

# Ghosts Between the Frames: The Generation of Anima in Film and Ornament

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Time and animation as an architectural strategy have the potential to significantly support the ideal of architecture as a continual process rather than a static end. Time based media have allowed this crucial dimension to supplant the "product driven" static proposals of a traditional architectural curriculum. The production of architecture becomes a narrative, as opposed to a list; structure becomes a balanced "moment" in an otherwise dynamic interplay between form and gravity; composition and proportions are "snapshots" of elements in motion.

Animation (life, movement, time) and Architecture (Statics, permanence) are contradictory notions if ever there were any. Architecture confronts and even challenges the possibility of unpredictability and movement and even the erosion of material in time. This convergence of terms "Anima" and "architecture" should be forcing a radical questioning of what we design.

Animation has the capacity to speed up imperceptibly slow processes, such as the drawn-out intervals of a geological evolution, or perhaps an organic deterioration. By the same token, phenomena that occur within a split second can be expanded and delayed into the realm of familiar time, simply by shooting film at a much faster speed.

The terms of "anima" in fact, are not necessarily "new" ideas: they provide the ground work for the mimetic implications of any ornamental art. While modernism has, no doubt, been fascinated with dynamic systems: "Anima" as the predominant ingredient to the recipe of architecture has lacked consideration.

## ANIMA AND ARCHITECTURE

Animation or "anima" implies life; the breathing of vitality into something in "animate". The work pre-

sented here interprets animation in several ways: Animation is after all consistent with the desire to animate object and form. Animation or movements are indeed a form of automatons. We animate machines for intricate movement, devices that perform movement without the aid of human intervention. This form originated with the movement and illusionary animation of the theatre.

Curiously it is consistent that the ability to create an imitation of movement until this century was challenge beyond the scope of human endeavor. In fact, the great challenge of imitating life and movement was an art of imitation as opposed to the science of mechanics. It is no accident then, that early film makers originated more from the tradition of Magic and animated illusion (such as George Melies) then from the science of photography.

Given this perspective, we can re visit the invention and operation of the camera. Although true film can indeed capture a movement, it is the operation of the camera itself: a mechanical-chemical imitation of the eye that is the logical extension of illusionist theatre.

## ARCHITECTURE AND CINEMA

For the most part of this century the temporal discussion has revolved primarily around the representational relationship between film and architecture. It can be speculated that the shift from perspectival representation was indeed through film. In the same way that photography and eventually film shifted the symbolic content of painting into a sequence or montage of linear and explicit temporal experiences, architecture has been understood in a serial manner. The overriding question however is whether architecture and film are related at a fundamentally material level. Does the

mechanism of film (virilio's cinema machine) have any impact into the making or the understanding of architecture.

Although, accidentally "invented" as a result of the slow chemistry of early film emulsions (1), The now familiar image of "chronophotograph" was the first photograph of a stream of motion. Etienne Jules Marey exclusively used this technique to conduct scientific research into the "form" of motion. In order to compress a temporal sequence of movements into a single three dimensional image, Marey would deliberately leave the camera exposure open to allow intervals of movement to be inscribed onto film (2).

Early film theorist and artist, Maya Deren argued that the form of temporality as a scientific gesture was particularly important to a understanding the meaning of film representation and its materiality as a time based medium (3). To analytically formalize a discreet phenomenon through the "absolute" fidelity of photography was significant indeed. Consider Duchamp's insistence in describing the "Nude Descending a Staircase" as NOT a painting

