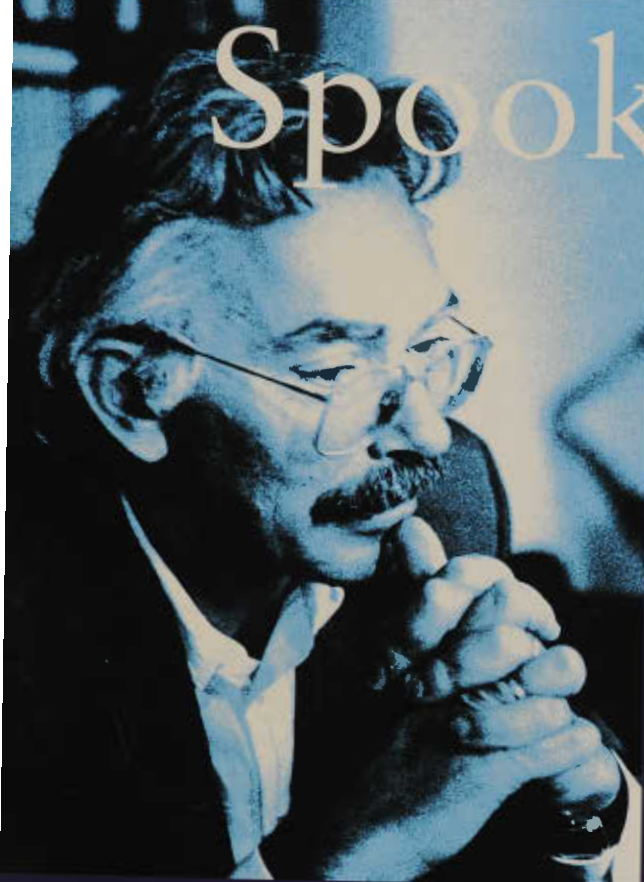


Spooky Electricity



Friedrich Kittler

Laurence Rickels talks with Friedrich Kittler

Ghosts are always at the other end of the line. The amplification of the human senses comes down to their amputation. These are the two or three things we have known about technology ever since Freud first took on the “prosthesis god,” the subject of technologization. Even while engaged in divergent modes of rereading (and denial), philosophers of technology have remained within this range of inquiry. Even Heidegger admits that psychoanalysis is the owner’s manual to technologization, but adds that that’s precisely why it can’t think the essence of technology. But those who take on “psychoanalysis” in this kind of context or contest neglect to take Freud’s second system into account (with group psychology at the front of the line).

The genealogy of media that Friedrich Kittler lets roll in such essential studies as *Discourse Networks* and *Grammophon, Film, Typewriter* works its synthesis of both the theoretical and symptomatic interventions in our technologization inside the war zones of modern history. This is the danger zone that the other philosophies of technology missed out on (again skipping the beat of group psychology); when the military complex is knocked out of the theorization of technology, the determining context, and thus the very continuity of its history, also goes.

Kittler’s attention to the missing detail of war brings the inside view of media technologization within range of the computer and into the real time of sheer acceleration. And this logic of escalation can be refastened onto the Freudian prosthetic model only when it comes time to mourn or not to mourn. The issue of acceleration of course lines up Paul Virilio and Kittler. The proviso re war’s backfire and the work of mourning characterizes what the deconstructive work of technology won’t let go. But by busting through the repression that makes context or continuity disappear, Kittler’s genealogy of media also gets the work done. Ever since the Mitscherlichs blew it with their thesis of the “inability to mourn,” the only way to go in Germany that is not sentimentally complicitous with the murder in mourning is Kittler’s noble mode of ghost busting—even and especially when it looks just like gadget love.

The following interview, which was held on September 16, 1992, in Bochum, opens onto a complete range of Kittler’s formidable theory practice: from a one-man show of depsychologized relations with the computer (or psychic apparatus) to digging the missing contexts of war and technology.

—LR

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Laurence Rickels: Myth has it that you have turned to the computer (into a computer) for the latest stage of your ongoing genealogy of media. So we'd like to know exactly what you're doing with your machine.

Friedrich Kittler: I'm afraid very little that's creative or that wasn't already there. I only started learning the math back by the sea in Santa Barbara when I last visited you in 1987. At least now I feel that I'm no longer some soldering-iron electronics hobbyist but rather someone who can find his way around the system. The only problem is that others find their way around or into the same system at age 19.

I have pursued and continue to pursue two directions. The first follows Claude E. Shannon's random generation of language, and is going well. One day I won't have to write any more articles but will be able to generate new Kittler texts statistically out of old Kittler texts, and no reader will ever notice. This is my one mean-spirited intention. The other direction concerns the analogical technical media.

