with animation combines an interest in the earliest historic concepts of perception and movement with a sense of the theater and an understanding of immersive experience in the development of his charcoal animations and the installations that he builds. He designs and crafts structures that add dimension to his concepts and expand the awareness of his audience. Installed on location, they allow the viewer to experience a more tactile experience with animation. Animation, or moving pictures in general, are perceptual illusions brought about by

how our minds put together two similar images, making a connection between them that creates the illusion of movement, this phenomena often mislabelled Persistence of Vision, is called Beta Movement and was discovered by Max Wertheimer (Thomson "Max Wertheimer") in 1912, one of the founders of Gestalt psychology. In William Kentridge's work we can see the efforts of an artist to rethink the experience of animation. His work goes beyond commercial applications churning out formulaic movement and standardized emotion, and strives to represent animation as a medium for artistic communication not unlike the aspirations of one of the founders of animation, Winsor McCay, who chastised the New York animation community in 1921 at a dinner given in his honor. He said, "Animation should be an art. That is how I conceived it. But as I see, what you fellows have done with it, is making it into a trade. Not an art, but a trade. *Bad Luck!*" (Canemaker 199).

Kentridge's first forays into animation were as a child making flip books. Patented by John Barnes Linnett under the name Kineograph (Burns precinemahistory.net/1860.htm) in 1868, flip books have been an entry point for many children into animation. In an interview with Angela Breidbach, William Kentridge talked about this process.

> The very first animation that I did— I was fourteen or fifteen—had to do with a succession of drawings. You draw on a very thin piece of paper, the last page in a pad; then you flip the second last page on top of it and you can see the ghost of the first image, so you can by tracing on top of it make a slight change and you can flip the next page, and so on (Breidbach 35).

As an adult, he created a flip book entitled *Cyclopedia of Drawing.* As each image flickers by in a flip book, it's a tactile action that also holds the illusion of movement. There is a certain mechanical sensation. The result is not distant as in a film projector or a computer screen, but instead it's this tactile relationship that weaves its way through William Kentridge's work.

Kentridge's use of animation as part of his artistic language focuses on drawing sequentially within the surface of a single sheet of paper then photographing and erasing to make way for the progression of the next sequential drawing. Eraser marks and bits of the earlier drawings remain, giving the art the feeling of the passage of time and the organic process. This additive/reductive style is in direct contrast to the modern method of using a separate drawing for each frame of movement and placing the animation on top of a layer that is used as a still background. In Kentridge's work, art is drawn in charcoal with the occasional use of spot color. The narrative occurs as the animation is created in the straight-ahead animation technique. This is the technique of creating a drawing, then, each progressive drawing without utilizing key frames to help guide the process. Key frames are drawings that illustrate critical positions of the animation movement and act as guides for the animator to get from one point in time to another. An example would be someone walking. Each step has a point of contact, a position of lifting the foot, a position of passing the other leg as the leg is brought forward, and finally reaching contact again. The effect of not planning out key frames and using a process of animating straight ahead gives Kentridge's animation its organic movement. Accidents occur, ghosts of movements linger on the paper. Occasionally, animation spills past the bounds of one sheet of paper and needs additional pieces to accommodate the moment. Through this, the artist never disguises his hand in the process. The viewer is made privy to the mechanisms of animation as opposed to hiding the artist's hand.

Kentridge's animation is displayed often as part of installations. The installations frequently get their technical inspiration from visual devices that have been employed by artists for centuries but are now relegated to children's toys or are forgotten. One such device based on catoptric anamorphosis (Collins 76) was utilized in the 15th century to place discrete content into paintings by way of manipulating the perspective so that images did not become clear until viewed at the proper

position. An example of this would be *The Ambassadors* by Holbein. Kentridge uses a method involving a mirrored tube in the center of a drawing that allows, when viewing in the mirror, for the image on the drawing to be corrected and viewed properly. He has explored the technique in several innovative round-table installations. Using a mirrored tube in the center of the round platform, animation is projected from the ceiling onto the flat tabletop. When viewed in the mirror, the reflected animation is visible without distortion and can be seen from any side. Painstakingly drawn while looking into the mirror, then photographed a frame at a time when played back, birds cross over the surface, flies crawl, faces move in almost a three-dimensional space. The effect is magical and innovative. The combination of a renaissance curiosity, modern film techniques, and Kentridge's charcoal drawing, offer a unique and new visual idea. The viewer has to enter into the space in order to see the images transformed by the mirror into recognizable objects. It forces you to engage. As Kentridge said, "There is a three-dimensional depth–like a device you would marvel at in a childhood art class. It is childlike in the sense of trying to re-create the simple magic of certain effects you experience for the first time" (Michael Auping 244).

