

The Challenge of Unity

Rudolf Arnheim as Motivation for *Sound Seeker*

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In 1932, the film theorist Rudolf Arnheim published a little book entitled *Film as Art*. It offers some intriguing challenges for contemporary new media designers and artists. Arnheim believes : “**a combination of media that has no unity will appear intolerable.**” (p.201). By media he was referring to sound and image, the new talkie films. But the problem extrapolates easily to other aspects: how to unify text and image? text and sound? text, image and sound?

In response to this challenge (and in response to the innate need to see things as being right or belonging in the same space) *Sound Seeker* arose. It incorporates what I call **incestuous interactivity** or **cybernetic synaesthesia**. It is incestuous because the computer interface

interacts with itself: sound (from an mp3 or a microphone) influences image or text change; it is synaesthesia because sensory modalities mingle. This technique is very simple and widespread from screen-savers to VJing apps; basically sounds change visuals. It also occurs throughout nature: a sharp noise makes an animal cringe, the prey flee, glass shatters. It has become normative for viewers to experience interactivity that crosses sensory modalities (from sight to sound, sound to touch, touch to sound) **a whirlwind of data** occurs.

Unity (or **the perception of unity**) **arrives when events synchronize** and seem responsiveness to each other.

The computer doesn't think of data structures as being associated with specific senses. Data-structures are normally piped through sense-specific devices: the sound data sent through sound card, video data sent through gpu. But in general this information is valence-free when it is stored. It easily leeches back and forth. **Societies of data** emerge. Relations between data evolve and emulate organic structures. This feature allows sound-image-text changes to form a micro- community, a colony of inter-relations that contributes to the perception of unity.

Another challenge is what Arnheim would term '**profundity**': choices about relationships that are meaningful. Arnheim was discussing film; his examples relate to camera angles. Was there a significance and thought provoked by the angles or position of camera or style of editing. Was this necessitated by the story? Did it contribute to the advancement of plot?

In multimedia this translates into a concern over the relation between interactivity and content. Jason Lewis states the problem this way: "**If you are moving something: why?** The why is connected to meaning...There is an intrinsic space for beauty, but I also believe that one of the approaches to take to digital media is to think very seriously about motion and interactivity as tools to create the meaning..." ([source](#)). In short, is the interactivity meaningful? Does it contribute to the content?

Each of the *Sound Seeker* demos tries to consider **the content's relevance to the synchronization and layout**. In most cases the changes are subtle but distinct modulations

in rhythm. In other cases, the shuffling font speed and style is mapped to music that attempts to emotively contribute to the text's content (For an example, see [Next](#), where the content is divided into 3 sections: the first is agitated, the second calm, the third rapid yet resigned to its rhythm.) By modulating text in synchrony with sound, computation can contribute to the evolution of a sense of unity in the art object and perhaps go some way toward answering the challenges Arnheim raised so many decades ago.

Ads as Technical (not emotional) Exemplars

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Humans find beauty and symmetry in between complexity and simplicity: a sweet spot, a cognitive-aesthetic-affect sweet spot¹. Seduction occurs when there is a balance between the unexpected and the needed. We can't love what appears to be utterly different than all our expectations; a blend of defiance (innovation) and obedience (convention) provoke affection.

Consider nature as a vast field of expressivity. Organisms attracting other organisms need to either eat or breed; organisms also need/hope to repel other organisms that are threats (parasites, predators). In a mildly animist Darwinian view, human cultural activity is not an exception to this fundamentally simple process. **Each act and ornament is to some degree a trace, camouflage or advertisement; art is performing a function for the organism either among other humans (social) or in relation to the larger environment.** In the human realm, such seduction is called culture and it is multi-modal: it involves media, artist, and aesthetic consumer. Now Arnheim was primarily saying was that in order for a cultural work to really be art, the sense modalities used in it need to be unity. They need to cognitively fit together in a way that won't derange the viewer's capacity for appreciation. At this level, both Kant and Arnheim are appreciable as cognitive scientists, delineating ways that humans find appreciation in art.

¹ This idea occurs in Kant. It also occurs in Taoism and innumerable other works from antiquity.

From a post-modern perspective however, the argument gets increasingly more complex. Post-modernism in many respects abolished notions of purity, transparent media, seduction and artistic intention and replaced them with self-reflexivity, concepts, open artworks and opaque processes. For any typical post-modern philosopher, Arnheim's criteria are archaic. Yet my own feeling is humans are evolving far slower physically than metaphysically. Viewers (bodies) engaged in art demand effective and masterly blending of media. **Arnheim's criteria exert continuing relevance because our sense organs and glands have not shifted radically since the creation of computers.**

So considering again the unity of media, the unity of text and sound and image, where is it occurring? Setting aside Arnheim's objection to sound since almost all (if not all of all) films are sound films these days, **the problem that still exists today from the perspective of a digital poet is how to unify text and image.** Chuck Close in one of his books refers to text on image as obscene. Very few films contain on-screen text unless it is part of the environmental background – as in on a billboard, or in a newspaper seen by a character. Occasionally, text is used as segue between sequences, announcing a new scene, a change in date (“Arizona, 1994...”). Peter Greenaway made several works that utilized text in feature-length film: Prospero's Books(1991) and The Pillow Book(1996). Perhaps there are more recent feature film examples but I cannot think of any.

