Kittler's Siren Recursions

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Recursive Hardcore Arcadian Porn

Among the more dubious historical figures for whom Friedrich Kittler has expressed a certain affection is Tiberius Julius Caesar Augustus, second Emperor of Rome. *Miserere principis*: Tiberius has endured centuries of bad press, and he had the particular misfortune of incurring the wrath of Tacitus, master of the laconic invective and supremely skilled in the historian's black art of reviving the dead to kill them once more with words. Knowing that denunciations work best when they cater to stereotypes Tacitus assimilated the life of Tiberius to well-established literary models of the promising young ruler who turns into an aging tyrant. As a result, we remember Tiberius as the plummeting *princeps:* he starts out with all the virtues of his predecessor Augustus only to end up with the vices of his successor Caligula. If Tacitus provided the story, Suetonius—Rome's most accomplished archival paparazzi—added the sleaze. It is thanks to him that Tiberius ranks as the dirtiest of antiquity's dirty old men. And that makes him interesting to Kittler.

In 26 AD Tiberius left Rome for good. He was in his late sixties and had another decade to live, most of which he spent in seclusion on Capri, an island renowned for the hospitality it extends to figures of questionable repute (from Tiberius himself all the way to Norman Douglas and Curzio Malaparte). According to Suetonius, Tiberius turned Capri into an X-rated San Simeon, an adult adventure park featuring—in Kittler's words—an abundance of Arcadian "hardcore porn" (2009: 253):

> On retiring to Capri he [Tiberius] devised "holey places" [*sellaria*, a "place for seats," a. k. a. latrines] as a site for his secret orgies; there a select team of girls and male prostitutes, inventors of deviant intercourse and dubbed analists, copulated before him in triple unions to excite his flagging passions. Its many bedrooms were furnished with the most salacious paintings and sculptures,

as well as with books of Elephantis [a Greek erotic writer], in any case a performer should need an illustration of a prescribed position. Then in Capri's woods and groves he contrived a number of spots for sex where boys and girls got dressed up as Pans and nymphs and solicited outside grottoes and sheltered recesses; people openly called this "the old goat's garden" [*Caprineum*], punning on the island's name.

   He acquired a reputation for still grosser depravities that one can hardly bear to tell or be told, let alone believe. (Suetonius 371-73)

At which point Suetonius launches into a meticulous account of all the depravities he, for one, can very much bear to believe and tell. Fortunately we can dispense with the particulars because we have read enough to understand Kittler's fondness of Tiberius. The Old Goat of Capri appears to have been obsessed with matters that are also of central importance to Kittler's later work: sex and the Greeks—more precisely, sex *of* the Greeks. The affinities, however, go beyond the carnal domain. Tiberius's Graecophilia included more refined matters that required the services of philologists rather than prostitutes:

   [H]is special aim was a knowledge of mythology, which he carried to a silly and laughable extreme; for he used it to test even the grammarians (…) by questions like this: "Who was Hecuba's mother? "What was the name of Achilles among the maidens?" "What were the Sirens in the habit of singing?" (Suetonius 409)

Quid Sirenes cantare sint solitae—readers who have navigated the depths and shallows of *Musik und Mathematik* know that Kittler's cannot leave this uncommented. After all, at the heart of his enterprise is the fact that thanks to the invention of the Greek vowel alphabet we know *exactly* what the Sirens sang, at least when Odysseus came their way. It is recorded verbatim for all to read and repeat in Book XII of Homer's *Odyssey:*

   Come closer, famous Odysseus – Achaea's pride and glory –
   moor your ship on our coast so you can hear our song!
   Never has any sailor passed our shores in his black craft

until he has heard the honeyed voices pouring from our lips,

and once he hears to his heart's content sails on, a wiser man.

We know all the pains the Achaeans and Trojans once endured

on the spreading plain of Troy when the gods willed it so --

all that comes to pass on the fertile earth, we know it all! (Homer 277)

Kittler chooses an intriguing term to describe how Tiberius and other Romans processed and recycled the cultural, intellectual and sexual achievements of Greece: *recursion*. The moment *Musik und Mathematik* crosses over from Greece to Rome, the word crops up everywhere. Tiberius's philhellenic pornotopia? A recursion. The sad reappearance of the Euboean sybilla in Petronius's *Satyricon*, or Longos's retelling of the tale of Daphnis and Chloe: ditto. Roman reverse engineering of Archimedes's war machines: "also a form of recursion" (2009: 244). And it goes beyond Rome: The reappearance at the beginning of Eliot's *Waste Land* of the sybilla that had already reappeared in Petronius signals that we are dealing with *Rekursionen über Rekursionen*—"one recursion after the other" (256). To emphasize the importance of the concept Kittler dedicates a section to it that culminates in the statement: "For this new way of writing history there is only one way, one name: recursion." (245)[1]

What new way? What history? Is this transfer of a concept from mathematics and informatics to cultural history worth the effort? Modern theory is littered with the remains of defunct technobabble (remember Baudrillard's "precession of simulacra"?), so why bother? The first thing to note is that Kittler is not alone. Over the last three years there have been many recursions in the media-technologically informed variant of German *Kulturwissenschaften* indebted, in no small part, to Kittler's work. Ana Ofak and Philipp von Hilgers have edited an excellent volume on recursions with a roster of high-profile contributors (including Kittler himself) that probe the carrying capacity of the concept. While there is no clear agreement on what exactly the term implies and how it

