

tales of epiphany and entropy

s e v e n

paranarrative

worlds on

youtube

t h o m a s e l s a e s s e r

the trouble with narrative

Film theory has always had particular problems with narrative. Was story-telling the cinema's manifest destiny, as an earlier generation of historians used to think, or does "early cinema," especially in the formula of the "cinema of attractions," prove the exact opposite? How medium-specific is narrative, given that it is generally recognized as a quasi-universal way of making sense of experience? Is (classical) narrative a mode of world-making or "totality-thinking" that reveals or reflects Western capitalism's political unconscious (in Fredric Jameson's sense)? Or can narratology, as a highly specialized and sophisticated trans-media discipline, manage to clarify the problems (e.g. levels of narration, enunciation, the role of the reader) that classical film theory, based as it was on linguistic models, failed to resolve?

Some of these questions now seem to belong to a by-gone age, a pre-history to our present that in several ways is hardly recognizable. Not only because, according to a wide-spread (but highly debatable) belief, narrative no longer matters in mainstream cinema, driven more by special effects

and spectacular scenes than story-telling skills and careful plotting. It is the concern with media-specificity that now seems especially antiquated, given the general belief in intermediality and remediation, and the faith or fears surrounding “convergence.” Also long gone is the ambition that (structural) linguistics might provide the master code by which to read all products of culture, from literary texts to films, from advertisements to fashion. And there is “interactive narrative” and “database narratives”: two oxymorons now occupying pride of place in the discussions, thanks to the commercial success, aesthetic possibilities and conceptual challenges enjoyed by computer games.

Today, then, a more anthropological, but also technologically inflected approach to narrative seems to prevail, according to which narrative is only one, culturally very specific, way of storing, organizing, retrieving and accessing data in time, and that other modes are both possible and may even be more desirable. Narrative now tends to be seen as a special instance of the “archive” or—in the case of film narrative—be regarded as the all-but-defeated rival for quasi-universality and cultural superiority when competing against the (computer- or video-) game. In the anthropological sense, narrative is still a central organizing principle, functioning according to specific compositional rules, “scripts” or “programs,” some of which are mapped on large-scale “life” patterns, such as birth, maturity, death, or on the idea of the journey, the quest or the initiation. In the case of myths, narratives have the cultural or religious function, either bricolage fashion (if one follows Lévi-Strauss), or by other taxonomies and coding processes of natural phenomena (if one follows George Lakoff), to represent the origins of the universe, and our place and purpose within it: narrative as one of the “interfaces” between “man” and “his” God(s) . . .

My aim is less exalted, but this essay is nonetheless concerned with the changing function of narrative: that is, with the question of what happens when one of the central cultural forms we have for shaping human sensory data as well as information about the “real world” finds itself in a condition of overstretch. Or more precisely: what happens when much of this data and information is being produced, i.e. recorded and stored, by machines, in cooperation with humans, which has been the case since the beginning of the twentieth century, but which is being fully acknowledged only since the beginning of the twenty-first century. Photography, the cinema, television, and the Internet are all hybrids in this respect: gathering more sense-data than humans can make sense of, and that narrative can contain, i.e. articulate, “linearize” or “authorize.” Second, what kind of roles of spectatorship, of participation, of witnessing are afforded by the display and access of this data, especially in an environment which is common, public and collective (like the cinema), but also “dynamic,” discrete and “interactive” (like the Internet), that is, which allows for feedback loops, change in real time, and is thus potentially both endless and shapeless.

Narratives are ways of organizing not only space and time, most commonly in a linear, consecutive fashion: they also, through the linguistic and stylistic resources known as “narration,” provide for a coherent point of reception or mode of address: what used to be referred to as a “subject-position,” or “reader-address.” Narratives, in other words are about time, space and subject, or the “here,” the “now” and the “me.”

My essay starts from the notion that linear temporality (based as it is, in the case of narrative, on our primary experience of time as an irreversible arrow, tending towards closure: and in this respect “death” and “the happy ending” are one and the same thing) is only one axis on which to construct such a sequence and for making connections of continuity, contiguity, of plotting a trajectory and providing closure. It follows that if time is only one of the axes on which to string data and access it, then stories with a beginning, middle and end are only one such cultural form. In the era of simultaneity, ubiquity and placeless places, other cultural forms are conceivable and do indeed exist. Computer games, as just mentioned, are often cited as the competitors for the hegemony of narratives, and so-called spatial stories or spatial narratives increasingly gain attention even outside gamer communities.

Henry Jenkins, for instance, thinks of both narratives and games as “spatial stories.” He argues that “spatial stories can evoke pre-existing narrative associations; they may embed narrative information within their *mise en scène*, or provide resources for emergent narratives” (2004), yet they do not have to take the form of classical narratives. He can even claim that

anyone who doubts that Tolstoy might have achieved his true calling as a game designer, should reread the final segment of *War and Peace* where he works through how a series of alternative choices might have reversed the outcome of Napoleon’s Russian campaign. The passage is dead weight in the context of a novel, yet it outlines ideas, which could be easily communicated in a god game like *Civilization*. (2004)

My concern is less to turn Tolstoy or Dickens into game designers before their time (interesting though this may be), but more to see what spatial stories the sites of the Web 2.0 social networks—MySpace, Facebook, Flickr, YouTube—might be able to tell, once a user decides to engage with their dynamic architecture, sets up a few ground rules for him/herself (both narratives and games need rules), and then lets him/herself be taken to different sites, spaces and places, not by the logic of an individual character’s aims, obstacles, helpers and opponents (to cite the story formula of Vladimir Propp and many other narratologists), but by the workings of contiguity, combinatory and chance. In other words, neither the causal chain of action and reaction, nor the temporal succession of locales determines the direction or trajectory of the journey, but key-words or

tags, tag-clouds or clusters of such key-words, embedded links, user's comments, and of course, one's own "free" associations. There is a long tradition of generating such chains and concatenations in literature, going back to some of the very first narratives we call novels, such as Cervantes' *Don Quixote*, or Lawrence Sterne's *Tristram Shandy*, all the way to films like Luis Buñuel's *The Phantom of Liberty* and Todd Solondz' *Palindromes*.

constructive instability

Thus, when I opted for YouTube as the site of my experiment in scripted spaces, I still very much had the cinema in mind. Not only is YouTube closest to the cinema, in that it shows visual segments extracted from different media (cinema, television, performances, home movies, advertisements, camcorder sessions, pop-concerts), but also because YouTube suggests the illusion—like its owners, Google—of a kind of totality, a full universe: if you cannot find it on Google, many people now seem to think, it either doesn't exist, or is not worth knowing or having, and so increasingly (and equally surprisingly) with YouTube: when recently I needed for a lecture but could not get hold of *A Corner in Wheat* by D.W. Griffith in the video library, a quick check on YouTube reassured me that I would be able to show my scene directly from the web.

