Organizing the ZOO:
Peter Greenaway’s *A Zed & Two Noughts*

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ABSTRACT

Peter Greenaway’s film, *A Zed and Two Noughts* (1985), examines the process of death and decay and how the cinematographic process can document the human experience. The film centres on Oswald and Oliver Deuce, grieving twin-brother zoologists, and their affair with Alba Bewick, a beautiful woman whose body is decomposing as a result of a series of amputations. She is also the woman responsible for the death of the twins’ wives. In order to process their wives’ deaths, Oliver and Oswald undertake a series of pre-cinema-esque studies: photographing the decomposition of the zoo animals in their care. Like all Greenaway films, *Z&OO* subverts traditional narrative filmmaking. Greenaway’s films employ a visual organizing principle as cinematic structure rather than traditional movies motivated by story and plot. *A Zed and Two Noughts* derives its organization from Eadweard Muybridge’s nineteenth-century locomotion studies, *Animals in Motion*. Muybridge’s pre-cinema photographic studies of human and animal figures in the 1880s were meticulously organized, meticulously edited, and near pornographic. Greenaway has explained that his fascination with Muybridge’s work lies not only in the visual organization, but more in the peculiarity and perversion of the human activities documented in the studies. It can be argued that Muybridge’s work bridges the gap between art and science. It can also be argued that Muybridge’s work existed solely for the amusement of its maker. Greenaway’s use of Muybridge suggests both – art and science and the amusement of the maker. This article examines Muybridge’s organizing principles for his motion studies and how those same peculiar principles serve as the process for Oliver and Oswald Deuce to grapple with death in Peter Greenaway’s *A Zed and Two Noughts*.

Peter Greenaway’s 1985 film, *A Zed and Two Noughts* (*Z&OO*), tells the story of Oliver and Oswald Deuce, Siamese-twin zoologists separated (cut into individual bodies) at birth. The twin brothers lose their wives in a freak car accident when a swan crashes into the windshield of the wives’ car, killing the brothers’ wives and injuring their driver, Alba Bewick, who as a result has one leg amputated. The brothers mourn their wives and seek to understand their unexplainable deaths. That is the clearest narrative this author can provide for the film; a clear narrative is neither Greenaway’s intention nor is it part of the film’s structure. Since his first short films in the late 60s to his most recent “bio-pics” about Rembrandt, Hendrick Goltzius, and Sergei Eisenstien, Greenaway’s films evidence the filmmaker’s desire to organize things and his attempt to find order in chaos (Pally 108). Greenaway’s films subvert traditional narratives and are structured by what Greenaway refers to as an organizing principle (109). *A Zed and Two Noughts* is no exception.

Rembrandt and *Nightwatching* (2007), Hendrick Goltzius and *Goltzius and the Pelican Company* (2012), and Sergei Eisenstein and *Eisenstein in Gaunajuato* (2015). Greenaway is continuing these hybrid biographical-fictional-essay films with *Eisenstein in Hollywood* (2018) and *Walking to Paris* (2018), his film about Constantin Brancusi. Greenaway’s cinematic experiments with numerical systems, alphabetical sequencing, and colour-coding have all been attempts to dislodge the apparently unquestioned presumption that narrative is necessary and essential for cinema (Pascoe 10). Greenaway states:

If a numerical, alphabetical or colour-coding system is employed it is done deliberately as a device, a construct, to counteract, dilute, augment or complement the all-pervading obsessive cinema interest in plot, in narrative, in the ‘I’m now going to tell you a story’ school of film-making, which nine times out of ten begins life as literature, an origin with very different concerns, ambitions and characteristics from those of the cinema (9-10).

Exactly one hundred years before *Z&OO*, at the pre-dawn of cinema, Eadweard Muybridge captured, organized, and catalogued chaos — the chaos of the sensation of movement — that until that time had never been photographed successfully. From 1884-1887, Muybridge photographed human movement at the University of Pennsylvania and animal movement at the Philadelphia Zoological Garden. The work, *Animal Locomotion*, consists of 781 photographs containing nearly 20,000 individual images (Braun 7). The opening images of *Z&OO* offer the viewer Greenaway’s cinematic version of Muybridge’s locomotion work and Greenaway’s vision of Muybridge at work (Figures 1 & 2). Greenaway begins his film with a reference to the beginning of cinema.