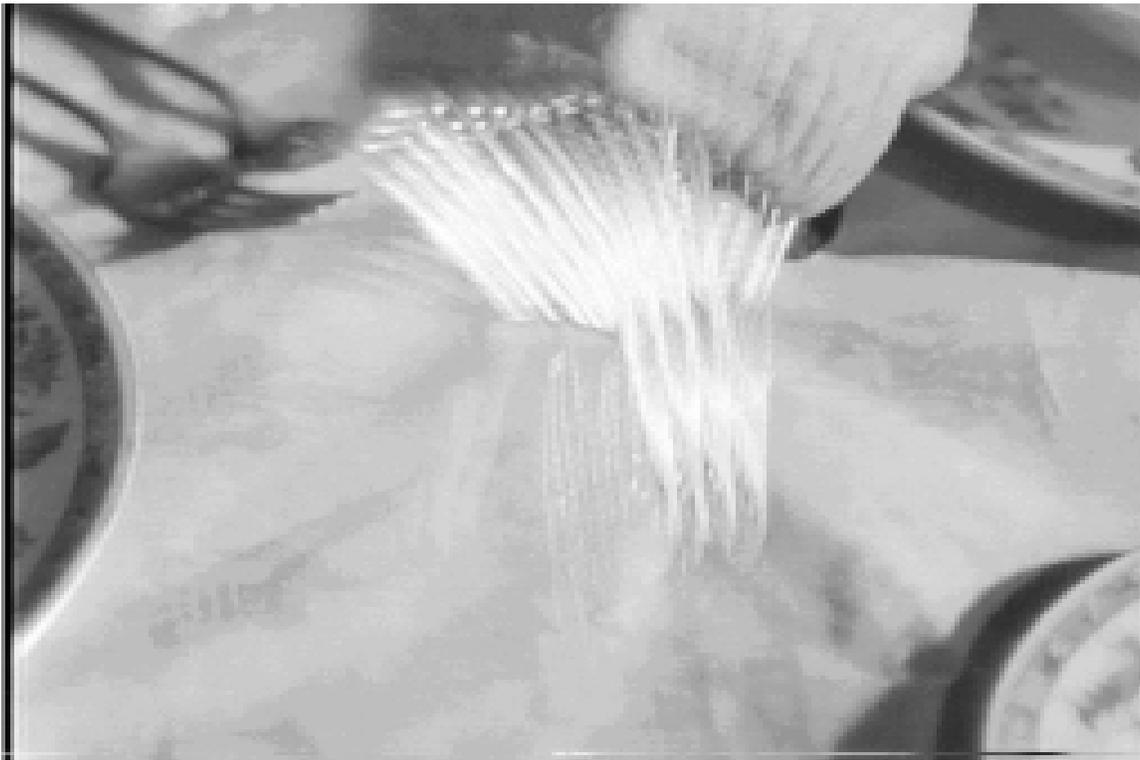
but an "abstract presentation of kinetic elements" (4). What is significant here is that the photograph as a scientific representation of a temporal form had an absolute, authority to represent a temporal truth. Deren was convinced that The chronophotograph was the ideal revelation of a heretofore temporal intentionality. Where the painting of temporal form is a "controlled" craft, the paradox is that the chronophotograph can, at best, be crafted as a "controlled accident" (5)

#### TIME AND FILM

It was several years later that Rudolf Arnheim would argue that although a kinship through chemistry was implied, film has a set of origins that significantly differed from that of photography. In fact, the mechanical origins of

"film" began with the simple linear displacement of a photographic film strip or in the earliest versions, a long wax ribbon known as "Vue Optique" by the brothers Savoyard or the Lanterna Magica by Miliet de Chales (6). Arnheim argued that although we may believe that these strips were in-

*figure 1: blurred sequence "spellbound redux" Patrick Harrop 2000 (original sequence from Hitchcock's "Spellbound" Seltznik International Productions, 1945)*



deed films, true grounding of film began with the mechanical model of a set of projected images of relative motions (7).

What distinguishes the film from the photograph and the above described model is the necessary psychological mechanism of the relationship between a latent image and a later image occupying the same visual field both at the same time (8). In other words, it is not so much the linear movement of an image past the eye but the mind's ability to construct the idea of a movement based on the rapid sequence of two independent frames. This phenomenon, the "persistence of vision", or "motion smear" is the point at which a sequence of frames is perceived to be an image in continual motion.

