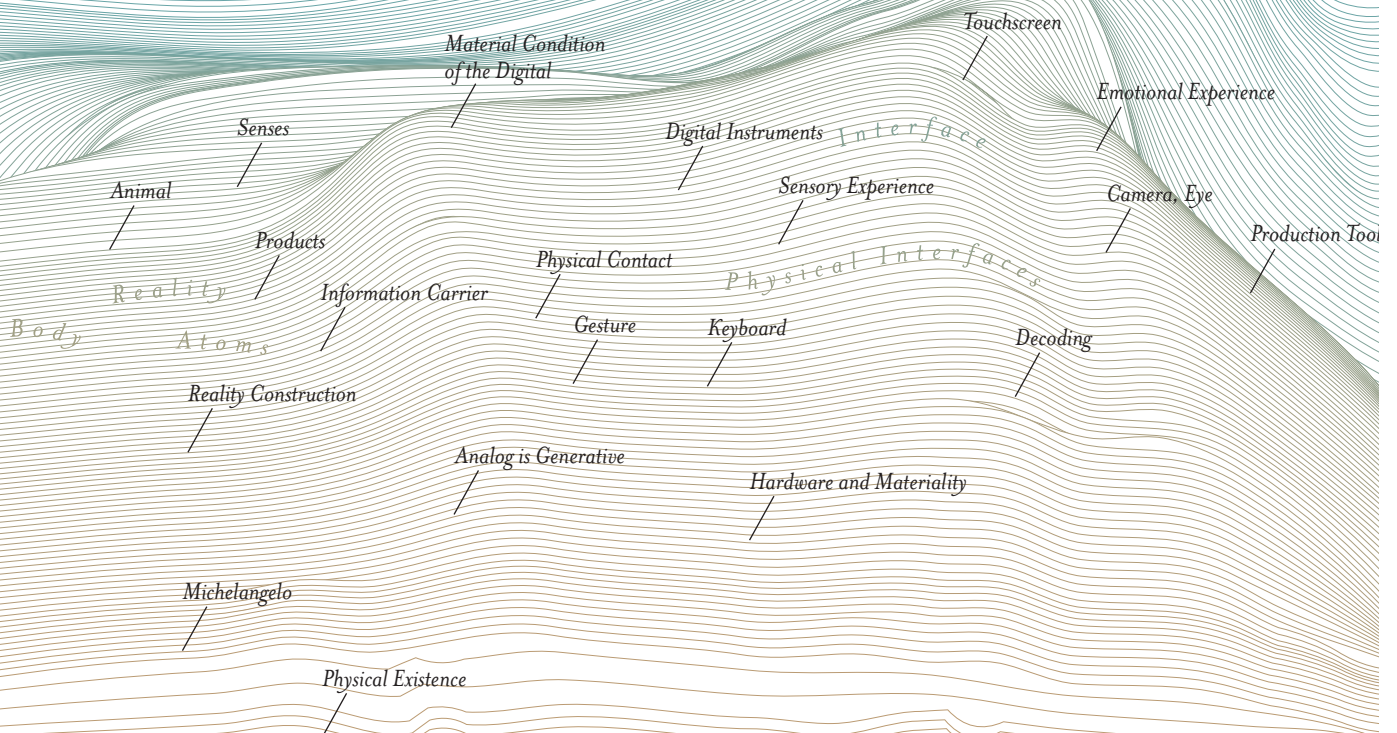
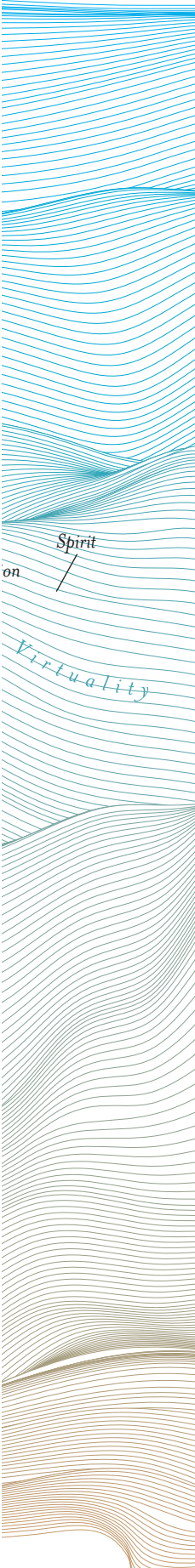


DANIEL BERWANGER / DE DIGITAL MATERIALITY OR THE MURDER OF THE SAUSAGE





» Transgressing the prohibition against images costs processing time — not only for God's subjects, but also for the Real.«¹

Friedrich Kittler

» Let's begin with the disappearance of the real. We have talked enough about the murder of reality in the age of the media, virtual reality, and networks, without enquiring to any great degree when the real began to exist.«²

Jean Baudrillard

On the morning of 4 October 2011, a leaf fell onto my head and got caught in my hair. This singular though unspectacular event carries many of the traits I would have, up until this incident, attributed solely to the storage of memory. I took the leaf home with me so as to use it from that point on as one such data-storage device.