Muybridge’s *Animal Locomotion* studies have influenced generations of artists and filmmakers. His work has been referenced and recreated in live sports broadcasts and television commercials, music videos like U2’s *Lemon*, in the artworks of Francis Bacon and Sol LeWitt, and in the films of Hollis Frampton, Ken McMullen, and the Wachowski Brothers. Nowhere do Muybridge’s studies surface more repeatedly than in the film and media work of Peter Greenaway. Reproductions and recreations of Muybridge’s *Animal Locomotion* are evident in *A TV Dante: The Inferno – Cantos 1-8* (1989), *Prospero’s Books* (1991), *The Tulse Luper Suitcases* trilogy (2003/4) and *Leonardo’s Last Supper: A Vision by Peter Greenaway* (2008). Greenaway views Muybridge’s locomotion studies as “a project that mocks human effort…It’s as an unfinished and unfinishable catalogue of anecdotal ephemera that I like it best” (Pascoe 111). Perhaps Greenaway’s most compelling use of Muybridge’s locomotion studies is *A Zed & Two Noughts* (*Z&OO*), which uses Eadweard Muybridge’s *Animal Locomotion* studies as its organizing principle.

Muybridge’s locomotion studies are “organized,” if nothing else, from conception to presentation. Each motion study consisted of a sequence of still images (photographic plates) of a movement, often shot from 3 different angles, which sought to isolate individual human and animal movements and freeze time. Muybridge’s system operated via a series of still cameras stationed side-by-side
that captured the movement of the figure as it passed his camera bank. The result of such a photographic sequence is the sensation of successive, continuous movement.

Greenaway’s later film and television work employs multi-layered and simultaneous imagery on the two-dimensional screen, *The Tulse Luper Suitcases* being the most excessive. Those images are often presented in a Muybridgian-fashion, providing the viewer with multiple angles of the same exact moment. The technology necessary for Greenaway’s Tulse Luper style was not available at the time of *Z & OO*’s making. Rather than attempt a cheap triptych in *Z & OO*, Greenaway edits together shots from a scene that would suggest Muybridge’s simultaneous multi-camera perspective (Figures 3 & 4). Greenaway does what Muybridge could not; he turns Muybridge’s still-motion photographs into moving images.

Scientist Etienne-Jules Marey was working on similar motion studies in France slightly before and during Muybridge’s time. What set the two photographers apart, aside from their photographic subject matter, was their photographic technique/system. Marey captured each stage of human movement by using a single camera with a single lens that remained open while a rotating slotted-disk shutter alternately exposed and masked the plate behind it (Braun 185). The result was a blurred, overlapping sensation of movement within a single frame. It is believed that Muybridge made some pictures with Marey’s system, but those photos do not exist (185). Marey’s method was preferred by Philadelphia painter, Thomas Eakins, who worked with Muybridge at the University of Pennsylvania. Muybridge and Eakins parted ways due to a disagreement over technique; Muybridge had no interest in adapting Marey’s wheel-system. Instead of stages of movement on a single plate, Muybridge preferred one isolated movement per photographic plate. By separating each movement by plate, Muybridge, unlike Marey, afforded himself the opportunity to edit and re-arrange his motion sequences.

Viewing Muybridge’s work outside the printed page gives the viewer the impression that Muybridge’s photographs were projected, thereby qualifying his work as the earliest form of moving pictures or cinema. However, Muybridge’s work was not projected; it was printed in a book. Each page contained one complete locomotion study in which all the movements and photographs (including varying angles) were presented to the viewer at once, each effacing the other (Rohdie 5). As many as 36 photographs could appear on a single page. An explanation of his process reads:

Muybridge used up to 36 lenses with 12 to 24 cameras, placed at 30-, 60-, and 90-degree angles to his subjects. The two cameras placed at 30- and 60-degrees were able to hold up to 12 lenses each. The 90-degree angle was known as the lateral, or parallel, view, while the others Muybridge referred to as the front and rear foreshortenings. With this set-up, a successful session could result in as many as 36 negatives (*From Proof to Print* par. 3).

As a result, Muybridge’s images could be ordered and read vertically and diagonally, in addition to being
read horizontally. Reading the images vertically does not offer a linear *unfolding of time* sensation, but rather a rapid front-to-back visual pattern. If one photograph suffered from a mechanical or aesthetic malfunction, Muybridge removed the defective photograph and simply repeated an earlier photographic plate in the sequence. Further examination leads the viewer to notice repetitions in a single photographic sequence. Here the viewer witnesses Muybridge editing his work. “Muybridge would sometimes cheat accuracy to ensure the integrity of the naturalness (of the series) to overcome the inherent discontinuity of his images” (Rohdie 5). In essence, Muybridge was editing movies before editing movies was possible. For this reason, Sam Rohdie considers Muybridge the earliest pioneer of montage editing. I contend, however, that Muybridge was creating the illusion of movement via a “database” approach rather than a rational or linear approach.