Most of us are well aware of the dangers of relying on such a monopoly of information, but we also know, from our frequent, if shamefaced use of *Wikipedia*, how seductive it is to take as reliable fact what has been written, rewritten, amended, deleted and once more rewritten by many hands in a single Wiki-entry. Yet along with millions of others, I accept the convenience such ready-to-use knowledge affords, and willy-nilly align myself with the implied consequences of a potentially momentous development: the creeping fusion of mind, "man" and machine. This, in turn, we tend to take for granted as part of the overall collapse of the nature/culture divide, and more specifically, as part of the so-called post-human condition, which "configures human beings so that they can be seamlessly articulated with intelligent machines" (Abbas). In the post-human, there are no essential differences or absolute demarcations between bodily existence and computer simulation, between cybernetic mechanisms and biological organisms, between robots running on programs and humans pursuing goals or quests. In the words of N. Katherine Hayles, a prominent representative of the post-human view: "What is happening, is the development of distributed cognitive environments in which humans and computers interact in hundreds of ways daily, often unobtrusively" (1999).

One could object that the post-human position too readily subscribes to the more or less *smooth alignment* between man and machine, bios and techné, and thus operates with an adaptationist model of evolution: which according to some eminent recent studies of evolutionary biology

(by Francisco Varela, Thomas Metzinger, but also including Antonio Damasio and Daniel Dennett), is much too large an assumption to make confidently,¹ since it would seem that human beings are more likely to remain constitutively un-adapted.

On the other hand, it is true that even if one rejects the full implications of the post-human position, one is well-advised to reflect on the definitions of “culture” and “nature,” both of which stand under the sign of techné, but of a techné which needs itself to be refigured around the notion of “art” and “artifice,” all of them now practices situated between “design,” “engineering” and “programming.” This raises an interesting prospect and may even hold out a promise: as “life” becomes more “artificial” by being both engineered and programmable, the possibility arises that “art” (or culture as we normally understand it) has to become more life-like (by emulating processes of reproduction, replication, random generation, mutation, chance and contingency), in order to remain “art,” that is, “human,” in the sense of “un-adapted” and sensitive to “failure” (which in this context would be another word for finitude, that is the certainty of death, or closure).

Similarly in the sphere of knowledge production and knowledge dissemination: if the principles of “art” and “life” collapse, coalesce or converge around replication and repetition, self-regulation and feedback, aggregation and clustering, what kind of art or knowledge, what kind of “convergence culture” can make its home on the Internet? In order to test this question I conducted an experiment: not only of how “art,” “knowledge” and “life” implicate each other on the web, but of what “narratives” YouTube might tell, when certain of the parameters listed above are set as limits. Accepting, for the sake of the argument, the post-human “human-machine symbiosis” as fact, I aligned myself with the logic of the auto-generated web-links, and their embedded information. At the same time, I imagine myself a Web 2.0-flâneur, mingling with the anonymous crowd in the manner of the metropolitan flâneur made famous by Charles Baudelaire and Walter Benjamin, before being revived by the Paris Situationists and their urban *dérives*. I also fall back on an old-fashioned avant-garde technique popular among the Surrealists—automatic writing—allegedly derived from Freud’s psychoanalytic free association. A specific version of the technique—*Cadavres exquis* (Exquisite corpses)—involved a daisy chain of participants, continuing a drawing or a piece of writing without knowing more than a fragment of the previous contribution. Children know the game as “Chinese whispers,” and in the way I use it, it easily combines with another popular game: “six degrees of separation” (or its movie-fan version: “six degrees of Kevin Bacon,” a parlour version of that part of chaos theory also known as “small world syndrome”).

To give some indication of the results of the experiment, I shall introduce the concept of *constructive instability*. This, too, I take ready-made off the shelf,

as it were. Its engineering provenance has been overlaid by a neo-con political usage, for instance, by Condoleezza Rice about the Lebanon–Israel war in the summer of 2006: she called the deaths among the civilian population and the resulting chaos in Lebanon and Israel “constructive instability.” What interests me about constructive instability is not the implicit cynicism of Rice or Donald Rumsfeld (“shit happens”), but the idea that “instability” and even “failure” have a place in the narratives of adaptive, dynamic or emergent situations. One of the points to make about self-regulatory systems is an obvious one: they involve risk and imponderability. As, among others, the “Internet guru” Jaron Lanier, in his attack on Wikipedia as “digital Maoism,” has pointed out, there is real concern about the kind of agency and extent of control individuals and collectives are handing over, when “intelligent systems” run so much of everyday life, in the area of medicine, the government, or—especially—on the financial markets and in the conduct of modern warfare. Information systems such as we have them are considerably more fallible than is usually realized, as can be seen from electricity power-station failures, the gridlock chaos that ensues when the traffic lights are down, or the knock-on effects that come from a local disturbance in the international air-traffic systems. Of course, one could argue that these are not self-regulatory phenomena, but hierarchized and top-down, while the Internet was conceived and built precisely in order to minimize the domino-effects typical of linear forms of communication or command-and-control. It is indeed due to the general success of this package distribution system that we feel so over-confident in the workings of all complex systems and circuits.