LR: Cyberspace is the latest rage among theorists in the U.S. Does your computer work make that scene?

FK: I don't have the time to read the literature. On the way back from Santa Barbara I read William Gibson's *Neuromancer* and that was it. In comparison to Thomas Pynchon's language I found Mr. Gibson's English grotesquely reminiscent of *Penthouse* or *Playboy*, I mean as far as his style of writing goes.

LR: What about the phantasm at large and its support groups?

FK: That interested me somewhat more. I'm for purity, askesis, and all sorts of precautions. What is obscene in electronics I think is the fusion of silicon and brain matter so vigorously promoted by cyberspace people. I am adamantly in favor of the clean separation of the inorganic from the organic. My whole fascination has been dedicated to thinking this brilliant pebble, as the Pentagon so nicely put it—the silica material from which the whole thing is made; why mess that up with the already messy sauce inside our skulls? In *Neuromancer* you are still dealing with people who choose to be subjects and who choose to program their brains with biochips. I mean theoretically it is interesting, and, with some historical acceleration, one is still at the heart of the case of Daniel Paul Schreber,¹ who also attempted to observe himself neurologically.

LR: What interests me about theory now filling its reserve tank with cyberpunk is that it recycles a notion of essence from the hippie realm that is characterized by a total disavowal of psychoanalysis. And you too discern the Schreber case behind it all. It's the symptomatic inability to find one's way from the inside view of technologization (some call this perspective psychosis) to the theoretical or autoanalytic perspective that got you there. Psychoanalysis is after all the owner's manual to our technologization.

FK: Before I try to answer that difficult question . . . well, there is no answer to it; but before I give you my story in exchange, let me just make one remark on what looks like, from the almost endless distance of Europe (now that I haven't been back to

on top of itself. The owner's manual in the sense of psychoanalysis would be Freud's daring attempt to bring the software that we ourselves are into relation with hardware, and that applies to electronics too. This concept of yours implies the coupling of Freud's early *Project*, translated into the terms of a hardware logic of thinking—of the brain—with the software, that is, the "scripts" (as the stuff is so horribly called in artificial intelligence).

For me at the moment it's hard to talk about psychoanalysis, especially now that German psychoanalysis has, in its current phase of decay, identified so strongly with the last leftovers of left-wing thinking. There are different conditions in terms of scientific politics which apply to different coun-

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the States for a long while), a specifically American cyberspace and *Mondo 2000* problem. One is always reading that the American software industry is horrified by the lack of morals displayed by its European counterpart. In America there seems to be greater loyalty to industrial achievement; there's a morality that dictates that one should not hack or patch or copy. The result, it seems to me, is that one is that much more hopelessly surrendered to the industrially determined products while their foam packing turned to the outside sells as cyberspace ideology. I looked at a few issues of *Mondo 2000* in this light. So there's one guru or prophet who writes the programs, and everyone else is a consumer who doesn't intervene in the process in any serious way, especially not at the level of hardware, but just lets it run until it has built up a largely literary science fiction phantasm

tries. In Germany it would be unfortunate right now to say too much about the history of technology—to reckon it up in terms of individual experiences (and that means with respect to subjects) when it's a history that is completely unexcavated and unworked through. In Bochum at least, computer and language research can take place in (as Thomas Kamphusmann, one of my coworkers put it) a guaranteed semantics-free space, just as there are zones free of atomic weapons; we're somewhat proud of that. We need to stay with a relatively syntactical analysis, and this is the one clear direction in which Jacques Lacan directed us.

My admiration for someone who already was giving lectures on binary circuitry and psychoanalysis in 1953, and who bet decisively on what was then state-of-the-art technical and mathematical research, grows with each passing month. And

that's why I'm waiting with some suspense for the release of more of the late works and seminars after *Encore*. And here today I have the pleasure of speaking my hypothesis concerning Lacan and philology (at least German philology) right into the microphone. As we know, it was the translators into German (I don't know if there was the same ambiguity in English) who, just as they translate "*l'Imaginaire*" as "*das Imaginäre*," or "*le Symbolique*" as "*das Symbolische*," translated "*le Réel*" as "*das Reale*." OK. And then a few weeks ago I read a wonderful Mangoldt/Knopp volume, *Advanced Mathematics*, volume III. There's a brief section that gives a concise history of complex numbers, and I read there that René Descartes set

whether it exists or not.

LR: So the Lacanian system comes out of the real. A certain Lacanian approach, which never left the thematic opposition between the symbolic and the imaginary, always struck me as pre-Freudian. The real, I guess, had to be overlooked.