There is an implication here, that time and the form of motion can somehow exist above of the retinal compilation of a series of images. What this implies is that we have the ability to see or manifest an independent embedded image in the form of movement. This is not merely a fusion or a highly tuned memory welding a sequence of images together. It is an apparition perhaps that is provoked into revelation, or as Deleuze puts it: a movement-image (9). This implies that although we may have the ability to form a fine temporal grain of passing images, the indivisible form or object of the movement will always emerge as a complete image of time (10).

Maya Deren considers the embedded form of time as the true materiality of film: "the motion picture, though composed of spatial images, is primarily a time form." (11) The manipulation of temporality in film is what reveals form more strikingly than anything else. No other medium can reveal the "movement-image" in such a convincing way (12). The key to such a conviction is that the photographic "truth" of film can never be denied (13). In fact, this "truth" is the key to scientific film-making: the alteration of the temporal resolution of the scientific sequence of images by either a "time microscope" (slow motion) or a "time telescope" (stop frame) (14) image exploits the fidelity of the photograph beyond simple perceptual truth (15). These images reveal an "intelligence" or one could say, an embeddedness, whole and complete that one would otherwise not see (16) under "normal" circumstances.

It is these revelations of an embeddedness that we have come to see in stop-frame film techniques that speed up imperceptibly slow processes. The temporally invisible intervals of such as geological evolution, or even organic deterioration such as in Greenaway's *Zed and Two Nots*, can be recompiled into a frame rate whereby we can actually perceive these slow velocities. By the same token, phenomena that occur within a split second can be expanded and delayed into the realm of familiar time, simply by shooting film at a much faster speed.

### THE MATERIALITY OF TIME FORMS.

Just as the "controlled accident" of the time microscope and the time telescope, may reveal a embedded intentionality, these temporal tools can also be used to create "movement-images". The ability to draw out forms and movements from the seemingly still (or imperceptibly fast) phenomenon suggests that underlying even the most innocuous and immobile artifact there is an embedded potentiality of animation. An animate form is released by the agency of speeding or slowing its appearance. There is "more than meets the eye" so to speak.

Hence in "Ritual in Transfigured Time", Maya Deren exploits the hidden potentiality by manipulating the phenomenological expectation of a bodily experience: Deren cleverly assembles the sequence of a dancer's steps as it walks through a space. Although the cant and the rhythm of these steps fall comfortably within the expected experience, each foot fall arrives in a distinctly different place. In another scene, a statue seemingly comes to life by haltingly manipulating its frame rate to have a figure appear as suspended in the mid gesture of a deliberate pose.

A more recent example for us may be the films of Austrian film artist, Martin Arnold. In his most famous film, *Alone Life Wastes Andy Hardy*, Arnold painstakingly samples, manipulates and loops small sequences of footage from the *Andy Hardy* serial films – frame by frame – and in so doing substantially changes the original content. An innocent Judy Garland's jaunty ditty becomes an eerie dirge of prolonged and mournful duration. This manipulated footage slips seamlessly into the original film creating a spatial and temporal ripple – an alternative history or story line that has always embedded underlying the original. This reveals new and

radicalized readings of space and intentionality previously locked between the frames.

Film reveals the potential of manipulating both time and space. We are indeed familiar with both Merleau-ponty's and more importantly, Sergei's

frames of film, such as in reverse sequencing, stop frame animation, slow-motion drew on the potential conflict between our expectant memory and recollection of the rate of life, and as well on subversion of those expectations. (20)

Figure 2: Still from "Andy Hardy Meets Debutante" MGM, 1940 or "Alone, Life Wastes Andy Hardy" Martin Arnold 1998.