Mindful therefore of the fragility and fallibility of both human beings and of machines, I found it advisable to factor in the structural value of “failure”: not as a negative feature that needs to be eliminated, but as the very point where potential failure can be seen to become productive. A specific example of such productivity, or rather where potential failure is a special feature, is the USA’s advanced fighter planes such as the X-29, designed in such an aerodynamically unstable fashion that not only could they not be piloted by humans alone (which to a lesser extent is already the case of many commercial transatlantic airliners or jumbo jets): they would be extremely dangerous at most sub-sonic aircraft speeds:

The advantage gained was manoeuvrability. While an ordinary fighter with swept-back wings requires energy to change course, the X-29 [with wings tipped forward] would simply “fall” in the direction indicated. Although this particular plane was never produced, aircraft designers are well aware of the trade-off between stability and manoeuvrability. Fighter planes today are, by design, very close to being unstable, while passenger planes are designed for stability. (Vorhees)

A similar example could be given from the financial markets, where the more advanced trading instruments, such as futures and derivatives, are also inherently unstable: how dangerously so can be seen from some spectacular “crashes” in recent times. One conclusion of my experiment, in other words, was that the principle of instability and volatility, and indeed, fallibility should be built into this human-machine system right from the start: not as a design fault, but specially engineered as a calculated risk, but also a design advantage.

performed failure: narratives of collapse

I now want to report where the idea of constructive instability or performed failure took me in a more circumscribed field of application—film- and media-studies. I focus on the transfers or convergences these disciplines may have with each other in respect to narrative, especially on the Internet, when placed against the familiar horizon of globalization, where classical or modernist terms like progress, medium specificity, the anxiety of influence or the autonomy of style seem increasingly inappropriate, but where the post-modern vocabulary of appropriation, pastiche also have little traction, while the notions of “resistance,” “critique,” “opposition” no longer mobilize a viable response other than a generalized condition of crisis and criticality.

I understand the term “constructive instability” first in its most literal form, namely as the property of an artefact, constructed and built for the purpose of drawing maximal use from the processes engendered when it collapses or self-destructs. My focus of attention for this new field of force centred on constructive instability as a systemically precarious equilibrium on the Internet, were—as mentioned—the social networking and user-generated content websites, where the monopoly of information (as controlled by Google) is constantly modified and amplified by the users’ own sense of what is important, useful, amusing or of what simply exists: modified, in other words, by a thoroughly pragmatic (Richard Rorty tested-and-approved, I am tempted to say) understanding of what is “true” and what is “real.” In the case of YouTube, the material or content still rarely originates on the web, but consists of clips from movies, performances, television and personal camcorders. In my experiment, for instance, using the appropriate tags, links and comments, turned up video material from contexts as diverse as the cinema’s beginnings in chronophotography and flip-books, gallery shows of avant-garde artists and high-end advertising, children’s television, maths classes, as well as game shows and telethons.

Utilizing what I understand to be the underlying algorithmic structure and feedback dynamics of these “open socials” or “social graphs” i.e., the combination of search terms—the *tag clouds*—with the cluster mechanisms

and sort algorithms of the YouTube site, I began, a few months ago, to follow the semantic trail of the terms *collapse*, *instability*, *chain reaction*, etc., to see where it would take me. Eventually, I decided to make my starting point a two-minute British advertisement. In 2003 it had “made history” not only because its fame and success proved the power of the Internet as a “window of attention” for advertisers, but also because its production values—it cost around six million dollars to produce—put it squarely in the league of Hollywood blockbusters. It also demonstrated the ambivalence of the idea of *collapse*, when understood as a bipolar principle of destruction and creation, with moments in-between: of transition, of balance, of interlinked concatenations, or—to use a favourite term of urbanists and sociologists, but also of ecologists and climatologists—of *tipping points* (Gladwell).

the honda cog

The advertisement is for the Honda Accord car, and is generally known as the “Honda Cog.” It generated—besides enormous amounts of Internet traffic—serious coverage in the press, with articles in the *Guardian*, the *Independent* and on the BBC. In short, it had a substantial cross-over effect into the traditional media as well, and became, in fact, an “urban legend.” Such is its reputation and recognition factor that it spawned a Monty Python-esque parody, called the “Human Cog,” by two promoters of the UK directory assistance service called 118.com.

Looking at the original advertisement more closely, it is clear that the setting connotes a gallery space: white walls, wooden parquet floor, no windows, controlled light-sources. It also alludes in a playful, but unmistakable fashion to the work of several canonical artists of the twentieth century, notably in the field of sculpture and installation: Alberto Giacometti, Alexander Calder, Jean Tinguely, Carl André. The “floor,” as opposed to the wall, has become the main display area; it combines pop art resistance to easel painting with the ecological conceptualism of land art.

It also seems very fitting that a Japanese car maker should have commissioned this ad, for it was Japan that first showed Europe and the US how to make cars with robots, how to reduce costs by just-in-time delivery: in short, it was Japanese auto firms that pioneered several of the principles we now lump together under the term “post-Fordism,” but which, on this analysis, could just as well be called “Toyota-ism” (or “Honda-ism”). What we see, then, is the ironic *mise en scène* of a meta-mechanic assembly line which says “look: no hands! Pure magic” or (as the Honda slogan has it) “the power of dreams” (alluding to the oneiric life of objects so beloved by the surrealists). The director, a Frenchman *bien sûr*, Antoine Bardou-Jacquet, is a well-known creative artist of high concept ads and music videos, working in both France and Britain.²

The links on YouTube around the “Honda Cog” quickly lead to an extract from a “making-of” video, which gives some glimpses of the immense effort that went into the production of such an effortless and yet inevitable concatenations of collapsing moments and obedient parts. The “making-of” video—which, by a nice coincidence, has as its motto Soichiro Honda’s famous “Success is 99% Failure”—ends up celebrating in the language of cinema our fascination with the engineering marvels that are contemporary automobiles, but it also mimics the generic features of a nature documentary, about the patience it takes to train animals (here: car parts), in order for them to perform for humans.

Back to the “Honda Cog”: besides the allusions to Japan and post-Fordism, there is the voice at the end, intoning the tag line: “isn’t it nice when things just work.” I associated it immediately with Sean Connery and James Bond, and so did the users of YouTube. Very soon I discovered tags that led from the Honda Accord to the Aston Martin DB 5, Bond’s famous car. The link immediately connected the “life” of the parts of the Honda Accord to the Aston Martin’s gadgets, and especially those fabulous demonstrations given at the modifications workshop in the belly of the MI5 headquarters, by the immortal engineer-inventor Q, played by Desmond Llewelyn, notably in *Goldfinger* (1964). Another link brought me to a French mash-up of this scene, which gives it a quite different sub-text and cultural atmosphere: references are now to Christopher Lambert, Bob Marley, the Rastafarians, Californian beach culture and air lift suspension, Rizzla cigarette paper, rolled joints, all played out against intense homophobic/homo-erotic banter between Q and Bond.³

The gruff boffin-engineer from MI5 who “never jokes about his work,” but visibly delights in his playful as well as lethal modifications, immediately associates one obvious father also of the Honda Cog—Rube Goldberg (1883–1970). The name stands for a kind of machine that does simple or humble tasks (like sneezing into a handkerchief) in an especially complicated, ingenious or roundabout way, utilizing common principles of traction and transmission, but in a manner that makes them meta-mechanic (reminiscent of both Marcel Duchamp and Charles Chaplin).