Because its physical existence is intended to ensure the memory of where I was on the morning of 4 October 2011, the leaf is more useful to me than pure information on a hard drive. Because of this fact, it is possible for the leaf to make my Being concrete. This brief incident with the leaf divides my life into a before and an after. The fourth of October, however, because of its yearly repetition, exists in a temporal structure similar to the biological cycle of the tree from which the leaf fell. Through its conservation and the interruption of this cycle, the leaf has been inscribed within me. I can access its information at any moment and run it through an

interpretive program. Despite the fact that my memory of this moment becomes more compressed with every passing day, I fix the condition of its being-inscribed-within-me through my repeated decoding. In the ritualized retrieval of the leaf's code, it is transformed into both a symbol and an **information carrier**. Next to its physically conserved state it is also an image and a text. It has become readable for me.

As such, the leaf helps me unfold a chain of thoughts. Alongside its status as data storage, I thus attribute a sense of agency to it. What is more, I do not need to switch it on or continually refresh it in real time. It just ›is‹. The reality construction it performs is, therefore, not only superior to my hard drive, but also faster than my internal memory. It disperses its information and begins to branch out into my life. When Friedrich Nietzsche is quoted in Norbert Bolz's *Theorie der Neuen Medien* (›Theory of New Media‹) as saying ››Our writing tools are working on our thoughts‹‹,³ he refers to the interactive status we share with our production tools. The resistance of stone requires a large amount of material empathy. We first have to learn how to handle a chisel and hammer. The stone prescribes its ›stoniness‹ and we respond by stripping away layers of material. Anyone familiar with the alphabet can locate the A on a keyboard. In the blink of an eye we can publish this A globally. Herein lies its free and democratic potential. The keyboard and the operational character of the computer do not allow for the sort of resistance and sensory experience found with the stone. Herein lies its deficiency. In contrast to the leaf then, the A of the keyboard does not exist; instead, the pressure exerted on the A key is merely interpreted with a previously determined code and is then verified by operating

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1 Kittler, Friedrich: ›Fiktion und Simulation‹, in: ed. Ars Electronica, *Philosophien der neuen Technologien* (Berlin: Merve, 1989)

2 Baudrillard, Jean, ›Warum ist nicht alles schon verschwunden?‹ *Lettre International*, vol. 77 (2007)

3 Bolz, Norbert: *Theorie der neuen Medien* (Munich: Raben-Verlag, 1990)

instructions. The keyboard does not interact with us on a physical level. The character of the computer thus tends toward incorporeality. Because of the absence of material resistance and this lack of physical interaction, our bodies are superfluous to the processing of its content. It draws a division between mind and matter; hardware and software.

Now that the spirit of the digital is beginning to unfold, we seek the material counterpart to code through a recourse to the physical. In Michelangelo's painting on the ceiling of the Sistine Chapel, the Old Testament God calls humankind to life through the use of his index finger. No magical, sign-based formula will do: instead, his plan requires physical contact. Man and God still meet here on a material plane. For this, God relies on his knowledge of handicraft. Though he does not use a hammer or chisel on Mount Sinai to inscribe the two stone tablets, his fingers leave a trace. His writing gesture parallels the finger motion evoked by the touch screen. With the development of the touchscreen, the mechanical gesture, from hammer and chisel all the way to the keyboard and mouse, is in a godlike way transformed into a motion very similar to a caress. While we were required to act upon our old devices through applications of pressure that were explicitly associated with feelings of pain and injury — punching lead onto paper, for example — we now stroke our machines and feel their condition. Running counter to my general suspicion regarding the division between spirit and body and its »I think, therefore I am«, there is now an intensified attempt to convert computer culture into an **emotional experience** — »I feel, therefore I am« — as the new worldview.