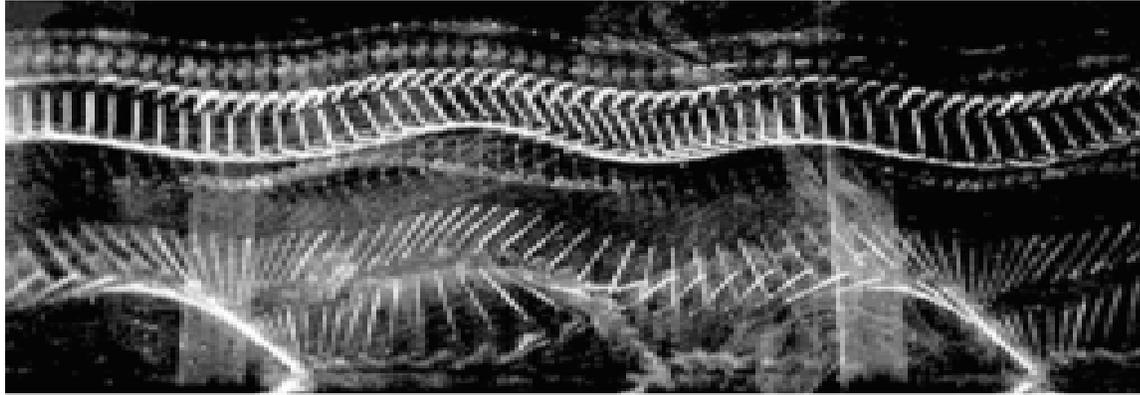


Eisenstein's exploration of uniting discontinuous space and time through the montage. Yet Deren's work reveals yet an other more subtle possibility. If we consider that film has indeed an embedded materiality in the frame, then its palette is in manipulating the planned accident of altering its rate. In other words, film has the possibility of not only breaking the linear expectation of time and space, it has the possibility of extending the relationship between time and space. Deren outlines the technique of extending the movement through space by using a combination of both montage, and the extension of movement through the space. (18)

Both Deren's and later Arnold's objective were to subvert the linearity of film while being true to its perceptual continuity. The subversive acts of condensing, extending and bifurcating the sequential

Like Deren, Arnold's manipulation of frame rate reveals an "artful delay" that may have relevance to architecture. Buildings like film, are easy to cut, elaborate and repeat. Consider the art of the structural elaboration such as in the complex vaulted work of Gaudi's Sagrada Familia or Calatrava's BCE place. Although the simplest structure is a post and beam, diversionary gravity tactics such as cutting, elaborating and repeating result in the complex density of an architectural work. Repetitive structural bays, modules of ornament: – these geometric patterns of elaboration have a sense of "rate" or *velocity*. Perhaps a new way to consider the process of making architecture is as a "granular synthesis" (to borrow a term from electronic music): a play between time and space conducted with a wide tableau of asymmetrical loops and velocities.

Figure 3: Jules Marey, Chronophotograph, "Man Running"



One could imagine a collary in architectural form. Ornament tends to mediate the resolution of form at every opportunity. As if it is not simple enough to have a corner, the meeting between both these elements must somehow be prolonged, elaborated, made intentionally complex. In other words, the resolution of even the most typical architectural form must be delayed in an "artfull" manner. Gombrich (21) alludes to the motivation of ornamental elaboration as a simultaneous fear of the vacume (horror vacuii) and the desire for infinite complexity (amor infiniti)

The description of the boundaries of space are especially delayed in the writings of JG Ballard. Ballard consistently returns to the spatial theme of the elastic limit in most of his novels. ....the infinite landmarks of the the traffic Island of Crash, or the spiraling infinitude of the boundary bourns in the unlimited dream factory.

In light of this, it seems apparent that the theme of the delay is a consistent mode of architectural elaboration. In general we have a tendency towards elaborating things. Not in a self indulgent way, but as part of a demonstrative tactic related more to ornament than to proof. Put simply, the creative act needs two components: the idea yet more importantly, in the words of John Cage, the "thickening of the plot" In this regard, the delay could indeed be considered a "temporal" strategy to the making of architecture. Not necessarily chronological but generative, related to the genealogy of forms, and the evolution of forms.