FK: The late Lacan made infinite recourse to the real and was always keeping the real in close proximity to mathematics, but the "official" reception or critique of Lacan always left out this dimension. Yet it is precisely under mediatic conditions that what cannot be processed, what is impossible, is brought into ever sharper focus, in the same way that digitalization and electronicization first made possible the question: can everything be pro-

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down for the first time something that Girolamo Cardano had already attempted with quadratic equations, namely, how to eliminate the roots of negative numbers. In this way Descartes arrived at the formulation "*les nombres réels*" and "*les nombres imaginaires*," and my eyes were opened to the source of Lacan's coupling of concepts. Where else could it have come from? So, in German it should no longer be called "*das Reale*" but from today on "*das Reelle*" which implies Lacan's entire mathematical mode of reading. And that means that psychoanalysis does to the imaginary exactly what Descartes (and his disciple Leonhard Euler) did to the imaginary number: one positivized it, one no longer inquired after its meaning, wondering

processed? It wouldn't surprise me at all if the symbolic could be relocated beyond the alphabetical to the numerical; then one could say that the symbolic covers all of the signifying batteries that can process what lies beyond letters or ciphers. And only now after fifty years of computer optimism do we recognize the at once hushed-up but fundamental thesis of Alan Turing and his kind: if I, Turing, can build a Turing machine which can compute, then this machine coincides with its object. That is to say, quite simply, that the object of this machine, that is, to use the old-fashioned term, nature itself, is a Turing machine. This is the Turing post-Alonzo Church hypothesis in its strongest, namely physical form. And just now, in

the last five years, the people around the corner from you at Livermore have put to themselves the tormenting question: is nature a Turing machine? In other words, is the real what Turing says it is or is it what Lacan says it is? And the physicists at Livermore are tending to side with the Lacanian view of the real as the impossible in relation to our machines and systems. If nature isn't a Turing machine, then the digital computer does not signal the end of all history.

LR: Like some new wave of the Frankfurt School's encounter with California, you started your work on technology (beginning with the typewriter) at Berkeley, and then at Stanford. But on this follow-up wave, a corrective washes up onto shore: your technology reception is radically other than the generic Frankfurt School take (that is, than much of its reception).

FK: I was in a position in Freiburg to be fortified against certain Frankfurt School influences by Heidegger's dark shadow. Heidegger always said that computer science today was the legitimate heir to philosophy, but that philosophy had to be replaced by thinking. The worst betrayal is still Jürgen Habermas' separation between communicative and instrumental reason. Every reflection on what writing is makes evident that every complex language, to the extent that it has to be a written language, can never be what it is without technology, that is, writing. What's the point to this distinction between technology and communication? It seems that gradually our concept of society is changing, and that the new concept of society that is emerging consists of people and programs, operating on the same level. In the future we must increasingly count on such human and mechanical cooperation.

LR: To what extent is your project still hardwired to deconstruction?

FK: Massively, I think, even if I don't make this debt explicit in every second sentence or with fifty thank you footnotes. Deconstruction, at least in the inner European reception, was responsible for keeping the question concerning technology alive on this side of the Rhine during the period of technology's eclipse. We've talked about Lacan already. Regarding Michel Foucault and the technologies of power, one can only say this one sentence: that it was a big theme, at least until AIDS brought him around to ethical questions. And I was very pleased that Jacques Derrida, during a recent visit to the university in Siegen, actually uttered the sentence (after some questioning): "If there had been no computer, deconstruction could never have happened." I wish he could work that statement, in all its clarity, into some text, so that the Derrida worshippers would learn that deconstruc-

tion is not a somnambulistic act (and this is the impression one has of his American reception).

LR: Derrida said something similar (though way less historical) about deconstruction and AIDS.

FK: That's right. Only when we have the concept of codes do the corresponding diseases appear. The hole in the ozone corresponds to our capacity to measure it. But to have said something about oneself is hopefully not the same thing as having said something not about oneself. The questions raised in deconstruction regarding the transfer of knowledge and technology sometimes lose sight of the context. I don't think it is simply the fault of the young American students who read Derrida completely out of context and launch him as miracle weapon against God and the world. Nor is it only Derrida's fault that he cannot always provide the context, since, after all, our contexts are always somewhat locally determined. But by "context" I mean that it is just as possible to make deconstruction specific to California, for example, and that is what is being done by serious people who don't just squeeze toothpaste out over texts.