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1   "Für diese neue Art, Geschichte zu erschreiben, gibt es nur eine Weise, einen Namen: Rekursion." Note Kittler's use of the upscale *erschreiben* as opposed to simple *schreiben* (to write). *Erschreiben* , usually accompanied by a dative reflexive pronoun*,* implies the acquisition of something by way of writing which one did not have—or which was not there—before One of the many *er*-verbs that dominate Kittler's later texts, it imbues the very act of writing with a certain creative agency. In a characteristic stylistic gesture Kittler drops the reflexive *sich*—which he disdained as much Adorno cherished it.

should be employed in the colder humanities, there is a common understanding that it has the potential to solve some very basic quandaries. What I would like to offer are a couple of examples and ideas—a recursion sampler not without a certain entertainment and provocation value—before concluding with the question: why was the older Kittler so recursively inclined?

Serving Time

In programming terms a recursive function is defined as a function that calls itself during its execution. This has a certain tautological ring to it, as do the visual examples that invariably accompany explanations: mirrors mirroring each other, nested Russian dolls, Fibonacci sea shells, broccoli, or Escher's hands drawing Escher's hands drawing Escher's hands. In order to avoid simple circularity, a recursive algorithm must specify a base case and thus a termination point that will prevent a program from getting lost in an endless loop. But although the same keeps happening to the same, it does not have the same outcome. In an early paper on the epistemological implications of programmability, repetition and recursion, Hartmut Winkler highlighted this particular point:

> Recursion is defined as the reapplication of a processing instruction to a variable that is itself already the result, or interim result, of that processing instruction. The variable changes with every iteration, and the effect of the repetition is not the production of identity but a predefined variation. Recursion is thus not simple but expanded reproduction; it brings together repetition and variation with the goal of producing something new that cannot be executed in advance. (Winkler 235)

Recursions involve repetitive instances of self-processing that nonetheless result in something different. Put differently, variation arises from algorithms that command repetition without themselves containing the repetition. Note, however, that this expanded reproduction involves a Janus-type double movement. The recursion runs back, it 'takes recourse', as it were, to itself, but it also runs ahead to a predefined result (which, however, could not come about without the running back.) "We 'run back' in time from

today to the Greeks," Kittler notes, "but simultaneously we also run ahead, from the first beginning to its repetitive overcoming [*Verwindung*]" (2009: 245)[2]

A brief (though highly recommended) example: In a study entitled *Der Diener* ("The Servant"), Markus Krajewski, a media theorist of the K-3 generation (i.e., scholars who studied with Kittler in Berlin in the 1990s[3]), traces the structural correlation between human *servants*—butlers, attendants, lackeys, domestics—and electronic *servers*—bots, web-crawlers, mail deliveries systems, search engines. What exactly links Bertie Wooster's know-it-all Jeeves to find-it-all search engines, one of which used to be called AskJeeves? From the point of view of conventional social histories and/or histories of technology the name is a skeuomorph, the retention of a design feature in a new technical environment in which it no longer serves any function other than to create marketable familiarity. Krajweski, however, insists on systemic connections. As we know from countless 18th-century domestic tragedies and repeated viewings of *Upstairs, Downstairs,* servants are not simple humanoid tools, instead they are liminal beings that straddle and negotiate the boundaries between private and public, inside and outside, the master's domain and life on the street. Clever servants like Jeeves are able to store, anticipate, communicate and even withhold knowledge in such a way as to influence and determine the actions of those they are supposed to serve.

> The three aspects that make the servant a privileged custodian and navigator of knowledge are his function as a hinge and intermediary between different spheres; a certain logic of economy that his services carry; and his institutionalization in the form of designated spaces that are consolidated into into privileged contact points for the distribution of information (2010b: 10)

Exchange *his* for *its* and you have pretty accurate description of, say, an electronic mail server. Krajewski's basic point is that the protocols and procedures that determine the

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2   *Verwindung*—one of Heidegger's fearsome untranslatables—is normally rendered as "overcoming". Overcoming, however, is not *Überwindung* ('going beyond'). *Verwindung* involves transformation and/or (re)processing. In other words, it comes close to recursion. This is one the many instances in which Kittler uses Heidegger's idiolect to allude to formal algorithmic procedures in order to suggest a certain affinity that Heidegger himself was reluctant to recognize.

3   As opposed to K-1 (studied with Kittler in the Freiburg from the late 70s to the mid 1980s) and K-2 (Bochum from the mid-80s to the early 90s).

exchanges of helpful demons in cyberspace contain the protocols and procedures that determine the exchanges in the old human service domain, and vice versa. As he points out, the interaction between a mail client and a mail server in cyberspace in part imitates a dialog "in everyday language" (2010a: 265)—which would not be the case had the protocols for this particular technical setting been developed completely from scratch (if, in other words, servers had not been preceded by the servants they replace). In order to understand the servers of today, then, the analyst must retrace the iterations of the protocols and procedures back in time to a predetermined reversal point (in Krajewski's case, the mid-18th century), and then, equipped with the knowledge gained from this movement backwards, turn around and retrace the iterations forward in time to the present. The trick is that tracing the iterations backwards (which in each and every case involves the observation of how servant protocols process themselves) will change the reversal point. In other words, if we step by step trace the history of servers and servants back to the 18th-century, we will arrive at a new description of the latter. This means that our iterations forward to the present will start in a past that is different from the one we had targeted when we set out. The iterative process—Winkler's expanded reproduction— changes the goal. As a result, the present we return to will will also change. And one of the main aspects of this change is a new insight into the structural correlation between past and present serving entities.