Using optical effects to engage viewers in a physical space and enter into a altered visual sense is also behind Kentridge's use of Stereo images. Before the development of the film camera by Edison Laboratories in 1893 (Rossell 126) a variety of machines had been developed to support a growing interest in the fields of perception and movement including devices like the camera obscura and, in 1838, the Wheatstone Stereoscope (Silverman 729). This concept for viewing stereo imagery is believed to be the first ever developed. It used drawings on two parallel walls with a mirrors in the center connected together at right angles and reflecting each image when viewed while standing in the center. The images form a binocular three- dimensional image. Kentridge's large installation titled *Larder(2*007), part of the show *What will come,* utilizes this technique. Our

typical understanding of the process has to do with card board glasses in theaters playing films such as *Avatar* (2009) distancing us from the experience physically. By using the Wheatstone Stereoscope process, the viewer experiences the stereoscopic illusion in an actual three-dimensional space that impacts not just the eyes but engages the entire body. The Wheatstone stereoscope gives us a different perspective on stereo. It transforms the art giving it ghostly weight and physicality.

The evolution in Kentridge's work from charcoal-drawn animations to moving anamorphic displays and stereoscopic space, finds its culmination in his installation projects that involve building miniature theaters that combine his interests in pre-cinema visual systems with animatronic moving elements. Devices such as these, have been around for centuries and include the Fantasmagoria from 1850 used to put on moving slide shows. Elaborate slides were hand painted with moving elements, often supernatural in subject matter, then manipulated and moved in the lens of the projector powered by candle or gas. Ghosts would rise, historic figures would move or transform. The concept of using these parlor tricks with political or social commentary had their origins in the Futurism movement in Paris in the early 1900s. The movement was born out of a notorious one act play called *Ubu Roi* put on by Alfred Jerry in 1896, which mixed puppet concepts with anti-social acts, the speaking of the extremely taboo word "merde" or shit in French.

> ...Pandemonium broke out. ... As Pére Ubu, the exponent of Jarry's pataphysics, 'the first science of Imaginary solutions', slaughtered his way to the throne of Poland, fist fights broke out in the orchestra, and demonstrators clapped and whistled their divided support and antagonism" (Goldberg 12).

William Kentridge was influenced by this play in several ways including being part of a production of it in 1975 when he acted in one of the roles and in 1997 when he collaborated on a show celebrating the 100th anniversary of the play called, *Ubu ± 100.* The 1997 production

blossomed into a number of different mediums connected together by the central theme of *Ubu* including live theater, mechanical puppets and hand controlled puppets, animation and drawings. The Handspring Puppet Company collaborated with him and writer Jane Taylor in the building and presenting of the shows. Using these various means of movement to articulate ideas, the show was transformed into his first multi-media installation called *Ubu Tells the Truth* in 1997. The theater production was reworked to be more inclusive to the animated film, which was installed in a gallery on a video monitor, almost like a tripod with a television for a head. Surrounding the animated film were a series of wall size sketches of Kentridge's body. This was the first time that Kentridge integrated the installation with his art. Prior to this, any art that pertained to an animation would be shown in a separate room. The use of intertwining drawing and animation with an installation sculpture, (the figurative tripod with a head made of a video monitor) allowed Kentridge to establish an idea that he would continue to explore and expand. He eventually would include automata or mechanical movement using wheels, pulleys, gears and electrical motors to move his art. Walt Disney also explored this concept of taking drawings and making them move in a three dimensional space. Though Disney's focus was on creating the illusion of reality within the confines of commercialism, Kentridge approaches these methods as a means of exploring new ways of seeing that don't necessarily mimic reality, however, there is a thread that ties both animators. Each is interested in taking animation and the metaphor of movement and expressing it beyond paper, projectors and stages. Walt Disney's "audio-animatronic figures" as performing robots were first seen in 1965 for the New York World's Fair with a portrayal of Abraham Lincoln. Soon after, it was ensconced in the Hall of Presidents exhibit at Disney theme parks, where it remains today joined by the most recent caricature of Barak Obama.

