

Interview with Friedrich Kittler and Mark Hansen

Nicholas Gane and Stephen Sale

THIS INTERVIEW with Friedrich Kittler and Mark Hansen was conducted at the University of Tokyo on 14 July 2007 – a day after Friedrich Kittler’s plenary address ‘Ontology of the Media’ and two days before Mark Hansen’s plenary paper ‘The Diachronic Thing’. The focus of the conversation is the absence of media in classical ontology. This, in turn, informs reflection on a range of contemporary issues, including: the connection of digital and analogue systems, the future of numbers in an age of high computation, and the cultural and linguistic specificity of ontological thought.

Nicholas Gane: There seems to be a renewed interest in thinking about ontology. For example, the title of your paper, Friedrich, is ‘Towards an Ontology of Media’. Why turn to the question of ontology now? And why speak of media ontology?

Mark Hansen: I think I can take a step towards answering this question. There is no room for media in classical ontology. The idea, then, is to question the beginning of thinking and ontology in the Greeks, and to argue that there is an alternative way, which we can flesh out by thinking about ontology – an ontology that would welcome or would be compatible with media.

Friedrich Kittler: I think this question about the ontology of media has been posed because some of the answers we have are too short-sighted. It was a fundamental decision to distinguish between nature and technology. This was done by Plato and especially Aristotle. But by quoting René Thom I try to show that some formations are ambiguous and adhere both to technology and to nature. It would be a good path to take to question this distinction.

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NG: What might be achieved by thinking about media ontology?

MH: Or, to put this question another way, Friedrich, what do you hope to achieve by putting into question the distinction between *techne* and nature from the perspective of media or media ontology?

FK: Silicon is nature! Silicon is nature calculating itself. If you leave out the part of engineers who write little structures on silicon you see one part of matter calculating the rest of matter.

MH: But silicon isn't necessarily media.

FK: Silicon is not necessarily media as we can take, for instance, quantum computing and this will change our way of thinking.

NG: What interested me in the talk you gave yesterday is the philosophical history you traced from Aristotle through Heidegger to Turing. Is that the end of this history? Is history over with Turing, or is there more to say?

FK: This is a most necessary question. Ten years ago it looked to be this way. But now with the possibility of quantum computing, Turing has turned out not to be the technical end of history – which Fukuyama confounded with the political end of history. I think the technical end of history is much more important and dramatic. When they could prove that any massive combination of many, many Turing machines did not result in anything better than the simple Turing machine, it was a depressing state and really the end of history on a conceptual basis. If you ever meet Andrew Hodges – Turing's biographer – from Oxford University, you may ask him this question as he sees it like this. But now, with this new paradigm of quantum computers, history has made another step. And, as I learned from Peter Weibel, this step is so dramatic for the simple reason that Einstein and all his intellectual fans would have liked to have hindered this day. They really tried to sabotage this step.

Stephen Sale: If technical history is still ongoing then what about the place of human sensorium in your thinking?

FK: Well, let us forget about the human sensorium!

SS: But if history hasn't ended with Turing is there any hope for some form of bodily redemption?

FK: Bodily redemption by quantum computing?! Bodily redemption is unique to the Christian religion. There are so many religions where redemption or metamorphosis is possible, but not where the body will be born again. This is really not my hope. But by shifting from discrete binary states in

classical silicon architecture to quantum computing we go from particles to waves, because quantum states are wave systems and this is much more flexible in response to what nature may be – for example in string theory.

MH: Is this an analogue system?

FK: It's almost analogue. At least, many wave states are simultaneously present and, if string theory is right, nature is not made up of atoms and particles but by almost Pythagorean waves in 11 or 9 dimensions.

MH: Do you think it is right?

FK: I hope it is right.

MH: But now string theorists are saying that this is not even testable, so this is not science in the way that we know science as a falsifiable premise.