LR: Coming to Bochum to interview you, one imagines one is coming to the place where you and your project intersect, and yet being here it seems that we're stuck in some first phase of technologization or industrialization—that we're not really at the site of your on-location research. If you were at the place where your research is at home, where would you be and where would I have had to come to interview you?

FK: What you say about Bochum is true: the first industrial revolution still shadows us here in the Ruhr district. The most recent stopover in my thinking of the current century's industrial, really technological, that is, media-technological revolution is right on schedule: I'll be going in 14 days to Peenemünde with "a bunch of heroes" to help celebrate the 50th anniversary of the first so-called space flight, which will be coming up on October 3rd (ironically on the same day as another famous date, that of German unification). I say "so-called" space flight because the military aspects of the V-2s, which were developed back then in Peenemünde and then launched against London and Antwerp, are hardly mentioned at official celebrations.

It is crucial that we compile a record of all the clues and facts. The Victorious Allied Powers, as they were called here after World War II, preserved a by-and-large unbroken historical and documentary relation to their own high-tech development even in the strictly military sphere. By contrast, in Germany (this is my impression), the record is very much a partial one. There was this desperate attempt in the second half of the war

(and this was the attempt closely associated with Albert Speer and Werner von Braun and the like) to give it to them again and escalate in a big way, no longer with gasoline and the traditional automobile war technologies but with high tech. The attempt gave rise to the remarkable notion of the miracle weapons (as Zarah Leander sang, "I know that once upon a time a miracle will happen"), and when this miracle did not come about, a grievous trauma came over the Germans in their relationship to high tech, which is something they generally prefer not to think about, but especially not in connection with military matters. That is why I think research is still needed.

Four weeks ago we got hold of a paper by an

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old Peenemünder from Huntsville, Alabama, which makes it very clear that Vannevar Bush and Turing already had analogue computers before World War II (with the exception of Turing and Konrad Zuse, there was no talk of digital computers yet), but that these analogue computers—Bush's at MIT, Turing's in Liverpool—were still mechanical implements. With their mechanical inertia, they could not perform the mathematical real time that was required. And that's why Dr. Helmut Hölzer of Peenemünde built the famous inertia integration system of the V-2s, which was the first analogue machine with a computing speed that matched the speed of the electrical current and of the then-available vacuum tubes (they seem to have implemented not only the basic types of computation but even the entire mathematical analysis down these tubes). But oddly enough this is something one only now finds out about fifty

years after it happened. So there's good reason to do the research. And what about all those who did not go to Huntsville but to Dubna, near Moscow? No one knows what they were up to, and what the transfer of technology in the eastern direction brought about.

LR: Did you organize the event you're attending or were you invited to speak at some official prefab celebration? I'd find that kind of surprising.

FK: The official part of the event has nothing (thank God) to do with our show. It was sponsored by the German society for air and space flight, in Oberpfaffenhofen—the immediate heir to the electrotechnical plant in Karlsraden, which is, in other words, Peenemünde after 1945 without its surname.

There's a poem by Constance Babington Smith, a friend of Winston Churchill's daughter who was on active duty in the British air reconnaissance unit, and was the first to discover the V-2s in photographs. (By the way, she was the daughter of the World War I British postmaster general.) She wrote this poem to her future husband in 1945, just as everything was already in full swing. And in this poem we read (and I still know the poem in English):

The roses bloom at Kreising
The Wismar Sea is green
At Oberpfaffenhofen
Wild orchids have been seen.

As a final act of literary scholarship, I would love to execute an interlinear reading of this poem and of each of these so-called places. For example, Oberpfaffenhofen would be the German society

for air and space flight; Kreising, I don't know yet; Wismar Sea is of course clear—it's the Baltic Sea. The poem is much longer and contains many more place names, strange villages where German technology withdrew from the threat of the Royal Air Force bombers and which Babington Smith (her book is called *Evidence in Camera*) brought back into focus from above.

LR: What exactly will you be discussing at this reunification of Moscow and Alabama on German soil?

FK: One of my research goals is, generally speaking, an economic fantasy: what are the connections between the Nazis, the war-economy miracle, and the German Democratic Republic (and the decline of the GDR). First off, the GDR inherited the greater part of the war-economy miracle because the British bomber squadrons focused their activity over western Germany. The big tar-