Writing about the database logic in new media artwork, Lev Manovich discusses “Database Cinema” and identifies Dziga Vertov and Peter Greenaway as two major database filmmakers. Manovich states:

For cinema already exists right in the intersection between database and narrative. We can think of all the material accumulated during shooting forming a database, especially since the shooting schedule usually does not follow the narrative of the film but is determined by production logistics. During editing the editor constructs a film narrative out of this database, creating a unique trajectory through the conceptual space of all possible films which could have been constructed. From this perspective, every filmmaker engages with the database-narrative problem in every film, although only a few have done this self-consciously (208).
If Muybridge’s work was intended to give the illusion of sequential, continuous movement, why did he insist on photographing a single movement per photographic plate as opposed to Thomas Eakins and E.J. Marey’s system of capturing one entire motion at various stages on a single plate? Muybridge insisted on using his own organizing system: an organizing system that resulted in obvious gaps in the recording of motion and time; a system where each photograph was numbered and ordered (1, 2, 3, 4, 5, 6...), even though specific photographs depicting one stage of motion were not chronologically edited or systematized.

Muybridge’s studies are not continuous; they include gaps between movements that provoke the viewer to ask what happened in between those two opposing photographs. Studying Muybridge’s edited motion studies on the printed page as database, the observer can apply Lev Manovich’s words, “[s]o the only way to create a pure database is to spatialise it, distributing the elements in space” (209), which is exactly what Muybridge did. As is the case with all instantaneous photography, Muybridge did not know what he was going to get when he photographed his models. Yet, he took his results and made them into a coherent whole (Prodger 220). It was a coherent whole that was created artificially, not naturally. Muybridge’s system permitted fictions within non-fictions; Marey’s and Eakins system did not. Muybridge was not necessarily photographing movement, but photographing, editing, and presenting the process of the illusion of movement. Peter Greenaway’s statement that Muybridge is a precineaste appears apt.

In *A Zed and Two Noughts*, following their wives’ deaths, Oliver and Oswald Deuce begin studying death
and decay through a series of time-lapse motion studies of decomposing animals (Figure 5). The brothers also screen David Attenborough’s *Life on Earth* documentary series, free animals from the zoo where they work, and begin a three-way sexual relationship with Alba, who eventually has her other leg amputated. At the end of the film Alba gives birth to twins; it is uncertain which brother fathered the babies. In their final attempt to document decay and understand death, the twin brothers lie naked on a gridded, Muybridgian slab at L’Escargot (Alba’s country home), inject themselves with poison, and commit suicide, all the while recording time-lapse footage of their demise and decay (Figure 6).

Just seconds after their deaths, instantaneous like Muybridge’s photographs, their photographic-system fails when thousands of snails overrun their film equipment and create an electrical outage. The twins’ photographic time-lapse studies go unfinished, and Greenaway’s snails spinning round and round on the record player and 16mm camera lenses are presented as nothing more than a mockery of the Deuce brothers’ efforts.

For all their logic, their planning, their knowledge, and their experimentation, they are reduced to nothing; not by suicide, but by a “primitive form of life,” to quote Oswald Deuce. In the zoo, human life interferes with animal life: at L’Escargot animal life interferes with human life (Figure 7). This final mockery of the Deuce brothers’ efforts enables Greenaway to end on yet another Muybridgian note. *Z & OO* opens with visual referents to Muybridge, and the film ends with Greenaway’s personal Muybridgian insight and aesthetic reasoning: a project mocking human effort (Pascoe 111).

*Z & OO*’s narrative, while accessible, is not necessarily reliable. It is convoluted at best. *Z & OO* is among Greenaway’s most challenging works, placing before its viewers a lush, often puzzling assortment of allusions, puns, visual clues, bizarre images, taxonomies, and self-referential musings. “The film’s encyclopedic sprawl and interpretive ‘red herrings’ threaten a precocious hermeticism, yet its overt self-consciousness and insistent references to seventeenth-century allegorical painter Jan Vermeer constantly invite us to read it” (Petrolle 160). The glue that holds the film’s structure together is the filmmaker’s attempt to organize and catalogue the bizarre and useless actions of the film’s characters. Here, Greenaway is working on the problem of reconciling database and narrative forms. He is working to undermine a linear narrative by using a different system to order his film. No longer having to conform to the linear medium of film, the elements of a database are spatialized within a museum, in this case a zoo: Muybridge’s zoo. This move can be read as the desire to create a database at its most pure form: the set of elements not ordered in any way. If the elements exist in one dimension (time of a film, list on a page), they will be inevitably ordered (Manovich 208-209).