Apart from the voice, it is the words that hold another key to the ad’s cultural layers. For, besides Bond and automotive gadgets, “isn’t it nice when things just work?” cannot but evoke—for a British listener, at least—one of the most famous party-political campaigns ever. “Labour isn’t working” was the 1979-slogan that brought Margaret Thatcher to power and made advertising chic and hip, thanks to Charles Saatchi (head of the company that devised the poster, and for whom Antoine Bardou-Jacquot has also worked), who in turn “made” “Young British Artists” chic and hip, and to this day is one of the most influential collectors of modern and contemporary art: precisely the sort of art the “Honda Cog” gently mocks as well as generously celebrates.

der lauf der dinge

However, the words of the “Honda Cog” nod-and-wink not only at the knowing cognoscenti (whether of James Bond films, Charles Saatchi or of political campaigns) but also anticipate possible legal problems (which did indeed arise), by acknowledging (not so obliquely) where the makers had “appropriated” the idea for the ad from: not a London gallery, nor a billboard, but from the Kassel documenta of 1987. There, one of the most popular art-pieces was a half-hour video, entitled “Der Lauf der Dinge” literally “the course of things” generally translated as “The Way Things Go,” but I think better rendered (exploiting the possibility of the bi-linguistic slippage from “Lauf” to “Life”), as “The Life of Things.” Its authors are two Swiss artists, Peter Fischli and David Weiss, who have been working together since the early 1970s. This videotape was their international breakthrough.

There are many descriptions of this video on the Internet. One reads:

Fischli and Weiss’ 1987 film, *Der Lauf der Dinge* follows the domino effect of a series of simple objects such as string, garbage bags, soap, Styrofoam cups, rubber tires, plastic pails, balloons, and mattresses; when combined with fire, air (gas), water and gravity, these objects form a hypnotic chain of kinetic energy that disturbs the viewer with its chaotic potential.⁴

On the (on-line) sleeve of the DVD one finds more hyperbolic endorsements, but also more potential YouTube tags: “ingeniously choreographed—A Duchampian extravaganza!” (*New York Times*); “This masterpiece would have made Picasso envious” (*Flash Art*); “A Rube Goldberg drawing come to life” (*Chicago Tribune*); “An Epic tour de force. . . a gleeful send-up of the Laws of Thermodynamics!” (*Art in America*).

The rough, para-industrial set-up, the processes put in motion as well as the materials used inevitably recall many of the key elements of modern sculpture, conceptual art and other avant-garde practices, notably but not only from the post-World War II period: the concern for balance and suspension (Suprematism and Constructivism), assemblage art (from the late 1940s), kinetic art (from the 1950s and 1960s), trash objects, garbage and recycled materials (from New Realism and Pop), ready-mades and small wasted energies made useful (Marcel Duchamp), and finally, the energies inherent in apparently inert matter from the work of Carl Andre, not forgetting the macho-engineering skills of Richard Serra and the action paintings—here duly automated and pre-programmed—of Jackson Pollock.

The connections between the “Honda Cog” and “Der Lauf der Dinge” (just as the ironic allusions to their respective predecessors in art, cinema and popular culture) are, of course, the very stuff of cultural history

in both its modernist and post-modernist variants. The echoes and allusions can be accommodated within the traditional parameters just this side of plagiarism: of “homage,” “remediation,” “pastiche” and “appropriation.” The saturation with puns and arcane references to inter-media phenomena is furthermore the trademark of the smart ad, as pioneered and made global by among others, Saatchi & Saatchi in Britain since the 1970s and 1980s. It is by many seen as part of the problem of the cultural collapse of distinctions, rather than as part of the (democratizing) solution or rescue of high culture, even though this type of advertising has been widely adopted not only for cars and other commodities, but is now a staple promotional tool also for museums and other traditional temples of high culture. Yet the point to make in the present context is that the majority of these cultural references, genealogies and associations were suggested to me not by critical essays, but by the YouTube tags and user comments themselves: in other words, by a different, much “flatter” mode of linkage and hierarchy, in which the (admittedly still mainly verbal) pop-cultural, topical, taste-driven or art-historical knowledge base of the users and uploaders is cross-hatched with a good deal of contingency and chance, while nonetheless seeming to form part of a discernable design, a “narrative”: a totality-in-the-making, however amorphous or blob-like it may appear in its early stages of formation.

If I were to draw some preliminary conclusions from my experiment so far, I would highlight the following points: first, the “Honda Cog,” while serendipitous in its media-effects (no one anticipated quite what an Internet phenomenon it would be), is very traditional in the ideology of its creation: in the “making of” video one recognizes all the clichés of commercial filmmaking (money and labour invested equals aesthetic value and authenticity) as well as of auteurism (the artist’s vision is paramount, he is a driven and relentless perfectionist: success—the perfect take—finally rewards his perseverance).⁵

Second, and as a counter-argument, one can observe also a new frame of reference at work: that of *the test, or test-run*⁶ as the paradigm situated quite precisely between Deleuze’s “control society” and the concern, already voiced, with the post-human. In the “Honda Cog” it manifests itself in the take, the re-take, here amplified and exaggerated to become its own parody: it took 605 takes to “get it right,” eloquently illustrating the “99 percent failure” rule. Likewise, the lab conditions, the stress tests of man and machine are frequently mentioned, humbly put in the service of perfection, excellence and self-improvement, which is to say, in the service of that ever-elusive, dogged-by-failure, performativity. As if to respond to this challenge, there is now a “making of” video also for “Der Lauf der Dinge,” specially compiled by Fischli and Weiss for their major Tate Modern retrospective that opened in October 2006. It, too, concentrates on the endless trials, the recalcitrance and resistance of the materials, emphasizing

performativity now in the mode “performance of failure” as a goal in itself, rather than any vulgarly asserted “vision thing” (as with the “Honda Cog”).