Just as Disney created physical space, imbued it with animated movement and used this to

tell the story of the presidents of the United States, Kentridge's installation project entitled *Black Box/Chambre Noire,* 2005, uses animatronics to narrate the German colonization and massacre of the Herero people. The stage is built to allow viewers to freely move around and explore the mechanical interior which have been left exposed. Unlike Disney, who used mechanics to mimic life, Kentridge allows us to see the artifice and marvel at it. In an interview he gave with Dan Cameron in 2000 he said, "When I worked in the theater company with the puppets, there's a sense that even though you can see the manipulators working with the puppets, even when the artifice is laid bare, it does not stop you from giving the agency of the action over to these wooden, inanimate puppets"(Cameron 69). By allowing the audience to see behind the curtain, he also separates us from the subject matter. The wizard reveals the illusion. We don't believe in the reality being projected/moved, but, we never really did. By acknowledging the obvious — this is not real — we can accept this world that he has created and choose to engage in it. We can enter into that state of seeing something with fresh eyes.

Thus, through the uses of these pre-cinema techniques such as anamorphosis, stereoscopy, and automotrons, Kentridge suggests that there are other ways of seeing other then the path that cinema and multi-media have taken. Each of these techniques allows the viewer to remove the blinders that overexposure to the media and recycled narrative systems have created, and therefore to see with a childs' eyes in ways that can delight, intrigue, motivate and move us.

2. Embracing Cinematic Language

Much of the attention given to Kentridge focuses on his artist technique coupled with his pre-cinema installations but, careful review reveals his embrace of some of the techniques of current cinema and inspiration from the innovations of recent filmmakers. Cinema today finds itself in a revo-

lution of technology brought about by computer innovations. Computer advances have touched all aspects of film—even to the point of making the word "film" obsolete. Today, although film is still used, new digital cameras and digital theater systems are quickly phasing out 35 mm film stock. Today, all editing takes place on digital systems in the computer instead of editing rooms. Until the last 15 years, all animation was created using clear plastic cells that were inked on top and painted beneath. Now, although animation is still sometimes drawn on paper, paperless systems like Adobe Flash have revolutionized the industry and almost all animation is painted and composited on the computer. The technology for special effects had not changed since Georges Méliès (1895–1914), and the innovative work of Willis H. O'Brien in *The Lost World*, 1925, till in 1984 with the release of *The Last Starfighter*. Now every effect imaginable can be created on the computer.

Many of the techniques have their origin in the first experimenters in the medium. Most of those early techniques have been surpassed or forgotten. Méliès, a French filmmaker, was known for manipulating the cinema experience by using stop-motion techniques, special effects, editing, and montage to bring a sense of the magical into early film. Méliès started his career as a stage magician and brought a sense of showmanship to his work, often performing as if on stage during his own films. Kentridge was inspired by Méliès' work and did several pieces that were in honor of his brilliance. Examples are, *Seven Fragments for Georges Méliès,* which was part of a film installation that included the *7 fragments* and 2 additional films, *Journey to the Moon*, and *Day for Night*.

As in the explorations of pre-cinema systems previously mentioned, the early cinema work of Méliès offer us insights into Kentridge's attention to the rawness of technique and the revealing of mechanics. To a certain degree, these films are tributes and explorations of earlier technologies. Gaining its title from Méliès' *A Trip to The Moon*, 1902, Kentridge's *Journey to the Moon* also

pays tribute to *2001: A Space Odyssey*, 1968, and *Wallace and Gromit's A Grand Day Out,* 1989, which Kentridge listed as inspiration for the showing at Hamburger Bahnhof – Museum Für Gegenwart, Berlin, 7 February – 6 May 2007 (Barnaby 316). *Journey to the Moon* uses film reversals, a technique where the actors perform movement in reverse such as walking backwards then drop objects like books or water. Then, by reversing the film it seems that books or water are defying the force of gravity as the actor walks across the stage. He also uses rotoscoping, a technique patented by Max Fleischer in 1917, that is the precursor to today's modern motion capture techniques as seen in *A Christmas Carol*, 2009. Rotoscoping uses filmed movement that the artist draws over, "capturing" the movement into the animation. An example of how he uses this technique is the film *I Am Not Me, The Horse Is Not Mine*. In the film he video tapes himself acting as a horse, then takes the video tape and projects it one frame at a time while he animates cut and torn paper on top in a stop-motion method while refilming it. In *The Magic Flute*, 2005, he animates a cut paper rhino that interacts with charcoaled lines drawn onto the background. By moving the puppet slightly and then clicking an exposure, he builds up the movement of the rhino frame-by-frame.