I continue to feel that **advertising, film-credits and TV provide the most stimulating examples of techniques for blended media.** Driven by profit and market research, they may not aspire to the purity of art of Arnheim, but they do aspire to keeping their audience hooked. One way to do this is master the blending of text and image in seamless engaging eye-candy. Technical prowess demands that the seams between media are made invisible or through the magic of compositing and masking made negligible. Are advertising and film-credits true *composite* work? Do they develop a hierarchy (where one medium is dominant) as Arnheim suggests inevitably occurs in composite works²?

2 Arnheim. *ibid.* pg.223

Back to Blatant Greed, a case study: <http://www.psyop.tv/>

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Advertisers must somehow name their product; so they must successfully overcome the innate human resistance to reading while watching an image. What I find fascinating about **Arnheim's objections to sound in film** is considering his **protests as a product of his neurological upbringing**. He was raised at the cusp between silent-film and the talkies. He was already an adult when the first experiments emerged. It's not implausible to suggest that he was neurologically predisposed to reject threats to the structure implanted in at adolescence. Compare his situation to my own: I grew up speaking English but then moved to Quebec where subtitles are ubiquitous part of watching, so slowly my resistance to watching and reading has diminished radically as my skill at juggling has increased. On another subject: I grew up immersed in novels and TV, and now inhabit the volatile world of abstract computational art (debuggers, compilers, microcontrollers). In each case sustained proximity and immersion caused a change in my attitude toward media. Many cognitive scientists have recorded familiarity bias in people. Assuming that our theoretical pronouncements rest on our emotional predispositions which arise from our neurological structures, perhaps all theoretical pronouncements are as physiologically biased and ultimately influenced (if not to some extent reducible) to upbringing. **Nostalgia for the technology encountered during formative years may be a significant factor contributing to ideas about the truth or purity of art.** Age may incapacitate organisms from accepting change that evolves beyond their parameters.

Advertisements must successfully circumvent such biases. They do so by manipulating the human body. Edward Bernays (Freud's nephew) is widely attributed as being responsible for the adoption of symbolic embodied logic into advertising techniques³. The agency Psyop is remarkably successful at this practice. Coming from a background practice of animation, Psyop borrowed their name and slogan ("persuade, change, influence") from the U.S. government's psychological operations. Their commercials are hi-tech gloss that surf along the fine line between accessibility and radical creativity. What separates them from the vast majority of artists (except for of course film or video artists) is that they work in teams, there is

³ See BBC documentary *Century of The Self* (2004)

an emphasis on technical perfection, the budgets are astronomical⁴ (so the software resources and talent are considerably more advanced than those available to a solitary artist), and each of their small films, each of which is exactly a minute long (what a constraint! would OULIPO be proud?), ends with a tiny tender logo. So in essence, what normally happens is this set of filmmakers sells their talent at making films. **They make 50 seconds of appealing engaging footage that is linked in a 10 second burp to the company that financed the making of the film.**

Text and film in these exemplary commercials fuse at a fundamental level. There is a metabolic addictiveness to the fusion. Particle systems and custom pipeline rendering software all contribute to a sort of contagiously glamorous appeal.

Arnheim argues that because language is conceptual not perceptual, literature successfully blends multi-sensory metaphors without impoverishing its artistic aspect. If (perhaps foolishly) I interpret success as a mixture of engagement, psychological depth, mythological import and insight, then advertisements do not succeed at fulfilling Arnheim's criteria. But technically (the *how* of the artist) motion graphics has answered a lot of the details. **The structure is in place for a renaissance of digital poetry.** As a generation emerges who are equally capable in both digital design tools and in writing, literature will occasional blend with film, film will blend with poetry. The result like any genetic intermingling may result in innumerable mutants or forms that will not find ecosystems, genres that are just not feasible, marginal species trapped within specific aesthetic niches – these styles will perish like all anomalies in this harsh survival-based evolutionary structure known as reality – but some of new species will take root. And these new species will, as new species do, develop ways of making life meaningful: raising families, making love, exploring spirituality.

As always, my suspicion is that **aesthetic laws might be euphemisms for cognitive limits.**

⁴ Psyop in January 2008 announced \$30 millions of investment funds injected into their operations.