A third point, worth highlighting because it brings the “Honda Cog” and “Der Lauf der Dinge” not only in line with each other, but aligns them with major issues in film studies and film theory, is that both are the work of bona fide filmmakers. I already highlighted this in my comments on the “Honda Cog,” and its proximity to the Hollywood blockbuster, but it is worth pointing out that “Der Lauf der Dinge” only exists as a film/video-tape: it is not the filmic record of a performance of machinic self-destruction, such as Tingeley staged them in New York in the 1960s, or the Fluxus Happenings of Wolf Vorstell and the Vienna Actionists, but an event staged specifically for the camera. The *mise en scène* in each case is that of an auteur-director, who decides exactly where to place the camera, when to move it, how to frame and reframe each action and its (con-)sequence. A half-century of film theory comes alive in these mini-films with maxi-budgets, around the “long take” and “montage,” and the implication of opting for “staging in depth” or “cutting in the camera.” While some “invisible edits” are discernable, long take classic continuity editing is the preferred choice in both pieces, as calculated in many ways as Orson Welles’ *Touch of Evil* (1958) opening tracking shot (famously pastiched in Robert Altman’s *The Player*, 1992) or the bravura zoom in Michael Snow’s *Wavelength* (1967).

Finally, in both works, one notes a studied anachronism, a retrospective temporal deferral at work. This has two aspects: one concerns their respective artistic technique, the other their (meta-)physics. Regarding technique, the “Honda Cog” team are proud to certify in the “making of” video (indeed it is the condition of their success) that they engineered this extraordinary concatenation “for real” and not with the aid of digital effects, which in the aesthetic they are committed to would have amounted to “cheating.” And yet, by 2003 digital effects had already become the norm in advertising, so that their decision is a deliberate self-restriction such as one knows it from minimalism or concept art at the highpoint of Modernism. Likewise, Fischli and Weiss produced their tape at around the time when artists were seriously considering their response to the new media technologies of video compositing and digital editing. Their work is clearly a manifesto in favour of materiality and indexicality, an ironic middle finger stuck in the face of the digital to come, and taking their stand in the heated debate about the loss of indexicality in the post-photographic age.

The other studied anachronism concerns the physics used in both works, and the way they figure causality. Neither *Roadrunner* gravity-defying antics here, nor the oneiric dream logic of a Salvador Dalí or Hans Richter film sequence. Causality in these films operates at the familiar middle-level and within human proportions. Rooted in Newtonian physics, the makers celebrate a visible, tangible world, fast disappearing into invisibility at both ends of the scale (at the macro-astronomic as well as at the

micro-sub-atomic level), but also insisting on a linear causality vanishing in the media in which one now encounters their work: the Internet and YouTube are, precisely, non-linear and rhizomatic. The “old physics” on display are in the case of the “Honda Cog” highly stylized and deliberately tweaked for humorous effect, while in “Der Lauf der Dinge” the concatenation of build-ups and disasters has also a more sombre, cosmic dimension, as if one were invited to be once more present at the moment of the “Big Bang,” i.e. the birth of our own physical universe.

around the world in eighty clicks

Fischli and Weiss have as their motto: *Am schönsten ist das Gleichgewicht, kurz bevor's zusammenbricht* (balance is most beautiful at the point of imminent collapse). While clearly applying to their work as a whole,⁷ this aesthetics of the tipping point also encapsulates the main challenge that my experiment with tagging and user-generated links on YouTube poses. For at this juncture in my test, the question arose: where would this semantic knot or node around “constructive instability” and the performativity of failure take me, once I had chosen the “Honda Cog” and “Der Lauf der Dinge” as my epicentres, once “collapse,” “concatenation” and “chain reactions” became my search criteria, and once YouTube’s tag-clouds defined my self-imposed constraints? One answer was: nowhere at all; a second one: all around the world; and a third answer would be: into the problems of narratology, against a horizon of a “stupid God.”

Nowhere at all: following the YouTube tags puts one on a cusp, precariously balanced and perilously poised over an abyss: of hundreds, if not thousands of similar or even the same videos, commented on and cross-referenced to yet more of the same and the similar, plunging one on a serendipitous descent into chaos. In Foucault’s epistemic terms, the Internet is “pre-modern” in its regime of representation: resemblance rules, but unlike the Great Chain of Being rising to God, this concatenation extracts the terrible price that everything begins to look like everything else, precipitating a Fall into the Hell of eternal in-difference and infinite repetition.

All over the world: searching the “Honda Cog” and “The Way Things Go” on the Internet and YouTube started off several other chain reactions, which opened up wholly unexpected avenues, in a wonderful efflorescence of rhizomatic profusion, beckoning in all directions and sending one on a most wonderful journey of discovery, more stupendous than Faust and Mephisto on their Magic Carpet in F.W. Murnau’s *Faust*, and more recursive, reflexive and self-referential than the Marx Brothers’ *Duck Soup* or Buñuel’s *The Phantom of Liberty*. But it also took me to many different “real” places: to Cairo in Egypt and Ohio in the US, to Groningen in the

Netherlands and Yokohama in Japan, to Manhattan and to Hamburg, to Purdue, Indiana and to a science lab in Utrecht, to teenagers in Germany and an artist in a New York loft, to a gallery in Tokyo and a television studio in Paris. Not all of these journeys or forking paths can be retraced here, so for convenience's sake, I have sorted and bundled some of them into clusters, and allowed the clusters to become small "cluster-bombs," ignited and radiating outwards from the "Honda Cog" and "Der Lauf der Dinge."⁸

cluster and forking path "rube goldberg"

That the tags from Fischli and Weiss should quickly bring one to Rube Goldberg was to be expected. But little did I suspect that "out there," the idea of building such elaborate mechanical contraptions serving a very simple purpose, has an enormous following, and that several countries, including Germany and the US, hold annual Rube Goldberg conventions, while trials, test-runs and rehearsals of their (usually imperfect) functioning take place in high-school workshops or in large public halls, but are most often videoed in the proverbial Dad's garage in New England, or on the little brother's bedroom floor in a Cairo apartment. With the camcorder always at the ready, geniuses of little more than eight or ten years of age, try out how to fill a cup of coke from a bottle catapulted by a mousetrap snapping tight, or show us how to use the vibrations of the ringer-setting on their mobile phone to set off a chain reaction that switches on the radio. At a major Rube Goldberg convention organized by Purdue University among engineering graduates from all over the US, the task was to squeeze fresh orange juice using a minimum of twelve separate mechanical, self-propelling steps.