Another technique he uses in *The Magic Flute* is to record himself, pushing the exposure so that it is high contrast then flipping the scene digitally to its negative so that the effect is of a light shape allowing objects to be seen in its path. In many of these films there are numerous edits and combinations of these effects. Interestingly, even as Kentridge reveals the rawness of his turn-of-the-century technologies, he does not reveal how much digital work is being done. Many of the effects are being mixed and edited digitally using video cameras, Macintosh computer systems, and Final Cut Pro—a video editing software. This can be seen in the PBS series *ART:21 Compassion* (Dowling 16:13). He also makes use of double and triple exposures. Kentridge video tapes himself with the camera locked down, then records himself again in another section of the camera's

view, then a third time. These three exposures are sandwiched on top of one another creating the triple exposure illusion that Kentridge is in three locations at the same time. Effects like these are all tools of the modern filmmaker. Examples can be viewed on the DVD provided with the *Five Themes* book based on his San Franscisco Museum of Modern Art traveling show in 2009 (Rosenthal Chapter 20).

Besides tools such as stop-motion and video effects, Kentridge uses the structure of narrative film to communicate with his audience. As the language of film has evolved, our acceptance of this unspoken communication has become more universal. Little consideration is given by the audience to the way images are put together—how a mix of wide, medium and close-ups shots along with lighting and cross-fading can change the emotion of the moment. Kentridge has said in interviews that he does not script or storyboard his films. Instead, he works from a shot list of images he wishes to animate, begins to create the animations, edits them together and determines what might be missing, then creates those elements to start filling in the flow (Breidbach 56). He creates the narrative, a section at a time. This allows for "awkwardnesses and gaps in the narrative" (Breidbach 57). In *Tide Table*, 2003, Kentridge uses the language of filmmaking to help create a sense of narrative while not overwhelming the work with structure. Still, he establishes location with the opening shot of the waves washing in, depicts the empty beach chair, which he later fills with the character Soho. He uses music and sound effects to create atmosphere, and manipulates his animations with reverse techniques and recycling along with odd jittery digital camera pans that purposefully go forward two steps then back one step making the rhythm anything but smooth. He also transitions with cross fades between scenes. In the DVD provided with *Five Themes*, there is a fascinating exploration of his test footage, shot on a digital video camera. He went to loca-

tions and created references for the difficult-to-animate portions of the film, including water, cows, beach houses, the character standing with binoculars, and the beach chair which, he stop-motion animated in-camera to guide the drawn animation. Even though he is not storyboarding the animation, he plans his work during the making by shooting reference video to support the process. The result of his preplanning, use of modern video tools such as Final Cut Pro and various animation techniques, act as support for his organic, additive/reductive charcoal techniques and set the stage for Kentridge, the magician, to show us his visions. There is more going on than would appear on the surface of the final presentation. Like any great illusionist, he suspends our disbelief and in that moment, the combination of presentation, process and ideas solidify into something new—wonderment.

3. Kentridge's Place in Animation History

Many of the earliest pioneers of animation started out as magicians or as showmen. The use of the artist as the conductor of the magic was a conceit used in vaudeville and the stage. Many of the early animations feature their creators. Animators such as Winsor McCay, who took his animated show *Gertie the Dinosaur*, 1914, on the road as a vaudeville show, or Max and Dave Fletcher with the *Koko the Clown* series, which featured Max and a clown, Koko, who came to life out of an inkwell. This showmanship also plays out in Kentridge's work— not only are his characters based on himself such as Soho and Felix, who play in many of his animations—but he himself becomes the "magician" entertaining us with his animation tricks. The earliest acknowledged animated film is considered James Stuart Blackton's *Humorous Phases of Funny Faces*, 1906, which was animated with chalk on a chalkboard. Created by drawing a line in chalk on a chalkboard, shooting several frames, then, adding to the chalk drawing slightly, then shooting several more frames. This addi-