Arnheim and Materiality

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Let's return to Arnheim: interwoven with his occasionally obsolete opinions are clear relevant insights. Arnheim's opinions on the function of art remain fresh. He stresses **the necessity of each element in art, and of universal truths to surprise and stimulate novel perspectives**. These ideas may seem archaic, but they are at the core of basic engagement and independent of any change in media, and for that reason continue to be relevant for those artists or creators who are concerned by such things. He traces this engagement to how the creator works with the media not the content. "In order to understand a work of art, however, it is essential that **the spectator's attention should be guided to such qualities of form, that is, that he should abandon himself to a mental attitude which is to some extent unnatural**"(pg.43). Arnheim's role as proponent of materiality theory is evident: "In order that the film artist may create a work of art it is important that he consciously stress the peculiarities of his medium." (p.35). In the intro to Film as Art he speaks about how at the age of 20 he became obsessed by writing a comprehensive material theory of art. This ambition stayed with him throughout his career.

What distinguishes Arnheim from a pure structuralist account is that this provocative change in attention is at the service of humanist insight. The spectator is not stranded staring at the formal guts of the media. "Guiding the attention to the formal attributes of the object has the further result that the spectator now feels inclined to consider whether the object [the thing seen by the camera] has been chosen characteristically and whether its behavior is characteristic; in other words, whether it is a representation example of its genus (for example, 'a typical official') and whether it moves and reacts in conformity with its species"(pg.45). In other words what insight does the formal change provoke in our capacity to see and comprehend the world.

For Arnheim, **"things which have no significance have no place in a work of art"**(pg. 50). I agree and disagree. Extraneous details distract from meaning's culmination. Yet austerity pruning can eradicate the effluence that is someone else's significance. The sterilized theater may be an appropriate place for surgery but the real theater requires some chaos, chance

and perhaps the volatile extraneous elements which cling to passion.

Epilogue: Aesthetic-fascism? Arnheim and ideology osmosis

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In 1933 Arnheim, who was Jewish, moved from Germany to Italy when Hitler came to power. In 1938, Arnheim was again forced into exile when he left Mussolini's Italy. In the same year he published an essay "A New Laocoon: Artistic Composites and the Talking Film" which is the final chapter of Film as Art. **There is a (surprising and subliminal) linguistic symmetry between the theoretical aesthetics expressed in "A New Laocoon" and the ideological language of the fascism he was fleeing and resisted.** The final paragraphs display this affinity:

*"It may seem surprising that mankind should produce in large number works based on a principle that represents such a **radical impoverishment** if compared with the available **purser forms**. But is such a contradiction really surprising at a time at which in other respects, too, so many people live a life of unreality and fail to attain **the true nature of man and its fitting manifestations**? If the opposite happened in the movies, would not such a pleasant inconsistency be even more surprising.*

*There is comfort however in the fact that **hybrid forms are quite unstable**. They tend to change from their own reality into **purser forms**, even though this may mean **a return to the past**. Beyond our blundering there are **inherent forces** that, in the long run, **overcome error and incompleteness** and direct human action toward **the purity of goodness and truth**." (Arnheim, p.230)*

"radical impoverishment ... purser forms the true nature of man ... hybrids forms are quite unstable ... goodness and truth." Which came first: fascist propaganda, theology or Plato's ethics?

Arnheim was a psychologist of art, but if he had been a psycho-analyst he might have identified how the ideological language of fascism (it's appeals for purer forms and its contempt for weak or mixed race) is echoed (unintentionally and subconsciously) in his own aesthetic principles. **The analogy has its limits: Arnheim is not advocating the genocide or eradication of weak or bad art, he is arguing for truth and purity in art.** As a Jewish intellectual, he was actively aware of and vocally critical of fascist ideologies. But the quiet resonances at the core of his attitudes suggest a subconscious bias toward regarding the world as a dichotomy between purity (power) and mixing (weakness). Some art critic somewhere relates the modernist aesthetic emphasis on power in art to a shift from the feminine to the masculine; it could be Nietzsche is responsible. Who knows? **In any case, Arnheim's idealistic call for artistic purity inspires him to reject the mixing of sound and vision in film.**

Ethnic cleansing and aesthetic cleansing overlapping in his life circumstances and his work make be purely circumstantial, but it may also reflect how **styles of thought permeate societies, seep into diverse disciplines, and conjoin thinkers who on the surface might appear to be radically opposed.** Language informs who and how we perceive reality. In an era of ubiquitous sound films, it is easy to find such Arnheim's thesis of the unmixability of sound-image untenable, yet looking at why it's untenable offers a few object lessons for new media studies, and a few lessons about human nature in general.