*Z & OO* opens with a cross-cutting of double Muybridgian imagery. Oliver Deuce records the number of times a tiger paces back and forth in its cage at the zoo. Similarly, Muybridge analyzed the movements of animals and used his photographs to demonstrate that quadrupeds employ, on the surface of the ground, eight different regular systems of progressive motion: walk,
amble, trot, rack (or pace), canter, transverse-gallop, rotatory-gallop, and ricochet (Muybridge 26). In a separate shot, Oswald sits outside a gorilla’s cage (the gorilla is missing one leg) photographing the animal’s movement. The number of photographs slowly wind on the camera – the final number Greenaway leaves us with is 12. Many of Muybridge’s animal sequences were composed of twelve photographs – twelve from two different angles. Muybridge never published a photograph of a one-legged gorilla, but he did publish a series of photographs of human figures with physical abnormalities; some missing one or both legs. In this opening sequence, Greenaway recreates Muybridge’s studies and re-imagines the Muybridgian studies as pure cinema; Muybridge is no longer relegated to pre-cinema, hence the 12 still frames captured by twenty-four moving frames per second.

Not only is the zoo a direct visual reference to Muybridge’s photographic studies, but the zoo is the architectural representation of the “organization of chaos.” A barred and gridded, created system, in essence a database, of wild animal life spatialized with the intent to communicate the narrative of animalia – which is nothing more than “an unfinished and unfinishable catalogue” (Pascoe 111) as new species are discovered and others become extinct. The zoo is non-linear – it is organized by space. Greenaway emphasizes this zoo-database idea with a riddle in Z&OO: do you think a zebra is a white animal with black stripes or a black animal with white stripes? Greenaway, with his tongue-in-cheek humor, chooses to mock human effort, like the efforts of the Deuce brothers, to study and understand animalia in a simple, linear storytelling fashion. The riddle is never answered.

Z&OO’s zoo serves a third purpose: it performs multilaterally like Muybridge’s photographs. Z&OO moves forwards and backwards simultaneously. The film’s narrative moves forward in time – from start to finish. However, in order for the Deuce brothers to understand their wives’ random deaths, they work backwards.
Peter Greenaway’s films are nothing more than the filmmaker’s desire to organize things and his attempt to find some sense of order in chaos.

– gathering clues and pieces of information (and broken glass from the crash) in order to reconstruct the car accident and change its cause from random to logical. The Deuce brothers’ physical and intellectual quest moves backward in time. This leads the once Siamese twins to reconnect themselves physically as they were at birth. At the start of the film, Greenaway introduces each brother in his own film frame and in his own space conducting his own animal experiment. At the end of the film, the brothers don a Siamese suit (two suits stitched together as one) and eventually strip naked, connect the scars of their bodies that indicate where they were originally attached at birth, and die simultaneously while conducting a shared experiment.

Greenaway also spells this frontwards/backwards out simply and clearly with the word ZOO. The opening image of the film depicts two children dragging a Dalmatian toward the big, blue letters: ZOO. The end of the film shows Venus de Milo opening the zebra cage and walking toward the big, blue letters: OOZ. Greenaway has inverted the reading of space and the use of the space just as he inverted Muybridge’s photography of life in motion to a photography of death/decay in motion. Just after Greenaway presents the viewer with OOZ, the Deuce brothers fail in their final experiment as they are overrun and covered by the ooze of the snails.

Neither Muybridge nor Greenaway views wild animals as the only example of chaos in need of structure and superficial ordering. Human chaos (that of actors
and models also requires organization. In Z&OO, action is a matter of going through the motions. In their grief Oliver and Oswald represent Muybridgian characters for Greenaway’s camera. “There are no purposes, only functions. Every step of a movement is made to look as significant or insignificant as every other step” (Pascoe 110-111), and every step is photographed by Muybridge and filmed by Greenaway along one of three axes.