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gets in the east (Dresden, Leipzig, and so on) were struck relatively late in the war and did not, even then, experience the destruction that went down over the Ruhr district. And besides, Hitler, Speer, Hans Kammler, and the other rulers of the time had good reason to relocate industry to the east (to Auschwitz Birkenau, for example, not only as a concentration and extermination camp but also as the site of IG Farben's new plant), in an attempt to get out from under the shadow of the bombers. What interests me is that the infrastructure that was there back then simply decayed and was disavowed. Whoever makes a revolution, and he can be as communist as I am not, should be able to say, openly and honestly: this is where the enemy made for us miraculous and criminal state-of-the-art machine parts, and we're going to take them over—and make them over—so that the proletariat of all nations can unite over the ma-

chines of the fascists. Instead, this high-tech past was completely disavowed for fifty years, or, best scenario, renamed (the Göring factories were renamed after Walter Ulbricht, and so on). But that's not a very smart way to retake and remake power structures (as Nietzsche and Foucault showed us, each new power structure must deconstruct the former one). And this cowardice—this victim-of-fascism mentality—on the part of the GDR government leaders (who all came out of the prisons and concentration camps if they didn't spend the war in Moscow) probably induced panic in the face of these large structures, which were left to slide into decay. But now they're back in the hands of their former owners.

The most exciting stories we've been collecting from innocent bystanders who were really there in Peenemünde date back not to 1941 but to 1946. In 1947, all work on rockets was shut down

in Germany; but for two years the labs still operated. One witness was commissioned by the NKVD, the military secret service, to detonate the buzz bombs in '46 at his former workplace. One evening—this is the first good anecdote—he's going home through the forest and he passes burning piles of documents; he's curious, so he bends down for a closer look and sees his own Gestapo file, which was clean, going up with the rest. Second anecdote: a few days later, as other remainders of the V-1 buildings are being detonated, the same witness suddenly hears a sound that all Pynchon readers know by heart—"A screaming comes across the sky." He sees that the rocket itself, the A-4, is bellowing on the test site. On closer inspection, he sees that it is the V-2, the motor, that is being tested. Standing by in Soviet uniform there's an officer of the Red Army, and next to him, in civilian attire, SS officers; they're

all watching the machine in blessed harmony. I'd say this is the omen at the origin of the GDR.

This eyewitness from the Baltic Sea is now the senior partner in charge of a camera shop, which his son has set up for vacationers and the tanned members of the FDGB. It was so great to find out that even this camera store was materially based in Peenemünde, where our witness, now running the shop in his retirement, was formerly employed in the photo lab attached to the V-1 project. No one knew that the V-1, like the V-2, had a section for photo development. But he cleared up our surprise. His section was set up to help solve the problem of measuring the test launches; TV was still in its baby shoes and radar-transmitted telemetry probably did not afford brilliant results. So they had to rely on photography to determine exactly the shift or spin that would put an end to the rocket's flight. There were Askania movie cameras shooting the measuring instruments inside even the test rockets. When the rocket came down by parachute, the film was analyzed and the trembling of the meter could be observed over time. The special problem the photo units faced when the rocket was tested, that is, when it flew 280 or 300 kilometers max, was the speed with which it shot up across the eastern horizon and then disappeared. And that's why (this gentleman told us) intercom systems were developed—so that, when the rocket disappeared on the right side of the sky, photo unit A could quickly transmit the coordinates to the next observation team ten kilometers away, which could set the focus by coordinates for the left side of the picture frame, and as soon as they made the turn the rocket was already there. This relaylike passage of the machine provides a quite drastic example of the importance of phototelemetric measuring capacities, as long as the reduction of all other measurement- and media-technological procedures onto one computer had not yet taken place. There are rumors that a digital computer already stood on the request list of a German industrial concern. But unlike the analogue computer that was there, it never made it to Peenemünde. □

Translated from the German by Laurence Rickels.

1. Daniel Paul Schreber published the memoirs of his psychotic break, which came complete with the details of his delusional system. It was the inside view of our ongoing technologization. This is your life: Schreber inhabited a sensorium amplified and amputated through a vast media-technological apparatus. He was the citizen of a state of catastrophe preparedness he called "soul murder." Freud analyzed Schreber's book (Jung had to hand it to him). The result was Freud's reading of the psychotic break with reality as an extreme form of sublimation breakdown: the relation to the same-sex parent libidinalizes Big Time and then shuts down with the full force of a repression so total that the world itself is eclipsed, evacuated of one's every libidinal investment in the outside. Jacques Lacan gave his reading of Freud reading Schreber and came up with the proposal that psychosis arises with the foreclosure of "the name of the father." See Daniel Paul Schreber, *Memoirs of My Nervous Illness* (1903), edited and translated by Ida Macalpine and Richard A. Hunter, Cambridge: Harvard University Press, 1988 and Freud's "Psycho-analytic Notes on an Autobiographical Account of a Case of Paranoia (Dementia Paranoides) in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, edited and translated by James Strachey, vol. XII, New York: Norton, 1965.