A different kind of task preoccupies an obsessively ludic New York artist by the name of Tim Fort, whose website is appropriately named "www.lunatim.com" and who spends his time devising Rube Goldberg hybrids, which turn out to be little allegories of the cinema itself. His homage to the beginnings of cinema (chronophotography, galloping horses, *Fred Ott's Sneeze*), once more evoke the celluloid strip, and its transport by and through machine devices, unseen by the spectator, but here made visible in their mechanic simplicity. Fort himself calls his works "kinetic art movement devices, using an extended repertoire of impulse transmission techniques and the magic of montage," and this originary idea of cinema as pure mechanical movement, hovers, like a fantasmagoric ghost, over many of the Internet's Rube Goldberg meta-mechanical contraptions: so much so that their clustered presence on YouTube makes of the site something like the cinema's reverential funeral parlour, as much as it is—in its Japanese versions at least—an electronic pachinko parlour.

cluster and forking path “pythagoras switch”

From the Rube Goldberg connection it was but “one degree of separation” that led—“laterally” but also by the simple addition of an adjective in one of the user comments—in an apparently quite different direction. The unlikely combination “Japanese Rube Goldberg” landed me among a cluster of videos from a Tokyo-based educational television programme, collectively known as *pitagora suicchi*. This is the Japanese pronunciation of “Pythagoras Switch,” and is aimed at children. It shows simple, but ingenious combinations of everyday objects (tea-kettles, books, pencils, rubber bands, steel tape measures, chinaware spoons) aligned in such a way as to allow one or several small balls (or coloured marbles) to travel in a circuitous but steady downward motion. Subjecting the ball to the laws of gravity (Newtonian, for sure), the objects create intricate obstacles, which interrupt but cannot finally stop the ball’s trajectory across balancing mechanism of suspension, reversal, dispersion, and through levers, switches and gates that open up unexpected detours, provide surprising side-effects and cause delightful distractions. The journeys always end with a tiny flourish, a point of recursiveness and self-referentiality. Signalled by the moment when the ball falls into a receptacle or hits a mini-gong, the flip confirms the identity of the show and plays a maddeningly addictive jingle. A Pythagoras Switch is a minimalist exercise in creating closure out of indeterminacy, miraculously conjoining the pleasures of free play with the strict rules of physics.

Why is it called Pythagoras Switch? Nobody seems to know, and on the NHK website the makers merely hint at “the Eureka-experience” that children are supposed to have, thanks to a sort of category switch: “Pythagoras Switch’ wants to help kids have that moment of A-HA! We want to raise thinking about thinking, to flip that epiphany switch in every child.” Granted that these short performances do indeed flip a switch, I nevertheless tend to think of the name “Pythagoras” as a misnomer and even a parapraxis, a *failed performance*: namely, not only is “Eureka, [I have found (it)]” usually attributed to Archimedes (and not Pythagoras), but it should be called the Archimedean switch also for another reason. After all, the principle of *pitagora suicchi* resembles the famous fulcrum associated with Archimedes’ name: the single point of equipoise that he said could lift the universe from its hinges. But the fact that it is called Pythagoras leads one in yet other no less intriguing directions: to geometry and to Euclidean solids, as well as to the so-called Pseudo-Pythagoreans, the first important Gnostics of the ancient world, who survived right into the Middle Ages and beyond, and whose main analysis of the universe was in terms of the magic of numbers and the mysteries of mathematics. Pythagoras would have been a fitting grandfather of the power of algorithms, and thus the appropriate patron saint not so much for the

Pythagoras Switch and instead for the sort- and cluster-algorithms of YouTube that made me discover *pitagora suicchi* in the first place, right next to Rube Goldberg.

cluster and forking path “domino day” and celebrity TV

If the Pythagoras Switch is minimalist and haiku-like, in its elegant economy and delicate epiphanies, a close cousin, by contrast, is all on the side of excess, the incremental and of the nearly “getting out of hand”: I am referring to that other major Japanese pastime, having to do with knock-on effects, namely “Domino toppling.” Here, too, Japanese television is in the forefront, since it appears to stage regular domino telethons, such as the one I happened to hit upon with another mouse-click, and which featured the entire inventory of Dewi Sukarno, a notoriously rich and flamboyant society-lady and television personality (who models herself on Imelda Marcos, not least by owning racks and racks of shoes). All her belongings—fur coats, shoes, jewellery, books, furniture, etc.—are lined up so as to topple and fall on each other in a descending cascade of conspicuous consumption and commodity fetishism from the top floor of her villa to the basement and out to the swimming pool.⁹

Another of these televised Japanese shows on YouTube features a more high-tech contraption, where the steel ball’s trajectory is only one phase, releasing other mechanical agents and setting off further reactions, including small explosions in the manner of Fischli and Weiss, but also gravity-defying underwater action in goldfish bowls. The show is commented on by experts, who fire up and encourage the performing parts, as if they are players in a competitive sports event, like a sack race or a steeple-chase, and one of the videos in particular combines the conceptual grace of *pitagora suicchi* with the rambunctiousness of Sumo-wrestling, while serving a typically Rube Goldberg purpose, namely to make a simple task—in this case to prepare a bowl of Ramen noodles with an egg on top—very complicated and intricate indeed. Once again, it is worth noting the aesthetic that oscillates between the cinematic and the televisual: while the Pythagoras Switch programme prefers long takes, with a camera that pans and reframes rather than cuts, the Japanese Rube Goldberg contest and the Domino telethon, by contrast, favour the typical action replays of televised sports events, but with their spoken commentary they are also reminiscent of the “benshi” tradition of silent cinema, and they even re-invent the action overlap from the very first Edwin Porter films.

The domino toppling contests also brought home another lesson of globalization: “don’t follow the flag, follow the tag.” Just as commodities, trade and labour no longer “respect” the boundaries of the nation state, so the tags “chain reaction” or “domino telethon” easily cross borders and even continents. The world of domino toppling, for instance, also has an

annual championship, the “Domino Day,” which made the Netherlands a mere click away from Tokyo. For it seems that for several years now (in alternation with the South Koreans), the Dutch have been world champions and holders of the Guinness record for toppling the largest number of dominoes in one go: 4, 079 381 million of them, to be exact, at the 2006 world championship, held on November 27, 2006 in Groningen, on the theme of “Music in Motion” designed by the Weijers Brothers Domino Production Company and televised by Endemol. As the dominoes fell, they formed an ever-changing kaleidoscope of images that fitted the year’s theme. Music, magnitudes and motion were all in the service of an “image,” comparable to the formations one sees at the opening ceremonies of Olympic Games or to the flag-waving girls in North Korea, whose assembled multitudes make up a gigantic portrait of their Dear Leader.

between epiphany and entropy

Perhaps it is fitting to interrupt this “Tour of the YouTube World” with an image, and one of totalitarian domination. While multitudes (of dominoes or of young women) forming a recognizable likeness highlight the coercive, normative power of such software as operates the Internet at the level of the algorithms, of the codes and protocols—mostly hidden from view and in any case incomprehensible to the ordinary user—the idea of an “image” reminds us of the fact that in the man-machine symbiosis, two very different kinds of system are expected to communicate with each other. For this “image” is nothing but the filter, membrane or user-friendly face—the “interface,” in short—between stupid but infinitely patient (and performative) machines, running on programmes relayed to gates and switches (electric-electronic dominoes, one might say), and intelligent but increasingly impatient (as well as accident-prone) humans, requiring visual representations that give a sense of recognition and self-presence, relayed through words, sound and above all: images.