> The result of such a recursive historiography is the mutual explanation of all stages of iterations. Ultimately, it enables a symmetrical insight: In a certain way, the 18th-century servant functions like a mail server which, in turn, exhibits some of the specific functional elements of the classic servant figure that are further differentiated with every iteration. (2010a: 274)

Krajewski speaks of "recursive historiography," which appears to imply a new approach that can be added to to the arsenal of established historiographical procedures. However, there are things at work here that may not fit into our historiographical toolboxes because they are at odds with conventional notions of history. For one, the more technical the story gets (that is, the more we move from servants to servers), the

more we are dealing with a mushrooming technological structure which, increasingly oblivious to its socio-human environment, changes itself by constant recursive self-processing. Also, how do we reconcile this performative recursive analysis of nested structures with more conventional understandings of diachronic processes? The view of history suggested here tends to come close to the opening lines of T. S. Eliot's "Burnt Norton" ("Time present and time past / Are both perhaps present in time future, / And time future contained in time past"), for each iteration can only be understood and analyzed as always containing past and future states. With this in mind, Krajewski provides the most succinct definition possible: *Die Rekursion ist ein Vorgriff auf den Rückgriff-* "recursion is a prolepsis of the analepsis" (2010a: 271). Reversing the venerable phrase by sometime Nazi art historian Wilhelm Pinder, Krajewski points out that recursion enables us to apprehend the *Gleichzeitigkeit des Ungleichzeitigkeiten* ("the contemporaneity of the non-contemporaneous"). As we shall see, this is where matters get serious, because it conjures up the possibility of history-defying juxtapositions and short-circuits that are outside the provenance of time—*human* time, that is.

Tempus ex machina

The basic reason for the rising profile of recursion as a (counter-)historiographical procedure is the increased fracturing of time. We do not live under the rule of one absolute time, we live in and through different temporal habitats that are every bit as varied as our spatial environments. Needless to say, this is nothing new. Time is not one and indivisible; it never was. Medieval theologians happily assigned varying scales, shapes and speeds of time to humans, angels and animals; and modernity (including all its prefixed breeds and variations) can be described as an ongoing chronomachia in which attempts to install a homogenized industrial time face off against recalcitrant allo-, micro- and countertemporalities and heterochronias. However, what has caught the attention of German media scholars working in the wake of the Kittler effect is the fact that when it comes to media established historiographical narratives are unable to handle non-human temporalities. Historiographical emplotments cannot capture *machine time.*

Nobody has expressed this view more vigorously than Wolfgang Ernst. Following and at times radicalizing Kittler, Ernst insists that the social construction of technical

artifacts reveals little about their technical make-up. While there is nothing wrong with either affirmative tales about the rise and fall of media technologies or more critical accounts of how media should be used, these culturally inflected narratives will not enable us to fully understand media. Media are not what we do with them, neither are they what they do with (or to) us. Regardless of social background, usage or impact, media are what they do, no more and no less (faint existentialist echo intended). To pick up on one of Ernst's examples, take an ancient Greek vase and a 1930s radio, both on display in a museum. From a conventional archaeological and/or historical point of view they are of interest because they have both defied time by still being around.

> But what drastically separates an archaeological object from a technical artifact is that the latter *discloses its essence only when operating*. While a Greek vase can be interpreted simply by being looked at, a radio or computer does not reveal its essence by monumentally being there but only when being processed by electromagnetic waves of calculating processes. If a radio from a museum collection is reactivated to play broadcast channels of the present, it changes its status: it is not a historical object anymore but actively generates sensual and informational presence. (Ernst 2011: 241; emphasis added)

Which is why a 1930s radio on display in a museum invariably plays Glenn Miller rather than Lady Gaga: measures are taken to ensure that the artifact is confined to its original temporal habitat. (Just like zoos, museums want their displays to feel at home and their visitors to feel safe.) But Ernst is not talking about any old radio, he has in mind the *Volksempfänger*, the low-priced, bakelite-encased "people's receiver" first mass-produced in the 1930s to establish a permanent link between Hitler's mouth and German ears.

> [The *Volksempfänger*] receives radio programs when operated today, since the stable technological infrastructure of broadcasting media is still in operation. There is no "historical" difference in the functioning of the apparatus now and then (and there will not be, until analogue radio is, finally, completely replaced by

the digitized transmission of signals); rather, there is a media-archeological short circuit between otherwise historically clearly separated times (2011: 240)

The fact that the radio was primarily used to transmit Joseph Goebbels' ranting about total wars reveals little; its history-defying "media-archeological short circuit" becomes apparent when it it used, for instance, to broadcast George W. Bush's celebration of missions accomplished.