In the 1930s, new capacities for film were emerging: sound and color. Neither capacity was instantly mastered, so proclaiming them better left separate can be considered a plausible error, a tactical flaw attributable to instinct disguised as intellect. Dirt and impurity are tightly interwoven with mythology; Bauhausian architects of that era advocated simple designs. Humans innately, nesting in intricate dwellings that are easily contaminated by dust or chaos, fear the viral chaos of mess, reject the contamination of mess which contains too much noisy-information, and desire to keep home bodies and art clean. These instincts migrate or share physiological roots with both politics and psychology: subconscious border zones where dirty thoughts live. What begins with a broom ends with a gas chamber. **Paint brush, white wash,**

brainwash, white noise. Hitler's antiseptic vision of art was not what Arnheim was seeking; nor was it what the Bauhaus advocated, yet there is a subtle pervasive resonance of a similar refrain in their preoccupations.

It is my feeling that **dominant ideologies result in concentrated pressure waves of mental concentration that traverse societies.** We live in an ideological ocean: cross-currents and arguments swirling around and into and through our minds. This perspective is not new or necessarily unique. Wilhelm Reich's The Mass Psychology of Fascism (1933) delineates an idiosyncratic vision of erotic power radiating into political and psychological change. Elias Canetti developed in Crowds and Power a model of crystallization of information that traversed clusters of people. The **strength and speed of the dispersion of an idea were considered chemically to contribute to cohesion**; solitary figures would get sucked in by the gravitational force of the ideas. Richard Dawkin's concept of memes (developed in The Selfish Gene) compares ideas to organisms, notably viruses, adapting to hosts. Even the idea of memes acted virally, propagating through the intelligentsia laterally along ley-lines of dissatisfaction with information theories that ignored the impact of culture. In modern day vernacular, videos are now *viral*. Lakoff and Johnson (cognitive-sociologist-linguists) have documented how metaphors reflect and feed paradigms.

So **the metaphor of the human mind as sponge, absorbing and to some degree reflecting its environmental stimuli has a long history.** The tradition continues to be demonstrated empirically in media culture, viral videos contagiously propagating styles through massive crowds all infected with mimicking mods and remix mashups. Creativity is a construct that oozes out of the thick marsh of our abstract experiences.

Whether any of this is art might cause the purist Arnheim to shudder. But I myself am wary of clear designations, and prefer the metaphor of *gradients*. Gradual change occurring over a continuum of values with subtle modulations. If the gradient is placed into multiple dimensions and animated over time, then **works no longer are clearly classifiable as art or non-art, but emerge momentarily into transcendence** (Art with a capital 'A'), then return once again to the normal state of cultural products.

Appendix: What is Sound Seeker?

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Sound Seeker is an online (<http://glia.ca/conu/soundSeeker/wordpress/>) real-time beat-synchronized poem animator. Sound drives the rhythm of the words: their speed and style of display can be controlled. Sets of experiments were created in the fall of 2008. **Sound Seeker** is coded in Flash 9 action-script 3. It loads 3 basic forms of media: texts (poems/prose in xml files), sound (mp3s/microphone) and video (mp4s). As the mp3 plays (or the microphone is active), the volume of the music/microphone is measured. **If the volume exceeds a certain level, then change occurs** in either the text (it changes to the next word or phrase) or the movie (jumps to a random/predetermined position or loads a new video-clip). Additionally, there is a readability-timer that decides what type of change will be allowed on the text; this controls the reading-time, if the readability-timer is set low then words will flutter by in a rush, if the timer is high, then static legible text is created.

Since *Sound Seeker* is coded **all parameters are modifiable**. The type of change (font/word/video-jump), the readability-timer duration, the font-change (or its randomization) and the level of the volume threshold are all possible to animate in real-time so that *Sound Seeker* can create different moods as the piece progresses. Many of the parameters are mapped to a GUI which is normally hidden in order to reduce complexity for the viewer. These parameters can be invisibly tweened or interpolated between different values. This allows *Sound Seeker* to flexibly modulate its behavior in ways defined by the programmer.

Inspiration & Goals

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The work is inspired and informed by Gary Hill. In the 1980s, Hill was making video pieces where the voice was the compelling force that controlled the rate of change of video cuts. His cuts were made manually. But a similar principle is at work in the *Sound-Seeker* prototypes where a user-controllable volume threshold allows the animation or editing speed to be controlled by the sound. By setting the threshold high, the device becomes insensitive to

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sound. Low settings cause rapid flurries of cuts to video or changes in the rate of reading and animation.

Flexibility and ease-of-use for myself in being able to instinctively test out ideas is key to this process. Currently the prototype (as of November 2008) allows choice of sound source, text source, cutting place in the text (period or space delimiters), setting of volume threshold, choice of randomized or static font based on the fonts on user's machine.

The goal is to efficiently provide a prototype software for rapid deployment of poetic experiments. **The mind responds well to rhythmic alignment.**

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