FK: It is a mathematical construct of some beauty. For practical physics, I think solid state physics is much more important than the attempts to solve some quantum physics equation. But if I may make an historical comparison, it was a step for mankind and not for Armstrong when Thomas Young and others went from this project of the particle theory to the wave model of light. It was really helpful to see nature in its complexity – all these rays and patterns coming out of seemingly nowhere. I always like to fight Kant's *Critique of Judgement* because beauty is always something objectively or mathematically given and is not just a *consensus omnium*.

MH: Along those lines there are some people who think that, deep down, reality is digital – people like von Neumann, Shannon, Edward Fredkin – think that it's all about computation. But, on the other hand, it sounds like in the shift from particle to wave physics, you're at least acknowledging a kind of role for the analogue as a form of continuity at the basic level of nature or the cosmos. So would you be willing to weigh in on whether the universe is digital or analogue, or if not why is this not an important or meaningful question?

FK: Particles are digital simply, and waves are digital in a more complex way. A particle is a particle, and a composition of waves or harmonics of overtones, as with quantum computer parallelisms, is not digital but analogue, but the waves are countable because they are numerical multiples: 1, 2, 3 as in music. I think Shannon and von Neumann mistook whole numbers as a final mathematical tool to conceive the world in simple binary identities. The important thing is not to have the most simple code system – 0 and 1 – but the most important thing in science is to count. And counting can't be done in real numbers. Reality may be a system of real numbers but you can't talk about a system made of real numbers as you can only talk of

computable real numbers. It is precisely Turing's genius to prove this. If we reduce over-countable real numbers to computable real numbers we get a subset, we get a loss. We are not God any more with his *intellectus intuitivus originarius* and so on. But we can build computers by moderating our service to interesting numbers such as pi or e [Napier's constant] and we don't want, any more, to get this little thing in place in time in absolute real numbers.

MH: So countability has a technical artefactuality?

FK: Yes, and a feasibility. That's why I'm at such a deep level of the alphabet. The Chinese are the same, or the Egyptian hieroglyphs – they can grow and grow and grow. The alphabet for every script system is a closed number and, since Ugarit in 1300 it's 29 letters or 24 in the Greek or 26 in the Latin case, and they are whole numbers in the ordinary sense and in the cardinal sense. They have an unrootable order – they go on and on and on, and you can build ordinal and cardinal systems, and you can handle the chemistry of atoms in the same way, and you can make chemical categorizations just like an alphabet.

NG: So what does this mean for a theory of information? You mentioned Shannon previously. Is information purely mathematical or statistical, or would it have some kind of embodiment or material reality?

FK: It has material properties.

NG: And these can be represented in statistical terms? But that would be the Shannon line would it not? In his view, isn't information a probability function, and such a function can be explained in statistical terms?

FK: Don't drive me too deep into Shannon! He was such a nice and funny guy. He looked for order. He was not just a melancholic statistician, as was Ludwig Boltzmann who committed suicide. Shannon died from Alzheimer's – laughing and forgetting everything he invented.

MH: But the question of number is a different problem I think, and countability, to Shannon.

FK: It is not very different to Shannon. Shannon was the first man on Earth who tried to handle the analogue case as a limited operation out of a discrete one, and this mathematics was most interesting. He started from whole numbers and only went to the limits of real numbers and I think this was important and well done. We can't start with this Newtonian universe in which everything moves and is irrational.

NG: To re-phrase my question, can you see information as a probability function, which for me, is what Shannon does?

MH: The likelihood or unlikelihood of something coming next?

FK: The most unlikely is the most informational in Shannon's view.

NG: So, the more noise, the more information?

FK: Yes, this gives a privilege to white noise, and that can't be the answer, as everyone knows, without knowing the answer.

MH: I'd be interested to hear you say more about numbers. You've got the real number series and then you've got the inadequacy of this series as our units for counting. There is the idea of calculus or theories of continuity in mathematics, and the idea that there is no basic unit of number as it is always divisible and so on. So it's a question of technical artefactuality to me. But how does a computational system cut up a numerical continuum? I guess one question is: do you think that computational systems will radically change what number means in the future for us?