Muybridge’s three camera banks enabled him to photograph his subjects from three distinct angles: 30-, 60-, and 90-degrees. Every camera was stationary and recorded the model’s full body in motion and the distance between model and camera was never altered. The distance was standardized. Muybridge did not use or attempt to create film vocabulary: no medium shots or close-ups. In Z&OO, Greenaway only moves the camera in 3 distinct directions: side to side, front to back, or on a forty-five degree angle. The camera is never hand-held or on a Steadicam and never operates in a purely physical manner, in that a camera operator never moves the camera around the actor in a subjective or physical way. Greenaway presents his actors full-bodied from an objective distance so that all aspects of their movement are visible. It is not until the end of the film that Greenaway breaks with Muybridge’s visual motif and moves the camera off his previously designated pattern. As the brothers inject themselves with poison on the angled grid, the camera, via a crane, moves in an arc pattern up, over, and around the dying brothers. This change in camera suggests that Greenaway is moving beyond Muybridge and beyond pre-cinema.

In Muybridge’s Animal Locomotion, models appear in five different stages of undress, revealing the particularities of sex, race, disabilities, and body type. There is an erotic aspect to the work but it is never prurient; the mechanical facts of Muybridge’s models are visible. Within the confines of the artificial space Muybridge creates, a certain pathos manifests itself. The figures appear lonely. Their behaviours are disjointed. Their actions are ineffective. We are shown the unglamorous side of existence. The simple facts of behaviour are made plain, stripped of motivation, and emotion and context (Prodger 218-220). Nudity is a recurring theme here and in Z&OO; Greenaway chooses not to depict any sexual acts, yet he chooses to display his models naked a great number of times. Greenaway’s use of nudity is not intended as eroticism, but to inform the viewer that this is the actor/model without costume and therefore without context. Greenaway shows his nude actors cry, sit on the floor spread-eagled, descend a staircase while singing, cover their naked bodies with snails, and dress and undress.

Mourning their wives and contemplating the value of zoo-structures, zoologist-widows Oliver and Oswald are also stripped of motivation, emotion, and context;

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**Z&OO is not a film constructed with a narrative. The narrative emerges through Greenaway’s systematized arrangement of visual data recorded by the camera.**

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Fig 8 | A rotting apple projected beyond rotting wallpaper and the recreation of a Muybridge semi-nude model in A Zed in Two Noughts.
their “simple facts of behaviour” are made evident. They are not glamorous. Oliver stops bathing and in an early attempt to kill himself, sits nude on his bathroom floor drinking a glass of red wine spiked with pieces of broken glass from his wife’s car crash. Oswald takes to walking against the wall of his apartment until the wallpaper shreds and deteriorates (Figure 8). The wallpaper slowly peels away like flesh of the decaying apples and prawns in the films he projects in his apartment (Figure 9). Both brothers sleep with the same prostitute and the same double-amputee.

Greenaway depicts the brothers as emotional in the start of the film; however, that quickly changes, and their emotions and their actions lose context as they walk and jog in Muybridgian fashion toward their suicide. Their actions do not appear linear but scattered and can be read by the viewer horizontally, vertically, and diagonally as they perform nude and semi-nude in the film frame. Greenaway’s Deuce brothers only function is to procreate and die; all their actions in between those two functions are arbitrary and peculiar. In one scene Oswald is forced to look at a woman’s underwear in a public restroom upon her request. Immediately after flashing her underwear, she slaps Oswald in the face and he falls to the floor. Oswald’s action and reaction serve no functional purpose to the film’s narrative line or Oswald’s character arc. It is not erotic. It is not purposeful. It is peculiar. As Greenaway states, “It serves the purpose of not serving a purpose, surely quite a valid one” (Morgan 17).

Animal Locomotion and Z&OO organize the chaos of Muybridge and Greenaway. The sexual undertones of the images, the masters’ hands altering successive motion
for the sake of aesthetic pleasure, and both Muybridge’s unfinished catalogue that ends on the arbitrary number 781 and Greenaway’s unfinished time-lapse film of the Deuce brothers’ suicide, provide the viewer with a narrative beyond “I am going to tell you a story.” Each motion study contains its own unique narrative – all 781 motion studies compiled in a book creates a different narrative of disjointed and unreliable imagery. Greenaway stands twin brothers before us and films them at a distance so that the viewer must study their movement, dress, nude bodies, and actions in order to properly identify them. Z&OO is not a film constructed with a narrative. Rather, the narrative emerges through Greenaway’s systematized arrangement of visual data recorded by the camera.

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**WORKS CITED**