tive/reductive chalk technique continues over and over. When played back, the chalkboard comes to life with movement. The hand of the artist is also present, at the beginning he draws out the character, later he erases the characters. *Humorous Phases of Funny Faces* also features another technique that Kentridge uses—paper animation mixed with the chalk animation. In the film, a clown uses a hoop to make a dog jump through. The clown, hoop and dog are drawn to look like they are part of the chalkboard, but most of the time, are clearly pasted on the board while other times they are drawn on the board so that the hand of the artist can reach in and erase them. Tricks like these try to create the illusion of intricate movement on the chalkboard without the headache of moving complicated drawings. Kentridge uses a similar technique as previously mentioned in the *Magic Flute*. A rhino drawn to look like charcoal on paper but built to be a paper puppet moves about on a piece of charcoal paper with drawn elements animated in conjunction with the paper puppet. Interestingly, Blackton also uses the technique of reversing the film so that it looks like the smudged drawing tightens and sharpens into the art that then animates. In many ways this first animated film by Blackton contains the recipe for Kentridge's techniques and inspiration. Other pioneers such as German animator Lotte Reiniger (1899–1981) also used cut paper technique for animation and influenced Kentridge's work. She made numerous shorts that involved intricate puppets created out of paper in silhouette, then animated. Her greatest creation was the film *The Adventures of Prince Achmed*. The first feature-length animated film predated Disney's *Snow White* in 1937 by over 10 years (Raganelli 11:10). Kentridge's animation and installation as previously mentioned, *BlackBox* was commissioned by the Deutsche Guggenheim in Berlin Germany, was informed by Reiniger's technique and her inspiration was a consideration in the development process between Kentridge and the Museum (Maria-Christina Villasenor 77).

Kentridge uses many techniques. One in particular—the additive/reductive method of ani-

mating on paper that had it's origins with Blackton's chalk on chalkboard animation in the 1900s—has continued to be employed by a variety of artists in a number of mediums such as paint on glass[1], sand over a light table[2], and pin animation[3].

Norman Mclaren (1914–1987), one of the great pioneers of animation, experimented similarly with pastels. Mclaren first used what he termed "the pastel method" in 1947 to animate "Là-haut sur ces montagnes" a folk tale. He spoke about the process[4] for a magazine article in 1948. "In other words, do a painting, but put the emphasis upon the doing rather than the painting, on the process rather than on the end-product." (Jordan 7).

Understanding Kentridge begins with technique and its context within the historical and present-day practitioners of animation but, technique is only a tool for communicating with the audience. Kentridge's work communicates the landscape of South Africa. Economically, politically, environmentally, and culturally, his work is the product of an artist grounded in his region. Kentridge's social explorations expressed in his work—especially the early animations—are informed by his experiences living under apartheid. In *Johannesburg, 2nd Greatest City after Paris*, 1989, *Monument*, 1990, and *Mine*, 1991, Kentridge explores two principle characters, Soho and Felix, which are both characterizations of Kentridge himself. Soho is his portrayal of white big business, while Felix is the common white Afrikaner. He has animated 8 of the Felix and Soho shorts. Each one is a personal exploration without a defined ending made with the principal of "NO SCRIPT, NO STORYBOARD" (Rosenthal 67).

> ...I am still interested in an art that is political, that deals with these questions, but doesn't feel it has to come out with a slogan or a unambiguous or non-contradictory position, for the belief that unambiguous, non-contradictory political positions are always false and are always lies and are always hidden authoritarianism." (Gabassi 36:32)

The relationship of apartheid, Kentridge, and his Afrikaner heritage to the oppressed black majority does impact the films but the films are more nuanced than this. Both characters in the films represent Kentridge and involve his relationship to gluttony, sexual desire, power, and life. Buildings are built on the back of black labor, scraps of food pass from Soho's table to the poor, natural resources are pulled out of the earth at the expense of the black laborer. Felix has affairs with Soho's wife, Mrs. Eckstein, unrest fills the streets, empires collapse as time passes, characters mature. Kentridge's animations represent his exploration of his emotions and struggles with the world around him. They describe his inner life with metaphor and symbol. The earliest example of using animation as a technique for serious film-making was *The Sinking of the Lusitania*, 1918, by Winsor McCay (1867–1934), the creator of the comic strip *Little Nemo in Slumberland* for the Hearst papers and, an innovator in the field of animation. He envisioned a future with artists using animation as a medium for the arts[5]. *The Sinking of the Lusitania* documented in "real time" the attack and the sinking of the boat off the coast of Ireland in which 1150 people perished. This event helped trigger the United States' involvement in World War I.

Kentridge's use of symbol and metaphor to describe his autobiographical approach to animation echoes a modern master of animation, Yuri Norstein (1941–). Working in the Soviet Union as part of the Soyuzmulfilm Drawn Animation Studio under communism, Norstein became a master of the cut paper animation technique (Kitson 27). Creating animation during the era of Brezhnev, when animation and all media needed to work towards the greater good of the state, Norstein produced one of the most amazing animated films in animation history. *Tale of Tales*—a subtle, mysterious animation based loosely on a Russian nursery rhyme/childrens song. *Tale of Tales*[6] uses autobiographical metaphor and symbolism similarly to Kentridge, describing a world through the

lens of a nursery rhyme instead of through the characters Soho and Felix. In *Tale of Tales*, scenes of the desolation of World War II, mix with childhood memories, dreams and a wolf character. Because it describes an inner exploration, it is ambiguous and built of many overlapping ideas and visual metaphors. Similarly, Kentridge's animations have this quality and share, at their heart, two artists struggling to understand their connection to their past and the world around them.

