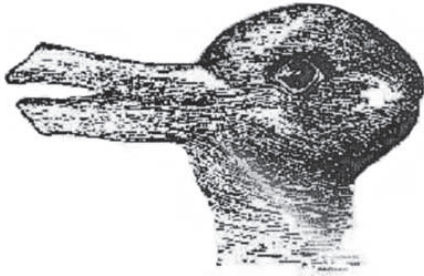


square wave and its progeny

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The square wave is the 'electronic signature' of anamorphosis: an alternation between two states without an intermediary position. What if this diagrammatic form should also apply to the alternative between 'action and exposition' in narrative, or to the opposed positions of the Hegelian dialectic? As if that's not enough, consider the Bergsonian time sequence, which Henri Bergson compared to the cinematic progression of still images that psychologically produce the illusion of movement, via the phi (really 'beta') phenomenon? But, wait! There's more! The temporal sequence contains, by virtue of its coherence, an uncanny relation to the forms of discourse Lacan outlined in *The Other Side of Psychoanalysis*.

1. square wave basics



the classic duck-rabbit illusion drawing is interpreted either as a duck OR a rabbit, but there is no hybrid species in between the two. This is, graphically, the 'square wave function', a wave that jogs abruptly between two states, leaving no middle ground in between.



The square wave expresses anamorphosis's center-most feature: its ability to waver between one form and another without passing through a middle, composite version. It's either a duck or a rabbit in the classic psychology class illustration. In Bergson's classic/infamous adaptation of cinema projection to describe the relationship between 'time sections' and the phenomenon of *durée*, he appropriated the so-called 'phi phenomenon' (really the 'beta' phenomenon say purists) to explain how smooth motion could be perceived in the face of evidence that was fragmentary and static. Even with a notable and irreducible gap between time 'slices' (the individual still photographs), the mind stitched the images together. This metaphor was so compelling that Bergson extended it to normal perception: our idea of 'what's happening' — the meaning and structure of an event — is a stitch job. The 'phi' (\emptyset) in the case of ordinary time sense is the metaphoric continuity that identifies an event as what it is, distinguishes it by attributing an intentionality, a past, and a future. In this way, the immediate and fragmentary evidence of the senses finds a 'ready-made' place in a framework that is learned from culture and experience. 'What's happening?' is the tonality behind the particular individual formation of any otherwise unique action.

What could we gain by comparing the phi progression (although we may, with Deleuze, reject the logic behind Bergson's comparison) to the 'anamorphic' square wave? The basic anamorphic condition proposes an active role of the 'negative' or 'antipodal' counterpart of the more normative perception. The inverse of the positive perception of reality is not, in this case, the black bar separating the photo images on celluloid. It is whatever is provided by the perceiver, at the 'invitation' of the Real, so to speak. Where does it come from? Memory and imagination.

In the classic alternation of action and exposition in narrative, the imagination is pulled into the 'real time' of the story to flesh out the interactions of characters and framing of the setting. Exposition — knowledge that frames action to let us know what is happening, how, and why — is added through a variety of techniques. A character can function as an 'informer' about the past or context. That informer can be truthful or not. The device of a narrator can use an objective or subjective voice to frame events and consequences. The story-in-a-story (*mise-en-abîme*) can subtly serve as a backstory or analogy of what is happening in the 'present' of the story. In the anthology, a linking tale gives a contents to a sequence of stories that may be strangely connected. In all cases, a hypnotic effect comes from the movement back and forth across the line separating fiction from reality, and fiction from a fiction within it.

2. storyboarding

The shots in a cinema typically hold to a principle of continuity. Rules must be followed to avoid disorienting the audience in what in reality may be a set of disjoint filming constructions made at different places and times. How is continuity provided in real life, where the scenes are what the sociologist Roger Barker called 'behavior settings' — stages where subject meet, respect their roles, and obey systems of decorum? Generalizing from film to life acknowledges a fundamental link: the square wave operates at all levels in the life of the mind — in 'live theory' as well as life looked at from a theoretical perspective. This is the fundamental presence of the 'uncanny' as a blurring of dichotomies that, like inside/outside, dark/light, life/death, etc. are not simply overlapped or confused but structured 'like a language', that is to say, topologically.

This is a topology that, unlike other spatial models, must implicitly involve the temporal succession of events, the structure of events, and the notion of time sections that motivated Bergson's theory of the *durée*, duration. The temporal success, viewed as a square wave, involves a gap that refuses mediation between the two opposed states. In the classic live theater auditorium, the house lights are either on or off. The audience in the darkness watches the lit scenes on stage; the lit auditorium 'turns off' the centrality of the performance. When, as in Woody Allen's *The Purple Rose of Cairo*, an actor attempts direct contact with the audience, this attempt is 'blind' — a stare into a theoretical as well as real darkness, an absolute barrier that, unable to see normally, induces a 'blind sight' within the viewers in the auditorium. In effect, the blindness of the actor is a counterpart to the conditioned sight of the audience, which 'sees what it's supposed to see' through some mysterious rule that interpellates the imagination to follow pre-

diagrams: square wave

formed paths. This radical dichotomy-plus-gap is embedded in the word and idea *temps*, which in French means both time and weather, two systems, one 'fast' and one 'slow', that operate simultaneously. In the fast system, space is divided between viewer and viewed, split by a proscenium plane of representation which the imagination crosses, disembodied, and reincarnates the body within the terms of the work of art.