At this point we could enter a lengthy discussion of Ernst's theory background(s). The notion that media reveal their essence only in operation is an interesting twist on Heidegger's elaboration of *Zeug* or equipment in *Being and Time*. The emphasis on the *Eigenzeit* of media—the fact that they have, and produce, their own time—continues and expands Kittler's emphasis on the importance of analog and digital time axis manipulations. More fundamentally, it is a further 'German' radicalization of Foucauldian archaeology. If Foucault insisted on subjecting history to vertical cuts that sliced it into epistemic discontinuities, and if Kittler's update of Foucault consisted in relating these epistemes to techno-discursive networks grounded in epoch-specific materialities of data processing (if, to update Ranke, every epoch is immediate to its machines), then Ernst is adding horizontal cuts that transfer these materialities into their own temporal domain—a xenochronia fundamentally out of synch with human time. Not to mention that the tone of voice of Ernst's work, including the frequent use of hypothermal metaphors like 'cool' and 'cold', establishes its own short circuit with many of Kittler's earlier texts and both, in turn, harken back—in ways which still need to be explored—to the "cool conduct" of Weimar writers across the political spectrum from Brecht to Jünger (further see Lethen). Ovine literature scholars dressed up in the lupine trappings of media theory will, no doubt, lament this as a yet another step in the regrettable disemplotment of the world. *Libera nos, machina, a furore narrandi.*

We could also launch a time-honoured conceptual sabotage operation by revealing certain metaphysical underpinnings (which is the media-theoretical equivalent of catching a family values politician in a strip joint). Like the theological dwarf hidden inside in Walter Benjamin's historico-materialist chess automaton (Benjamin 253), Ernst's "materialist diagrammatics" (Parikka) has a few metaphysical goblins frolicking

underneath its cool veneer. Obviously, history-defying short circuits presuppose that the physical and electromagnetic laws known to the designers of the *Volksempfänger* are still in operation today. Mathematically encoded laws of nature, then, occupy the place once held by the place of the music of the spheres. It is a higher zone, one of quasi-angelic timelessness, into which those of us equipped with the required computational expertise can momentarily escape our dull sublunary existence.

Of course matters are not that simple. Take the fact that both access to and execution of these media short circuits—for those adventurous readers patrolling the slippery pathway between science and Science Fiction: these media-enabled wormholes or Einstein-Rosen bridges that cut across the human time-space continuum—are themselves increasingly mediated. Starting in 1902, Enrico Caruso made a large number of disc phonograph recordings most of which have been re-engineered and released over the last century. It is one the most persistent (and lucrative) instances of sonic remediation, as Caruso's voice migrated from shellac to vinyl to CDs and i-pods, while all around his voice orchestral accompaniments were enhanced, removed and overdubbed. Closer to Ernst's terminology, the posthumous career of Caruso is a sequence of archival transformations. All media technologies are "archives of cultural engineering" (Ernst 2011: 243), and in ways which give a lot of additional meaning to to McLuhan's mantra that the content of one medium is always another another medium, each archive recursively processes another.

As a result, these recursive remediations are not only aesthetic and commercial undertakings, they are also archaeological endeavavours. If, for instance, the inscribed phonographic traces on wax cylinders from Edison's days are opto-digitally retraced, inaccessible sound recording become audible again. "Frozen voices, confined to analogue and long-forgotten storage media, wait for their (digital) unfreezing" (248). Media are the new capital-s subjects of media archaeology; we, the former subjects, can sit back and enjoy the "blessing of the media-archeaological gaze" (249). For this reanimation of dead sounds and images Ernst even goes so far as to use the word "redemption" (248). Cue, once again, Benjamin. Or should we phrase it the other way round? That Benjamin's awkward phrasing is now itself redeemed?

Let us summarize three Kittler-related points before we wormhole back to antiquity:

1. Kittler readers will recall that his history of the early analog media is structured by the Handicap Theme: "[T]echnical media like the telephone and the gramophone were invented in the nineteenth century for and by the deaf, and technical media like the typewriter were invented for and by the blind (. . .) Cripples and handicaps lie like corpses along the path to the present." (Kittler 2010: 120). Frequently dismissed as a Kittlerian snarkasm, the idea is in fact based on a straightforward observation: It was, above all else, the isolation of cognitive subroutines resulting from injuries and impairments that allowed for the decisive 19th-century psycho-physical mapping procedures in the course of which these subroutines and the new analog media were modelled on each other. Ernst adds an a-human twist. In Kittler's earlier narrative, media that help us see, hear and write better were developed by and for those who saw and heard less; now we have a sequence of intermedial prosthetics: media with superior storage, processing and communication facilities come to the help of their impaired brethren.

2. Kittler readers will further recall that he was a great promoter of unknown quotes. Among the best-known is the observation by the newly mechanized Friedrich Nietzsche who, reflecting on the impact of his Malling Hansen Writing Ball had on his style, noted in a letter: *Unser Schreibzeug arbeitet mit an unseren Gedanken*—our writing tools too are working on our thoughts. Unearthed by Kittler, the quote has had a great afterlife. The obvious self-reflexive twist—our writing tools are also working on our thoughts about our writing tools—contains in a nutshell the recursive epistemological dilemma that has haunted media theory since the early days of Harold Innis. By referring to the new opto-digital rewriting of old phonographic traces, Ernst is tightening the loop: Our writing tools are (re)writing our writing tools—without any human assistance or interference. The evolution behind our backs which fully revealed itself with the arrival of media "able to read and write by themselves" (Kittler 1997: 147), is complemented by the intimacy between media subjects processing each other without human interference.