The concept of the interface at this juncture raises more issues than can be tackled here, but it allows me to return to the question I started with, namely the place of *narrative* as interface between data and user. As the logic of the time-space continuum, i.e. the diegesis is transformed into clusters of multiply interrelated and virally proliferating semantic links (the “fabula” or “story”), narrational authority, i.e. the (uneven) distribution of information, and the order or sequence in which it is accessed (the “syuzet” or “plot”) seems to pass from “narrator” to “narratee,” from storyteller to user. Yet since the user depends on the “machine” to generate the access-points, by way of sort-algorithms and tag-clouds (whose internal logic generally escapes him/her), a new “authority” interposes itself, both “stupid” like chance and “all-knowing” like God. How can one describe the effects of this encounter?

Fischli and Weiss see the encounter in both ethical and aesthetic categories. That they are aware of the problem of who or what is in control and of who or what has agency and responsibility is shown by their remarks on “Der Lauf der Dinge.” By fully implicating “the things” themselves, they comment meta-critically on the dilemma that agency for the human-machine symbiosis poses:

Naturally, this tape is also concerned with the problem of guilt and innocence. An object must be blamed for not proceeding further, and also for proceeding further. “An unambiguously CORRECT result of experiments exists; this is obtained when it works, when this construction collapses. Then again, there is the BEAUTIFUL which ranks above the CORRECT; this is obtained when it’s a close shave or the construction collapses exactly the way we want it to—slowly and intricately, that is, a beautiful collapse. The aesthetic layer on top of a function is like the butter on a sandwich—rather thin and smooth. The wrong result is obtained when things get going of their own accord, and the wrong result is obtained when they don’t get going at all. The CORRECT range (which in terms of moral theology might also be called GOOD) is, in our view, incredibly narrow. Similarly, GOOD and EVIL are often very close, for example when the candle on the swing sets fire to the detonating fuse. Because they are nice and childish, the candle and the swing tend towards the good, whereas the detonating fuse is evil because you don’t need it for harmless things. On the other hand, every object in our installation is good if it functions, because it then liberates its successor, gives it the chance of development. (Fischli and Weiss)

In the context of narrative, it suggests that the “worlds” which open up as a consequence of following the semantic trail of “The Honda Cog” and “Der Lauf der Dinge” both have a creator-narrator (multiple, anonymous, but nonetheless singular-in-plurality) and do not have one (to the extent that they are self-generated). By bringing together various individuals, their activities, skills and obsessions in very different locations, they can be called “scripted spaces” (since their coming to my attention is at least in part “scripted” or “programmed”), but they are neither directly comparable to the classic novel (even if one were to apply Jenkins’ generous re-interpretation of *War and Peace*), nor do they resemble a video game like *Grand Theft Auto* or a virtual world like *Second Life*. Yet what one encounters is nonetheless a story-world of sorts, rich in human interest, detail and characters, full of humour and wisdom: in the genre of what one could call *the digital picaresque*.

YouTube, as indicated, is a user-generated content site, with a high degree of automation, where nonetheless a certain structured contingency obtains, as suggested by the semantically quite coherent clusters, which I was able to extract via the tags attached to the videos. My “Travels with YouTube” led to a series of forking path narratives, where the multiplicity of strands made up for some weak plotting and meandering storylines, which together nonetheless make out of exquisite corpses a lively clutch of shaggy dog stories, reminiscent of Jan Potocki’s *Manuscript Found in Saragossa*, Borges’ *Garden of Forking Paths*, or Buñuel’s *The Milky Way*.¹⁰ This creates the paradox alluded to above: the structured contingency is, on the one hand, strongly informed and shaped by mathematics, via the site’s programming architecture and design, based on its search and sort algorithms. On the other hand, the chaos of human creativity, eccentricity and self-importance prevails. My clusters around “collapse” were only small islands of sense carved out of a sea of boiling magma made up of human self-presentation and self-performance, the trials and errors of the collective “me,” which is YouTube. But who is to say that this *performative persistence to be, to be present and to be perceived* does not mimic certain forms of narrative self-reference, create a cast of believable characters, and even generates a particular mode of narrative address?

Narrative self-reference: The rhizomatic branching or viral contagion propagating in all directions, while non-hierarchical and “flat” or “lateral” in its linkage, nonetheless seems to produce a surprisingly high degree of self-reflexivity and auto-referentiality, no doubt due to the effects of “positive feedback”: the demonstrations of chain reaction, mechanical concatenation, Pythagoras switches and falling dominoes are performative also in the sense that they either enact their own conditions of possibility or remediate a previous stage of their own mediality, as nostalgic or ironic pastiche and repetition. For instance, via the Pythagoras Switch another meta-dimension emerged, which brought one of the core mechanisms of YouTube into view. One of the creators of the Pythagoras Switch series is the video artist Sato Masahiko, one of whose installations, called “Bubble Sort” I was linked to, obviously filmed illegally in a gallery space and uploaded onto YouTube. The piece, which shows a line of people waiting, re-arranging themselves in fast-forward motion, according to size, completely baffled me, until its tags led to several other videos, also having to do with sorting. Masahiko’s video, it transpires, visualizes a popular sorting algorithm, called indeed “bubblesort,” explained on YouTube by tens of videos, all manually “remediating” or graphically “interfacing” the different sorting algorithms (insertion sort, selection sort, shell sorts, etc.): apparently a favourite pastime for first year computer science students.¹¹

The cast of characters, as we saw, included some well-known names, such as “Rube Goldberg,” “Pythagoras,” “James Bond,” “Dewi Sukarno”; others become known because they “sign” their work: Antoine Bourdou-Jacques,

Fischli and Weiss, Tim Fort, Sato Masahiko, the Wijers Brothers; many more merely present themselves to the camera in low-res home-made videos. Thanks to all of them, however, the YouTube ways of knowing and travelling are ludic and reflexive, educational and participatory, empowering and humbling, in short: marking an unusually soft dividing line between creative design and hard-core engineering, storytelling and role playing, singularity and repetition.

