Pre-Specifics
Considering the design of mediality

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Between substrate and mediality—a twofold design space

We are so accustomed to information, that it already feels a bit strange when claiming that information is not. Information has no weight, no extension, no body, it is neither matter nor physical energy. And yet, it has impacts. We are experiencing its efficacy everyday. The informational make-up of things manifests itself on their surfaces, in the very act of surfacing, while encrusting within the orders of habits, conventions, and regulations. This is an ambivalent situation, and as such it is constitutive for the design space we start to experience today. On the one hand this encrusting closes potential becomings off, makes things concrete, specifies them into an object so that we can handle it; on the other hand, the very act of specification also allows for the becoming medial of the things specified. Media allow us to relate between different regimes of signification, explicated in the codes of things, all kinds of things, codes which are today organized mainly by the analytical insights that went along with the modernist revolution of science.
The modernist revolution had opened up an operational space of experimentation. The mathematics of differential functions had introduced an analytical method for the description of that which changes, moves, or develops over time, a method so powerful that it has overall given rise for a new grammar of thought very different from the previous kind of an analysis based on the geometrical method; we are used to referring to the modern grammar of thought as the functionalist revolution. Within the reign of geometrical method, the crucial question that preoccupied thought had been: *what is the natural way for something to be or develop and how can we support it?* Large parts of the story of modernism can be thought of as a reduction or conflation of the four-folded Aristotelian causality conception to one single aspect alone. For Aristotle, the kind of efficacy he assumed for all things *being* was an orchestration among the *causa materialis* as the consistency of a thing’s materiality, its make-up, the *causa formalis* as the concept, e.g. the genus or kind to which something belongs, the *causa finalis* as the orientation, the telos of something, and the *causa efficiens* as the motivation or the very physical source for the initial change or stasis of a thing. Every description of things observed needed to account for all of these aspects in a way that was conforming to the metaphysical dogmas. Science and philosophy was largely preoccupied with this kind of sorting out. Without exaggeration we can say that before the functionalist revolution, not ornaments were a crime, for example, but illegitimate innovation was. The mere thought that things could also be different from conforming to the dogmas was inevitably an expression of criminal energy. And the dogmas all related in one way or another to the assumption of natural causes that were not to be questioned.

Prometheus is, because of intervening into the natural order by unlocking the transformation-power of fire to humans, the allegorical god of modernism. This transformation power is key for understanding the modernist reconception of the older, Aristotelian substances as matter in a modern sense. Looked at from a structural perspective, this reconception is rooted in the development of a formal notion of space that is usually associated with René Descartes, a notion of space abstracted from the extensional bodies it contains which were, ever since Aristotle, thought to be an integrative part of a space of substantial fullness. The modernist

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1 Aristoteles, Metaphysik, Berlin 1960, p.103.
assumption that all substances share as a common denominator of a substrate and its individuation into fully specific substances, but a kind of materiality which can itself be analyzed and specified independently of any mandatory preconception of the substantial bodies and their metaphysical order, is not a move that could possibly have been meaningful before the modern turn of science towards experimentation. The Aristotelian worldview knew the concept of substrates to be analyzed, yet the analysis orientated on fitting them within an overall order, within his architectonics. It is characteristic for science after the Renaissance to begin attending on empirically experimenting with the effects of the things by putting them in formally manageable, operable constellations for testing rather than trying to identify the arché-principles themselves.

What has changed with the analytical method is that the cultural decorum of remaining faithful to all aspects of the natural causes, based on the Aristotelian four-folded conception, gave way to the possibility of experimenting with operable effects instead, by bracketing off the problematics of the causes from the relational equations. The analytical method allowed to abstract from a primary focus on the assumed causes, and to experiment by putting assumed effects in relation, and then trying to solve the equation by gradually determining the variables by analytical approximation. Effectively this meant, that in order to trust the description of an observation—perhaps not as true, but as productive—it was usually enough to see whether the differential equations within which the variables are put into experimental constellation, end up as functioning properly.