3. It was, I believe, Thomas Steinfelder who first spelled out Kittler's hidden Hegelianism. Unwittingly or not, Kittler encouraged this reading by proving soundbites

which turned media history into an updated German Idealism downloading itself into cyberspace:

> What I keep dreaming of and what people don't like to hear because they believe that technology and science are mere tools made for people in the street [. . .] is that machines, especially the contemporary intelligent machines as conceived by Turing in 1936, are not there for us humans – we are, as it were, built on too large a scale – , but that nature, this glowing, cognitive part of nature, is feeding itself back into itself (Kittler 2002: 270)

The increasing miniaturization and acceleration of digital technologies allows for an ever deeper and finer processing of matter down to its crystalline structure, which, in turn, feeds back into the refinement of ever faster and more powerful technologies. The ultimate vanishing point is a quasi-Lacanian holy grail of establishing a direct micro-physical and -temporal link between the real and symbolic at the complete expense of the imaginary. On this level of processing, humans are about as helpful and necessary as horse-drawn carriages are for space travel. Pushing the envelope, we can see something similar in Ernst's xenochronic scenario: A whole infrastructure of links and short-circuits is emerging next to and beyond human history—it may indeed obsolesce history as we know it. And make no mistake, the medial recursions extend far beyond minor century-old short-circuits connecting turntables to i-pods, they go back millenia. And the greatest media-based *madeleine* moment will lead us all the way back to the Sirens.

Gulf Excursion: Storing the Sirens
Musik und Mathematik I/2: Eros concludes with a 97-page chronology covering 35,000 years of Kittlerian history (2009: 293-380). The first entry reads: "33,000: Five-hole flute made from the hollow bone of a griffon vulture, discovered 2008 in the Achtal close to Ulm" (293). 2008 also happens to be the chronology's final year; in fact, Kittler's very last entry notes the death of Richard Wright (380). History started with the earliest

musical instruments and ended with the impossibility of Pink Floyd ever reuniting. Even the greatest recursions must terminate.

The Sirens are part of the grand chronic. Zeus "lies with" Leda in 1245 BCE (299). Helen is born in 1244 and abducted by Paris in 1220. The War of Troy ends with the wooden horse in 1209. It is three years later, in 1206 BCE., that "Odysseus listens to the Sirens" (300). For 27 AD Kittler records Tiberius's move to Capri "in order to indulge in young flesh in the Blue Grotto and ask his grammarians what the Sirens sang on the neighbouring islands" (333). So far, so exact. But fast forward to 1943, another important Siren year. Kittler notes the birth of Janis Joplin and Jim Morrison, Albert Hofmann's first LSD trip, Heinz von Foerster's largely unknown work on radar engineering for the German Luftwaffe, and the occupation by U.S. Marines of "Europe's first island: Lampedusa" (376). No wonder Kittler was born in that year: so much of what came to dominate his thinking came into being then: sex, drugs, and rock 'n roll, the spirit of free love (incarnated by Dionysus redux Jim Morrison), the technical achievements of the Wehrmacht, and the ambiguous blessings of European Americanization. But he omits one important item. Serving on H.M.S. *Exmoor in* early September 1943, Ernle Bradford (who following the war spent years tracking Odysseus's voyage across the Mediterranean)*,* heard the Sirens sing:

> The music crept by me upon the waters (. . .) I cannot describe it accurately, but it was low and somehow distant—a natural kind of singing one might call it, reminiscent of the waves and the wind. Yet it was certainly neither of these, for there was about it a human quality, disturbing and evocative (Bradford 130)

The *Exmoor* was carrying out defensive patrols in the Gulf of Salerno in support of a seaborne invasion of the Italian coast. Acting on Bradford's warning, the *Exmoor* steered toward the near-by Li Galli islands Gallo Lungo, Castelluccio and La Rotonda, known since antiquity to be home of the Sirens and now a possible hide-out for enemy vessels. As the destroyer circled the islands nobody else heard or saw a thing, but Bradford kept hearing and seeing more:

I had now reached a point when the singing somehow began to make sense. First of all it was every old (. . .) And secondly, it had a direct bearing on *me*—of that I felt sure. It began to draw on me so that I wanted to join it—and this 'joining it', I knew in some obscure way, meant going back into the past (. . .) It meant, I knew, going back in time, retreating in some way or other into a different world. I kept getting a picture, as it were, of temples by the shore: white shores under the sun and, where the waves ran up top he land, there was a small temple (133)

Note the switch from aural to visual, song to temple. Note also how the former is located in a grey zone between natural sounds and specifically addressed messages with a "human quality." Meaning emerges from noise and reinforces its content by activating a cultural memory of antiquity—a Lacanian transfer from the real (waves) over the symbolic (encoded communication) to the imaginary (cinemascope temples). But Bradford is not only facing a classically embellished vortex into the past, he is also channeling Kittler's principal competitors in Siren matters, Max Horkheimer and Theodor W. Adorno. Located located on their white shore thousands of miles to the West, the detested Frankfurt "hobby philosophers" (Kittler 2006: 263) are almost exactly at the same time describing the Siren song as a major threat to the new-found subjectivity of the *ur*-bourgeois Odysseus. (But how close are the Siren recursions explored in Berlin to the Siren regressions analyzed in Frankfurt?)