To put this in the terms of another discourse, more germane to the post-human: it is to find oneself in the presence of strange organisms, pulsing, moving and mutating, depending on the tags one enters or encounters, as YouTube sorts, filters and aggregates the choices I am not even aware of making. That they cluster themselves semantically (instead of letting a more Gestaltist organization—an “image”—determine their shape) is partly another concession to the “human interface,” but partly also because of special heuristic value: it is where the cultural noise of verbal language encounters the information of the mathematical program, providing the constructive instability of performed failure, and throwing the grit of human creativity and dirt of human unpredictability into the machinery of perfect human-machine adaptation.

Mode of address. With the traditional a-symmetry of the single point of origin (the author, the narrator) addressing a potentially infinite number of readers or viewer already deconstructed by Roland Barthes’ “writerly text” and many other narratologists since, the multiple authorship of the YouTube tales should not in itself present the biggest problem. Whether, when accessing YouTube, I behave more like a user than a reader/viewer (with all the attendant problems of the relation between “narrative” and “game”) is also not my main concern. Rather, the mode of address I am trying to focus on is the “empty space” of enunciation, classically conceived, but now refigured by the specific subject-effects of the YouTube user/viewer: On the one hand, a site like YouTube is inherently addictive, as one video drags one along to another and another and another. Yet after an hour or so, one realizes how precariously balanced and delicately poised one is, between the joy of discovering the unexpected, the marvellous and occasionally even the miraculous, and the rapid descent into an equally palpable anxiety, staring into the void of an unimaginable number of videos, with their proliferation of images, their banality or obscenity in sounds and commentary. Right next to the euphoria and the epiphany, then, is the heat-death of meaning, the ennui of repetition and of endless distraction: in short, the relentless progress of entropy begins to suck out and drain away all life. “Epiphany” and “entropy,” one might say, is what defines the “subject-effect” of YouTube, encapsulated in the recursiveness of its own tagline “broadcast yourself,” which to this extent quite accurately describes its specific “mode of address.” YouTube’s scripted spaces or picaresque narratives are held together not by a coherent diegesis nor by

a coherent “subject-position” (whether articulated by a psychoanalytic, cognitivist or pragmatic theory of spectatorship), but by a perpetual oscillation between the “fullness” of reference and recognition and the “emptiness” of repetition and redundancy, the singularity of an encounter and the plurality of the uncountable in which the singular occurs.

Whether there is a better name for this oscillation, I do not know, but it puts me on notice that my experiment would be incomplete and even misleading, if I did not emphasize its central place, and instead gave the impression that it was either possible or responsible to gather my clusters like floral bouquets, or cherry-pick the gems like the “Honda Cog” or “Der Lauf der Dinge” while ignoring or even disavowing the rest. Like the fighter plane with its wings tipped forward, or the high wire acrobat sensing at all times the trembling tightrope underneath her feet, the pleasure of the YouTube tales is narrative in its referential expanse, but kinetic in its visceral response. Epiphany and entropy remind us of our finitude, and—held against the open horizon of our “stupid God,” the Web 2.0 feedback loops with their unimaginable and yet palpable magnitudes—they suspend us between infinity and indefiniteness, a state only made bearable and even pleasurable, thanks to constructive instability and the performativity of failure, for as Fischli and Weiss so wisely put it: *am schönsten ist das Gleichgewicht* . . .

notes

1. Keith Ansell Pearson writes that: “A living system resolves its problems not simply by adapting itself through modifying its relationship to its milieu, but rather through a process of self-modification, in which it invents new structures which then serve to mediate and define its rapport with the environment” (147).
2. “Antoine Bardou-Jacquet signed to Partizan Midi Minuit in 2000. He had previously studied graphic design in Paris before setting up his own graphic design company, situated within the same offices as his close friends from Solid (an independent record company that is the centre of the French electronic music scene with such artists as Alex Gopher and Etienne de Crecy).” *Partizan* web-site: http://www.partizanlab.com/partizanlab/commercials/?antoine_bardou_jacquet/biography
3. My special thanks to Fabrice Ziolkowski (Paris) for providing the translation and cultural commentary on the clip.
4. http://www.sfmoma.org/exhibitions/exhib_detail/98_exhib_fischli_weiss.html.
5. “In 2003, he directed the internationally acclaimed and multi award winning Honda ‘Cog’ commercial for London’s Weiden & Kennedy. It is a 2 minute commercial showing Honda parts bumping into each other in a chain reaction. It took months of meticulous planning and trial and error, with a four day shoot at the end. It was shot in two takes and was all done for real. It was a victory for patience and passion! It first caused a stir running throughout the entire commercial break during the Grand Prix and went on to win a Gold Lion at Cannes, Best commercial and Gold at BTAA

- and a Gold Pencil at D&AD to name but a few.” *Partizan* web-site: http://www.partizanlab.com/partizanlab/commercials/?antoine_bardou_jacquet/biography.
6. For more on the new regime of the test as a paradigm of the control society, see Avital Ronell.
 7. As demonstrated, for instance, by their series *Equilibres—Quiet Afternoon* (1984), on show in the Fischli and Weiss “Flowers & Questions” retrospective at the Tate Modern in London (Oct 2006–Jan 2007).
 8. A button on the YouTube Screen now allows one to “explode” such clusters around the selected video and see the tag-clouds scatter. My thanks to Pepita Hesselberth (Amsterdam) for drawing my attention to this feature.
 9. My special gratitude goes to Aaron Gerow (Yale) for his hints, links and elucidations regarding all things pertaining to Japan in this essay.
 10. The link between interactive storytelling and Buñuel has been made before, most systematically by Marsha Kinder.
 11. Different types of sorting: insertion sort, selection sort, and shell sorts, but bubble sort is the simplest, if the least efficient—electronic spread-sheets, the computer’s first “killer application” (VisiCalc) and the mythical “birth” of Apple computers.

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