Deleuze speaks quite often of the movement image that somehow resides alongside of the form of film rather than embedded within the structure.

Yet in the same series of reflections on film, Deleuze gives equal, if not more attention to the attraction image. A similar "ghost" yet one which binds us to the narrative of cinema. Regardless of the consistant sequence of instances, the priviledged instances (or keyframes) will always dominate. Much like in painting. But it is the distance between these shots, especially disparate fixed shots linked in montage, that have the ability to create the "movement-image"(22)

### THE GHOST BETWEEN THE FRAMES

In both of these mediums, what seems to be crucial is the development of these tools for "real time" performance. Meaning the ability to actively search for the "ghost" of form by manipulating the form "on the fly". In a similar way, Arnolds work seems to extract a hidden figure lurking between the frames. Ghost, intentionality, movement image to name but a few interpretations of this figure to describe the medium.

Interestingly enough, the figure of these delays, although complex and indeed plastic, are grounded in a substantial pantheon of mythological figures, such as the gargoyle, medusa, or a monster. One could suggest that the between the spaces of architectural form as in the spaces between frames of a film, there are ghosts. Or hybrid figures that we can only barely recognize.

This delayed figure does make an architectural appearance. Consider the labyrinth, an architectural model that is exclusively generated by the idea of a delay. Like life, it is nothing if it has not turns, repetitions mistaken paths etc. Like Deleuze's Movement images, its center is a hard to pin down ghost.

## THE DAIDALON

The delay, in this case the prolonged dance of of the labyrinth is the metaphor of life itself. On its own terms, the story of Daedalus is that of the desire to make life or, for our purposes, to *animate* the *inanimate*. Most importantly, the chain of consequences of animating are what create the *Daidalon*.

Classical interpretations of the myth of Daedalus clearly identify his work as architectural craft. In the dramas of Aristophanes he is identified with the verb *architectonein*. (Morris, 1992) By all accounts Daedalus's craft transcended the mere fashioning of materials into a form of life giving magic. (Perez-Gomez, 1985) Daedalus was born with *metis*, a talent often associated with metalsmithing, carpentry and weaving, that fused dexterity and magic together. (Frontisi-Ducroux, 1975) The scope of Daedalus's work was entirely consistent with the current interpretation of *techne* — the practice of manipulating materials through ritual and magic, as well as the origin of the words "technology" and "technique". (Frontisi-Ducroux, 1975) These techniques would transform inanimate matter into something magically alive. Daedalus' "*techne*" would always introduce some form of *anima* (note that *anima* means "soul") into the object created. This was not simple *mimesis* or imitation of what seemed alive; rather, it is stressed in most classical sources that life itself was being made.

Daedalus was most renowned for his animated statues. (Perez-Gomez, 1985) Although these stone figures were similar in form to any sculpture of the day, they were imbued with the senses and kinetic abilities of humans. Prior to Daedalus, sculptures were condemned to having "closed eyes" or voiceless speech. Among the powers of literate speech, these statues were also gifted with *autokinesis*, the ability to move using their own means. (Morris, 1992) Aristotle even mentions Daedalus's automatons in *Politics*. His interpretation of these creations is that they were, for lack of a better word, **robots** and were made for completing our daily chores. His description also explains the mechanism of this service; each of these devices were able to accomplish its own task "either in obedience or anticipation" of others. (Morris, 1992)

Curiously, most references to the Daidalian automatons seem to mention their lack of control more often than their utilitarian abilities. Aristophanes frequently mentions that once a statue has been bestowed with animation, it cannot be controlled. In fact, it must be bound in order for it to not run away. (Morris, 1992) The *Illiad* confirms this warning with a twist, however. Any figure or even image of a figure with the abilities of an automaton is destined to a perpetual cycle of uncontrollable events. The animated images of a fawn and a dog in Penelope's golden brooch, for instance, are locked within a perpetual cycle of conflict outside of any possibility of resolution. Not only does the craft induce life, it holds it in a balanced state of conflict. It is perhaps for this reason that the inevitable conflict of automatons frequently serves as the catalyst for farcical and comic scenarios in a theatrical context.