FK: My hope is that every time we make a new discovery in applied physical mathematics we make this discovery by coming back to Pythagoras and by discovering in some seemingly real number system a certain whole number system. Max Planck did this for classical light physics, optical physics: there was a whole number in the midst of an over-accountable real number system and this changed physics, I think, much more than Einstein did.

MH: Why, because it allows for the inscription of physical reality at a finer scale?

FK: At an almost alphabetical scale.

MH: But yet you wouldn't want to say that those whole numbers are the basic units of reality?

FK: No, I wouldn't say that, but that there is a Pythagorean origin of Western thought, and so far we don't disagree with the Chinese concept of being.

NG: One thing that intrigued me in your talk is that you said there is no Japanese conception of ontology. Why is that?

FK: We can only talk of ontology in Indo-European languages where *was ist* or *ti einai* exist as fundamental expressions. Heidegger's question to his Japanese friend Count Kuki about the linguistic fundamentals of their thought has to be posed again and again. You probably don't know Johannes

Lohmann, who was my linguistic teacher and a close friend to Heidegger. He knew classical Chinese, Sanskrit, Arabic and Hebrew, and he tried to make up a universal semantics.

MH: That's an ambitious project.

FK: Yes, and one doomed to failure! But his later studies entitled *Music and Logos* [1970] on Greek mathematics and music are brilliant. It's a collection of late essays. And in deference to Heidegger, Lohmann, in interpreting Lao-Tse and other Chinese thinkers, made it plain that we Indo-Europeans paid a price for having the notion of being. It's just one of several linguistic options.

MH: It's true with time also. In Chinese there is no word for time as a thing in the way that we have a word for time as a substance. It's one of the problems that we have as Western people.

FK: I didn't know that. But even in Greek there is no word for time or space, there are just words for moment and for *topoi* – places.

MH: It sounded from the argument of your paper that you see the digital as the return to the Greek inscription system. Is this the second coming of this system?

FK: That is probably a little too optimistic.

MH: But it makes the Greek inscription system interesting as a way of thinking about what is going on today?

NG: What interests me here is that, in trying to think about today you have gone back to antiquity – you've gone back to the Greeks, as did Heidegger and Foucault.

FK: This seems to be the common destiny of Heidegger, Foucault, Nietzsche and myself.

MH: To carry on this question, one maybe sanguine way to understand the aim of your paper is to suggest that thinking about media ontology is a way of rejuvenating philosophy. Rather than saying philosophy has reached its end, like Heidegger, the idea would be to rejuvenate philosophy by taking account of its dependence on media and technicity.

FK: Yes, rejuvenate philosophy by taking account of its contingent history: a contingent but nevertheless recurrent history of philosophy not dominated but heavily influenced by media. But, on the other hand, there are also such contrasts as the differentiation between *physis* and *techné* which make

possible technical media, for you have to have a concept of *techne* in order to invent *eidos*, its form.

Reference

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Friedrich Kittler is a media theorist and is a seminal figure in the development of media theory. He is the Chair of Aesthetics and Media History at the Humboldt University in Berlin and teaches at University of California, Berkeley, the University of California, Santa Barbara and Stanford University, Yale University and Columbia University as a visiting professor. His publications include *Discourse Networks 1800/1900*, *Gramophone Film Typewriter* and *Literature, Media, Information Systems*.

Mark Hansen is Professor of English and Cinema/Media Studies at the University of Chicago. He is author of *Embodying Technesis: Technology Beyond Writing* (University of Michigan Press, 2000), *New Philosophy for New Media* (MIT, 2004) and *Bodies in Code* (Routledge, 2006), as well as numerous essays on cultural theory, contemporary literature and media. He has co-edited (with Taylor Carman) *The Cambridge Companion to Merleau-Ponty* and is currently co-editing two volumes: *Critical Terms for Media Studies* (with W.J.T. Mitchell) and *Neocybernetic Emergence* (with Bruce Clarke).

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