Fast-forward 61 years. In April 2004 Kittler and Ernst headed a "sound-archeological" research expedition to the Li Galli islands (Ernst 2004). The basic premise was unqualified trust in the ability of Homer's and Branford's words to describe Siren songs and a qualified distrust in the ability of human ears to fully understand them. Several experiments involving human organs and technical apparatuses were conducted. On the human side, mouths sung and spoke Homeric verses at and from the islands while human ears listened. The result was additional proof of Odysseus's well-known mendacity. His tall tale of ropes, mast and wax-stuffed ears turns out to be Ithacan sailor's yarn. Consonants do not carry far, not even over the calm waters off Salerno, so in order to understand the Sirens' invitation to step ashore Odysseus must have left the boat. "Quod erat demonstrandum" (Kittler 2006: 58). A similar procedure was carried out on a

technical level: sound-producing technologies were used to project sounds to and from the islets while being recorded by storage devices. The subsequent (technical) analysis of the (technical) recordings produced an interesting (technical) insight: Sounds emanating from the main island Gallo Lungo hit the Siren rocks Castelluccio and La Rotonda and, much like a ball caught between the flappers of a pinball machine, start to echo between the two, resulting in the disorienting sonic phenomenon experienced by Bradford: "It seemed to have moved, for the sound which I could have sworn originated near this particular rock was now masked by it and seemed to come from the other" (132). The special twist of this forensic Siren story, however, is the fact that one of the sound-producing devices used to disconceal the ancient Sirens was an aerophone, a noisemaker that produces signs by interrupting the air flow—in other words, a modern siren.

Sirens track Sirens. At first glance this recalls Tiberius's "silly and laughable" attempt to determine what the Sirens used to sing; it makes Krajewski's recursions involving 21st-century electronic servers and 18th-century servants sound like the epitome of respectable common sense. But let us follow the example of Odysseus, abandon the safe boat of scholarly probity, and go along on the Siren field trip.

Both Ernst and Kittler subscribe to the idea that the Greek vowel alphabet was not invented to assist in the mundane chores of accounting, trade, or governmental bureaucracy but to transcribe Homeric verse. With this in mind, one of the major differences between the two epics becomes especially important. As Philipp von Hilgers notes, "Homer's *Odyssey*—unlike the earlier *Iliad*—plays its games with the Greek vowel alphabet by speaking of and with voices that, detached from the bodily presence of heroic figures, have various traceable effects on their audience" (2008: 197). First off, this alludes to the well-known self-recursive *Tristam Shandy* moments of the *Odyssey*. At the court of the Phaeacians, the grief-stricken Odysseus listens to Demodocos sing about the exploits of Odysseus.[4] It is recursive nesting at its Homeric best: the epic anticipates the setting in which it is customarily performed, and it then tightens the screw by having its

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4   More to the point, Odysseus requests that Demodocos sing of the fall of Troy. For Kittler, this desire to get drawn back into his own exploits is further proof that Odysseus left the boat to join the Sirens, since this is precisely what they offer to him. Kittler would rather be caught reading Habermas than use a term like "metafictionality," because it claims to separate into fiction and reality what is in fact a "Möbius strip that "weaves together desire and pain, singing and crying" (2006: 100). The Phaeacian court is itself a media-based folding of Odysseus's life in which various times are recursively joined.

audience listen to its hero—who has temporarily crossed over to the side of the audience—listen to his own epic.

This metafictionality is linked to the epic's awareness of its new medial underpinning. Hilgers' claim that the *Odyssey* is "speaking of and with detached voices" points to the fact that a new symbolic notation system can store the poet's voice in such a way as to enable verbatim reproductions that no longer require the special skills of bards (who will never repeat performances verbatim). The effectiveness of the notation system arises from its ability to capture the constituent components of sound production: it encodes how we speak rather than what we hear. The *Odyssey*, however, is quite ambivalent about its own medial effects, and the Sirens are the epitome of the ambivalence. On the one hand, they sing that they "know all that comes to pass on the fertile earth" and are eager to share their knowledge. This omniscience has led many interpreters to identify them with the Muses. Read through the Kittler effect, the ritual appeal to the Muses to grant a song that exceeds more than any one singer can faithfully remember is the invocation of a new storage technology which enables this astounding feat. On the other hand, the deadly allure of their song, the way in which their disembodied voices assail the body of Odysseus, indicates a fundamental loss of autonomyfor those who read and listen. In order to speak, the perfectly stored songs need bodies as much as the underworld shadows consulted by Odysseus need blood. From the point of view of the vowel alphabet, humans are voice machines composed of lungs, lips, and larynx necessary for the performance and propagation of texts. As Jesper Svenbro has brilliantly analyzed in *Phrasikleia*, the ancient Greeks (just like the young Kittler) were very much aware of the degree to which reading is a hostile takeover of bodies and subjects by texts. The greatest leap forward in the history communications technology becomes indistinguishable from the deepest fall into a media-induced heteronomy