The making of complex form, such as ornament, relied on the transformation of matter using the self-contained and propelled algorithms of geometry, proportion, adjustment and tolerance. If geometry was this scaleless set of idealized spatial instructions then, proportion was its agent of execution in the material world. Proportion was the mechanism by which geometry adjusted itself to the infinity of constraints either found in the natural world or accumulated by the resulting gradual contrivances evolving through the building process project. Within any surface, any space and any opportunity the procedural order of self-contained proportionate algorithms would project themselves, wrap themselves, adhere themselves and even carve themselves into the malleable world. The artisan was the privileged master with the gift of mediating these extremities. Through intimate knowledge of his materials and tools, the artisan was compelled to fill the *horror vacui* with the intuitive interpretation of the algorithms of geometric proportion (23). *Amor infiniti*, the love of infinite frames and permutations of ornaments would be interpreted into surfaces, woven through structures and projected into broad spaces (24).

Geometry also exploited the boundary condition of the human body as an idealized prototype for all orders originating from human endeavor. For example Vitruvian geometry can best be described as a proportionate spatial relationship between the

human body and the material world: A haptic dance of limits and boundaries. This discreet order at the origins of everything manufactured or produced could only intentionally be revealed through the elaborated work of the artisan (25). Geometric order was intrinsically tied to the gestures of the artisan as they spatially negotiated the crafting of material. The mediation of matter with this order had more to do with the dance of strings, steps, marks, cuts and jigs than the pure and rarefied theorem of what we have come to expect from a "Euclidean" mind. The successful appearance of geometry would depend on the practical artistry of the artisan and his/her seemingly mysterious ability to coax and encourage the transmutation of chaotic form into geometric order. Rather than being a rule, proportion helped with the difficult negotiation between idealized geometry and imperfect matter.

The true genius, then, of the artisan was not reflected in the creation of perfected geometric ornament. Quite the contrary, in the less-than-ideal situation, geometry and craft were forced into innovative discovery: a knot of reaction wood within an otherwise homogeneous surface would force a novel adaptation of geometry, totally responsive to and generated by the imperfection. It is precisely this combination of indeterminacy and non-representational skill that led to the discovery of form, authenticity and uniqueness in the building arts.

A possible avenue for us would be to re-evaluate the very idea of control and predictability in the making of architecture and examine the possibilities of strategy as opposed to prediction. We put ourselves in the company of many science fiction writers who have already dreamed about the possibilities of a robotic architecture; nano scale robots that mix concrete, plaster and polymers and gradually build structures over an extended period of time bio-engineered cells that organically cultivate buildings using the genetic map of plant life (26); construction automata or

"waldos" each with specific algorithmic tasks to carry out a building project (27). In all of these literary scenarios, the resulting architecture is complex, rich and dense specifically because of the unpredictability of the end result, especially when the same artisan technology is used by competing interests. In these imaginative schemes the builder

is hardly controlled, yet the strategy is clearly one of tolerance, adaptability and reconciliation of the algorithm (the idealized geometry) with persistently "adversarial" contexts (our lived world).

The implications for an alternative and experimental practice could be far reaching. The architect could adopt a role similar to an orchestra conductor, coaxing the ensembles of algorithms to a pre-determined and classical score or better still, strategically setting the field for an improvised work whose outcome is responsive to the immediacy of the environment, interaction of the players and the inspiration of moment itself. Architects could become directly involved with the tools themselves; creating tools that respond to specific technical or environmental tasks, or even the creation of whimsical ornamental detailers that are merely sent into the fray of the construction hive. An entire community of exchange could emerge where algorithmic tools, rather than abstract ideas, become the currency of ideas in the experimental art of building.

## NOTES

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