From the earliest animation of Blackton, to the innovations of Norman Mclaren and the personal expression of Yuri Norstein, Kentridge's work builds upon the heritage of animation's greatest pioneers. To experience his work is to be rewarded with forgotten methods of communicating movement made new through the expression of his art. Kentridge has woven together tools from the origins of animation, like praxioscopes and flip books, with the sophisticated digital technologies of today, such as digital cameras and video editing, to create something unique. By understanding the relevance of these forgotten techniques and reexamining their capability he allows us to see something in a different light. He has questioned the limitations of the viewing screen by engineering animated machines and allowing us to engage with the illusion of movement in a physical space, thereby creating unique environments as in his large installation, *Black Box*. Kentridge has also reinterpreted the way that animation is drawn. By utilizing his charcoal drawing skills with an additive/reductive technique, he boldly creates animation that erases its charcoal line past in the process of drawing the present. He has used these tools and techniques to do as all artists set out to do —communicate.

All of us desire to achieve wholeness, the right to be called human. Kentridge, by searching out an understanding of his pre-and post-apartheid world and his relationship to it; by fearlessly examining his own motivations and inadequacies and expressing them through his characters of Soho and Felix; by being inspired by art, literature, film, animation, politics and relationships,

reflects the struggle of an artist who is willing to communicate the layers that make him human. Kentridge makes the inanimate animate, the non-moving breathe artificial life. He uses this god-like ability to infuse child-like wonder in the viewer as have all of the great animators. The combination of his understanding of mechanism, technique and life-experiences swirl and fuse to create magic. This then, is William Kentridge's relationship to animation.

Endnotes

1. Artists by using oil paint on back-lit or above-lit glass can create animation with the subtle look of a painting. They create movement by rubbing out sections of the painting and repainting it, then shooting an exposure of film. In recent years, Russian animator, Alexandre Petrov has been nominated 4 times for Academy Awards and received one Oscar award for his The Old Man and the Sea. The piece was painstakingly animated over the course of 2 and 1/2 years with over 29,000 painted frames (Cotte 212).

2. The animator manipulates sand placed on top of a light table and then it is photographed from above.

3. Pin animation uses thousands of pins placed in a frame and animated by pushing in and out the pins to create with lights, shadow effects. A simple version of this is sold in novelty stores as "pin art" in which someone can place their hand on the pins and create the illusion of an instant sculpture made of pins. The titles to Orson Wells film The Trial, 1962, animated by the techniques inventor, Alexandre Alexeieff and his wife Claire Parker are the most famous use of this type of animation.

4. This focus on process was to be a life-long ambition of Mclaren who went on to invent Pixelization (animating people and objects in front of the camera with stop motion), and famously cameraless animation or drawing directly on film. Mclaren's impact has been profound on animation.

5. Winsor McCay originally worked on rice paper with ink, drawing each background over and over again (Canemaker 160). The demand for animation by the public and the need to make it commercially viable led to the invention of the cell. Made of clear plastic acetate, cells made it possible to draw the moving portions of the art on the plastic and reuse the background by having it

under the clear cell (Callahan 224). The need to commercially make animation drove the concept of animation into a different path than that which Winsor McCay envisioned. In several newspaper articles he shared his vision of the future of animation.

> Take for instance, that wonderful painting, which everyone is familiar with, entitled The Angelus..... There will be a time when people will gaze at it and ask why the objects remain rigid and stiff. They will demand action. And to meet this demand the artists of that time will look to the motion picture people for help and the artist, working hand-in-hand with science, will evolve a new school of art that will revolutionize the entire field. (Buffalo Enquirer, July 16, 1912) It was too bad that Michael J. Angelo [sic] didn't draw for the movies.... The coming artist will make his reputation, not by pictures in still life, but by drawings that are animated. (Detroit News, July 22, 1912)

6. Tale of Tales has been voted by Zagreb Animation Festival after a 4 year polling as the best animated film of all time in1984. The same recognition has been given by the L.A. Film critics in 1988 (Kitson 3).

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