As part of this aspired sensibility, digital technologies are used to connect our senses with code: eye — **camera**, ear — microphone, skin — touch. Smell and taste have not yet managed to cross over into the sensory turmoil of simulated interactions we have with our little operational friends on a daily basis. One would assume, then, that taste and smell remain the last guarantees of unadulterated sensual pleasure. 200 grams

of sausage do not first have to be interpreted by a program the way that 200 kilobytes do. But here, too, a distinction must be made. Around the same time as computer simulation, a similar technology entered into our reality: artificial flavors in yoghurt that seem more real to us than strawberries. We have already swallowed the mechanisms of ubiquitous simulation.

Like the turn toward artificial nourishment, the historical entanglement of technization is most closely linked to our use of animals, which seems to be growing superfluous. The ox and plow in agriculture, the feather quill for writing in the Enlightenment, wool to keep warm, and Kauri shells as currency have given way to an economic system of sign-based value production. The keyboard is no longer made of ivory. The mouse becomes the interface and the carrier pigeon becomes the Internet. The horse has become useless; with one click, I am already elsewhere. Navigation, therefore, takes place in the network and no longer in the sky.

Through updates within this range of animal products we remove ourselves almost entirely from a given and trusted circuit. The bone button becomes the control button on an electronic device and subsequently becomes a glass touchscreen. We are no longer dependent on the animal (within us). We have rid ourselves of the working animal. During the meat shortage after the First World War, Konrad Adenauer registered the first soy-sausage patent. The replacement products on offer for vegetarians today no longer indicate a lack. Instead, they bear witness to a relieved condition of materials: ›natural‹ products are an incitement for a new array of calculated material. Therein lies our creation: recalculation. Alongside possible states of being and nothingness, the use of high-tech operations leads to a new blossoming within material appearance. The

creation of something new is less important than the emulation of something already at hand, without, however, taking the resistance of its material into account. Water-repellent material recalculates the leaves of aquatic plants, the touchscreen attempts to recalculate our pressure-sensitive skin. The sausage refers to a form and no longer to a specific content. Soy imitates the operationalized pig. In the genetically modified pig, we find our new artificial intelligence in flesh and blood. It has finally released the humanoid robot from this burden.

The transfer of one material condition into another constitutes the concrete poetry of the analog as well as the dangers and hopes of the natural sciences. The analog is freely generative. The poetry of the digital, by contrast, must be constructed; generativity and dynamic content must be forced through the program. One must determine the conditions, accept the quantizations, and choose the principles of cause and effect to be applied. This breaks the bonds of dependency between the analog and real life, allowing for the abstraction of both its material and symbolic status. Therein lies the analog's particular freedom. The digital makes it possible for us to test the compatibilities of the real — in the same way that the flight simulator is able to invent exceptional scenarios: after the test has been passed, we allow the model to return to and intervene in the real. The digital, however, remains barred from material life, since it knows no altered state into which it can escape. While energy is set free when a physical image support is destroyed, this is not the case when a file is deleted. Perhaps this is one of the reasons why the semiotic dimension of a burnt book seems to us more radical than a burnt-through screen.

The measurement of the world, then, is no longer just analogous to the prototype kilo, the prototype meter, the big bang.... Generated reality is measured with the help of digital instruments, whose units are yet without reference, since they can (and must) be constantly amended and repeatedly up-

dated. The kilobyte does not need to have a prototypical, original state in order to have weight. The flood of information is speculatively traded, without a stable, agreed-upon model. Once a standard has been formulated it is already superseded, like digital fast food. A society incessantly updating itself in real time runs the danger of overwriting its own history. It is necessary that our digital legacy attains a sharper focus than has been in effect so far. The domain it will fall into and who will lay claim to it through force still remain to be seen. The question is still open as to whether in the future our history will topple with the touch of a button. Without set standards, digital history, like the sausage, points to a date-of-expiration: only it cannot be smelled. In this way, computers are similar to canned foods. The nose is still best able to recognize what is no longer edible.

In our everyday perception we accept 0°C as a given point of reference. Yet, like many societal conventions that make up our reality, it is freely selected. Despite this, we trust in the convention because the freezing point of water creates a physically understandable framework. The material qualities of water molecules in their changed physical form can be haptically experienced. We need to come up with strategies to generate and tend to a **material condition of the digital**, alongside the symbolic condition. Otherwise we might get caught in unreadable states of information and an incomprehensible digital world due to a lack of sensory and semiotic **empathy**. Designing this recalculation between simulated data streams and physical reality on the basis of a human system of reference is a task and a challenge that has been passed down to us. Vacillating between mind and matter, the digital can support the analog through its aggregate states, yet cannot replace it. The golden calf was short-lived, the tablets of stone have been lost, but the book has established itself for centuries. After a system failure, then, there is luckily no danger that everything will disappear.

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