Ernst adds a twist by arguing that this medial awareness also acts in preparation of future media:

> The ancient Greek practice of the vowel alphabet sensitizes the culture of
> knowledge (. . .) From the point of view of the archaeology of knowledge, this
> beginning of the technology of vocal culture already contains (. . .) its teleo-

archaeological end. The true message of the phonetic alphabet as a cultural technique is the desire to to achieve an indexical relationship to the sound of the voice, but this outstrips the capabilities of symbolic notation. The phantasm is only realized by a genuine media technology, the phonograph. (Ernst 2010: 182)

Sound familiar? We are back in Benjamin territory--to be precise, section XIV of "The Work of Art in the Age of Mechanical Reproduction". Reflecting on the fact that Dadaism employed literary and artistic means to achieve effects that now can easily be had in movie theatres, Benjamin noted that every historical era "shows critical epochs in which a certain art form aspires to effects which could be fully obtained only with a changed technical standard" (237). Media act like Marx's suicidal bourgeoisie: they are their own grave-diggers because their success sets the stage for their own supersession. The same logic can at times be found in Kittler and Ernst. Just as the reading practices of Kittler's 'Discourse Network 1800' with its instant transformation of letters into images created a demand for cinematography, the way in which the vowel alphabet analyzes how sound waves are voiced, broken, checked, released and shaped when emanating from Siren lungs, anticipates the ways in which modern recording technology analyzes the ways in which sounds waves are stopped, broken and refracted when emanating from Siren islands. If Bradford's sudden vista of bygone temples (itself a product of filmic readings of ancient texts) serves to show the proximity between recursion and media-induced regression, we here have the exact opposite: recursions are also enabled by media-induced anticipations. Krajewski had it right: recursions involve prolepsis and analepsis, but in ways that go far beyond the techno-algorithmic.

Granted, only a few decades separate Benjamin's Dadaism and Kittler's cinematographic reading practices from the technologies that appear to fully implement them, but in the case of the Siren-to-siren shortcut we are leap-frogging across millenia. Here, however, we come across a recursion of Hegelian splendor and magnitude that is related to the re-functionalization of the Greek alphabet.. By way of a simple conversion of ordinal into cardinal, *alpha*, the first letter, also became the number 1, *beta*, the second letter, also became 2; *gamma* also became 3, and so on. The alphabet extended its signifying powers by recursively processing its own systemic properties. In time, the

letters were also used as tones, with the result that one and the sign system handled language, numbers and music. Kittler is less interested in the short-lived refunctionalization into tones, he prefers to focus on the more systematic refunctionalization into numbers, all the more so because the latter are used to indicate musical harmonies. In the Pythagorean tradition, however, the perfect harmony (expressed mathematically and musically) is that of the two sirens signing. The answer to Tiberius's question *quid Sirenes cantare sint solitae* , then, is not only to quote Homer but to insist that the message is the medium itself. In Kittler's terminology, the Siren song is the first discourse on discourse channel conditions in as far as the song performs its own notational and musical properties. But we should not completely bury the message under the medium, for according to Kittler the invitation expressed by the Sirens—"Come hither Odysseus"—is an invitation to have sex. Odysseus accepts the invitation as eagerly as he later denies having done so. In the senior Kittlersphere, however, sex is a recursion of gods in humans, for it amounts to a human repetition of the act first performed by the gods. Sex is mimesis—no further philosophical elaboration of the term is necessary. To fuse Homer and Freud, what we call sex is a recursion of the *Urszene* of the gods.

We have, then, recursions through time and analogies through time and space that annihilate whatever temporal or conceptual distance may come into play. At one point, before philosophy and politics intervened, the Greeks had a multi-functional sign system that processed language, music and mathematics; now we have it again in the shape of binary code. How we could we not be close to the Greeks? The fundamental property of the mathematical portion is the distinction between odd and even; our digital counterpart works with the one-zero binary. And in Kittler's heteronormative world this distinction reappears in the male/female opposition (further see Breger). To write is to sing is to calculate proportions and ratios is to practise mimesis of the gods is to pluck strings of a lyre is to fuck—and everything came together beautifully and recursively on a hot summer day in 1206 B.C.E. off and on the Li Galli islands. *Rekursionen über Rekursionen* indeed. Kittler's later theory is—literally, metaphorically, numerically—making love to the Greeks.

Ernle Branford, incidentally, never heard the Sirens again. A few years after the war, while tracking Odysseus's route down Italy's west coast towards Scylla and

Charybdis a.k.a. the Straits of Messina, he passed Li Galli without hearing anything. He did, however, furnish an explanation Kittler must have appreciated: He had his wife with him, and there is "no record of the Sirens ever having sung to a ship that had a woman on board (. . .) They do not want anything form their own sex." (133). Branford's Sirens, like Kittler's, are resolutely heterosexual.