The square wave, just as any temporal sequence subject to the effect of '*mise-en-abîme*' (story in a story, image in an image, etc.). The upper or lower horizontal bars can themselves be square waves, as the effect of *mise-en-abîme* explores the depth of the segment. This fractal quality further 'blurs' the division between the Enlightenment opposition of terms. There can be 'darkness shining through the light', as the poet William Blake put it (and James Joyce quoted), the Lacanian estimate (subjective objectivity, objective subjectivity), an externalized interior and *vice versa*. In such classic films as Kurosawa's *High and Low* and Hitchcock's *North by Northwest*, directionality and space are referenced directly. In *High and Low*, a kidnapper spies on a rich industrialist from the slums of Yokohama spread out below the villa. This interpellation (the kidnapper's demands) leads to the 'police procedural', the exposition of the film, which forms an antipode with the kidnapper's controlling actions. In *North by Northwest*, hysterical Cary Grant moves from scene to scene where he is 'confused' by KGB agents for a non-existent US agent, Kaplan; in the exposition, he is guided by the CIA to play along with their double agent to trap the Russian spies. Each episode comes with its own oscillation between interior and exterior that creates the story's depth.

The 1947 film, *Dead of Night*, offers an especially intensive example of square-wave structure. An architect, Walter Craig, has a *déjà-vu* experience when he visits a prospective client during a house-party weekend. Guests sympathize with his initial bewilderment and each offers a confirming example from their own experience. The final tale involves a schizophrenic ventriloquist whose dummy has taken control.

3. discourse as the fuel of forward motion

The square-wave alternation between subjective and objective states, analogous to the film's creation of illusory motion, is sustained by the 'fiction' of discursive form which we must embrace in order to remain within the gravitational pull of the event before us. Lacan's four discourses (university, hysteric, master-servant, psychoanalysis) drive events of their own self-evident settings. For our purposes, the discourses of the university and the hysteric are especially useful. The university discourse is particularly instrumental in forming the 'ideological' narratives present in daily life and politics. The hysteric's discourse is almost always the dominant form used by works of art, because its division of space follows a 'theatrical' model, with the 'subject on stage' in the place of the Agent.

A square wave sequence could be defined typographically: \ agent / production \ agent / production / ... or \ A / (p) \ A / (p) \ A / ... or even \ / \ / \ / ... where each upwardly opening space of the agent corresponds to a stage structured like an auditorium. In between are the \emptyset -related segments of 'exposition' that orient the audience to the context and direction of the action in narrative examples. As a part of the work of art, this segment materializes the audience's experience and puts it 'on stage' although the scenery portrays a 'backstage'. In *North by Northwest*, Walter Thornhill (\$) is running from the police, S_1 , and he hides in / (p) \ locations, where the the other two elements of the Lacanian discourse model combine in a cyclic way. In the discourse of the hysteric, these are knowledge (S_2) and truth (desire). Thornhill is, characteristically, caught in the 'headlights' of false accusation. At the Plaza Hotel bar, KGB agents 'spot him' by paging Kaplan, the non-existent American agent. In the United Nations scene, the murdered UN official falls into his arms and photographers 'catch him red-handed'. When he tries to catch a train to Chicago, the station is filled with policemen's eyes looking for the suspect.

The (p) position is dominated by the CIA/FBI, S_1 , who generate the cyclical exchange between knowledge and desire. They 'pull the strings in the background' so that while Thornhill is running from the police, he must simultaneously pursue the KGB, via the double agent, Eve Kendall (the theme of doubles dominates here as it does in Hitchcock's earlier film, *Shadow of a Doubt*). The cycle is the gapped circle, the graphic representing the logic of Lacanian desire: a linear project turned on itself so that it continually returns to the same impasse, the gap occupied by the object-cause of desire, $S_2 \rightarrow |a| \rightarrow S_2$.

The 1947 British masterpiece, *Dead of Night*, uses hysterical discourse to structure the sequences of its anthology of 'Gingrich tales' that support the architect's *déjà vu* claims. Craig's dream functions as the S_2 element. His memory is both 'super' and 'failed', in that it predicts the future by remembering the past, but cannot recall the past clearly. This super-failed memory returns to the theme of darkness (the crisis is instigated by a power failure), blindness (the psychiatrist breaks his glasses), and voice (the theme of the voice is the central theme of the final story, told by the psychiatrist).

The hysterical sequence of \ \$ / S_1 \ \$ / S_1 ... with the cycle of $S_2 \rightarrow |a| \rightarrow S_2$ is useful everywhere the protagonist must simultaneously run from one thing and pursue another, as in *The Wizard of Oz*.

4. temps moderne

So-called 'theories of everything' should connect at points where connections provide insights. In this case of discourse + square wave, *temps*, 'weather' or 'time' in French (the Italian '*tempo*' has the same ambiguity) captures correctly the contrast between something that is happening in a 'now' mode and what is seems to endure at a slower pace. Although speed is the hallmark of the modern in the propaganda of the Futurists, the modern could more correctly be seen in terms of the hysterical opposition of subject-as-agent and master signifier as the 'slower' instigator of desire portrayed through projects of knowledge. Fast/slow is more the case than either element, but the combination is never blurred, only alternated.