Conclusion: Recursive Reasons

Before we descend deeper into Suetonius mode, let us return to the main question. Why recursions? What does the concept allow German media theorists (and Kittler in particular) to do? Which implies the question: What dilemmas may this concept resolve? At the risk of further over-simplification I will conclude with a couple of observations that (maybe not recursively, but hopefully logically) follow from each other:

     1. The most important sign Kittler ever deployed in his career is the slash between '1800' and '1900' in the title of *Discourse Networks*. It indicates breaks, caesuras, ruptures. In the footsteps of Foucault it signals the trademark affect against continuity so prominently on display in early German *Medienwissenschaften*, which was a necessary stratagem to preclude the grand narratives of *Bildung*, *Geist*, dialectics, reason or enlightenment inf(l)ecting the humanities.

     2. As has been discussed many times, Kittler further processed Foucault by critically refashioning epistemes as media-based discourse networks. On the one hand, the song remained the same. Both epistemic orders of speech and increasingly technologized networks for storing and distributing data can act as instances that determine how people think and speak; and they do it extremely well when they leave humans under the impression of autonomy. Humans do not gradudally learn to make history, history gradually makes humans believe they do.

     3. On the other hand, the 'grounding' of Foucault was liable to clash with the emphasis on discontinuity. Kittler was too conscientious a historian (in other words, he was too much a 19th-century creature) not to be aware of links and transformations of technology, practice and knowledge that indicated connections through time. Or, to

phrase the same dilemma problem from a different perspective: Kittler had grounded epistemic ruptures in medial changes, but what made the latter change?

4. One of Kittler's answers was war. As media technologies replaced each other in a game of war-driven one-upmanship, the medial apriori was collapsed into a martial apriori. There are several empirical and conceptual problems with this proposal (see Winthrop-Young 2011: 129-43), but one very basic difficulty is the fact that while war may function well as the motor of media evolution if you restrict yourself to the three modern centuries the younger Kittler specialized in, it is pretty useless across the three millenia the older Kittler had in mind.

5. This is where recursion comes in. It is the "only way" to write history because it is best equipped to structure Kittler's grand occidental narrative. First, as a step-by-step process that with each iteration calls itself, recursive history is very different from the grand narratives of continuous, organic, or dialectic growth that Kittler disdained. On the other hand, it does involve sequences and connections through time. Recursive historiography, then, obeys the Foucauldian injunction on assumed continuity while avoiding the dilemmas of exaggerated rupturism.[5] Second, it gestures toward a self-enclosed, almost autopoietic process that precludes attempts to depict history as the playground of a master subject. However, while the martial Kittler of the 1980s subjected history to a self-recursive strategic escalation of military technologies (that subsequently were abused for entertainment purpose), Tiberius's hardcore Arcadian porn productions have little to with war. It is a instead a form of cultural technique, a term that has come to replace media across of broad spectrum of German media and cultural studies because it goes beyond the strong artifactual bias that characterized Kittler's influential earlier work. To invoke Winkler's observation, Kittler's recursions function as expanded reproductions of cultural techniques. Third, recursive historiography allows for reappearances. More precisely, it provides a respectable framework for Kittler's attempts to find concrete examples of what Nietzsche called the eternal recurrence of the same: be it the attempt to

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5 Ofak and von Hilgers subtitle their recursion collection *Faltungen des Wissens* ("Folds of Knowledge"). It could just as well have been called "Folds of Time". Recursions fold time and thus enable direct contact between points and events (and S/sirens) that are separated when history time is stretched out on a continuous line. In both cases, incidentally, the obvious Deleuzian echoes work. The focus on recursion is another example of German *Medienwissenschaften* technologically grounding and re-specifying French poststructuralism.

dress up Jim Morrison and other rock stars as revenants of Pan and Dionysus or Tiberius's "recursive" indulgence in nymphs and satyrs.

6. But the fourth, final point is the most important. Consider, in conclusion, how close Kittler's epic song of love and numbers is to Krajewski's recursive servant story. For Krajewski, the decisive methodological component was a movement back to a predefined point of return followed by a movement forward into the present—with the understanding that both the point of reversal and the present change as a result of the approach. And that is precisely what Kittler was aiming at across the seven projected volumes of *Musik und Mathematik*: to return to a different Greece (not the one defined by Socrates, Plato, and Aristotle and the beginning of metaphysics), which, if it becomes our point of departure for a recursive trip back to the future, will result in a different present that unfolds and fulfills what is contained in the different beginning. As stated in the very beginning of the first volume, the stakes are high:

> We want tell you about music and mathematics: the most beautiful things after love, the most difficult after loyalty. We want to do it from the heart, because otherwise hearts remain sundered. (…) Either a new beginning succeeds, or that of Greece was in vain (2006: 12)

This is not—or not only—Kittler, it is Heidegger. Indeed, what separates the older Kittler from younger media theorists like Krajewski or Ernst is his allegiance to the older Heidegger. Kittler is bringing numbers to the Black Forest—the very numbers that Heidegger disdained because he did not understand the other, different beginning of numbers in Greece. Ultimately, the function of recursion is to update and retrofit Heidegger's recursive *Seinsgeschichte* or history of being (which is, as the older Kittler came to point out time and again, Foucault's history writ large). To understand recursions, to think in recursions, may be the only way to prepare ourselves for the recursive (re)approach of the gods in numbers, music and love.

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