This claim of innovation has been regarded as being unproblematic as long as it was orientated towards proper functioning. It is this claim that our emerging awareness of a mediality dimension of things challenges so profoundly. Where there was orientation by functionality, today there is design for a purpose, for one instantiation or another, within one context or another, orientated towards one aim or another. Media offer us today widely accessible explications of the analytical insights of times past in an externalized and objectified form for manipulation, technologically available in the format of information. Indeed, nothing has given more impulse towards these developments than the proclaimed mathematical formalization of ‘information,’ or rather, the invention of a mathematically restricted Sprachspiel on ‘influences and transmission,’ and the subsequent
digitization of technology with its fundamental capacity to relate virtually anything as information.

The challenge today is not anymore that of characterizing aptly an epistemic space, as it was for modernism, but that of developing abilities in orientating ourselves within an expanding diaepistemic space.² Digital information transforming machines, computers, change our relation to knowledge, its application or execution even. The operation of the explicated knowledge requires, as an operation, not necessarily any specific expertise anymore; but at the same time, there are infinite settings to apply them to. The challenge posed by today’s media reality feeds from and grows out of the immense densification and permeability of fields of affection and influence opened up by the possibility for experimental interplay, not within the materiality investigated by testing towards a natural order, strictly speaking, but between the regimes of signification organizing these insights and their explications in code. People have even in their everyday lives steadily been learning, all throughout the 20th century, to think projectively instead of substantialist. In the popularization phase of the analytical revolution, thinking is guided not by asking what-is? But rather under-what-conditions-could-we-assume-to-be? What we now need to learn is how to deal with the complex and virtually infinite design space that has opened up on the substrate of analytical insights. Their explications have not only become something to design with, but also as something to be itself designed, synthetically.

This twofold design space, on the level of substrates and on the level of their mediality, means that the specific informational make-up of the matters designed/designable is itself an irreducible differential; within this design space no nature can be assumed to account for the inevitability and moral mannerness of one solution as opposed to another, neither can a radical empiricism hold to be deriving any necessities, nor can a notion of truth give orientation if truth means uncompromisability.

Raising the problematics of designing mediality suggests that pretty soon, within a few decades perhaps, our entering the popularization phase of the modernist

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analytic revolution might appear to us as a de-naturalization process well comparable to the de-naturalization process which took place in ancient Greece before the beginnings of substantialist thought, the de-naturalization of the oral speech. The change in conceiving spoken utterances as something that can be trained, analyzed, and sophisticated by writing as we speak, in the phonetic alphabet, brought forth the sophists and their expertise in artistically fabricating and constructing statements-to-an-end, together with the early philosophers, who tried to delineate boundaries, notions of systems, and methods of deduction in order to escape the lurking arbitrariness in taking influence by speech. Similarly perhaps, the change in conceiving of materiality in its mediality, by articulating its analytic make-up in the mathematical format of information, has, arguably, already brought forth digital simulation and modeling experts, marketing and branding experts, and so on. Different philosophers of science have pointed to such a rise of a new sophism today\(^3\). Considering the possibility to design mediality, design understood as a capacity, an ability, means to learn dealing in a new way with the ancient threat of the infinite, the infinitesimal, an infinitude. We can literally experience today how the Aristotelian substrate is being differentiated into many substrates, all involved into processes of stratification themselves.

### Haunted by the specters of common sense

Considering materiality and the analytical insights into its functioning with regard to their mediality, as something we can design, indeed asks for an ability to orientate our thinking in an infinitesimal thickness of time and space. In the diverse networks that are steadily overgrowing our territorial logistical infrastructures we are for quite a while already experiencing this thickness and its ungraspable depth as a strange kind of contemporality and heterospatiality. Within these networks, not only material things acquire a detached appearance, deterritorialized from any concrete situation, but also matters of concern do. And these appearances furthermore acquire a certain autonomy, they are behaving somewhat

\(^3\) most prominently perhaps: Isabelle Stengers, *The Invention of Modern Science*, University of Minnesota Press, Minneapolis 2000, pp. 135.
autonomously among populations and the referentialities they negotiate for these appearances.

In earlier times people have called such appearances ‘specters.’ Most often, specters were interpreted as figures of the past appearing and haunting the present, keeping the people in the present from finding any rest in their present time. Not entirely unlike to then, we are also in our contemporary media reality experiencing a phantasmagorical depth-in-time and depth-in-space, an illusory yet nevertheless felt efficacy of appearances that figure abstractly across all the diverse screens.

The specters of today, if conceived as media appearances, are not haunting us from a specific past or from a specific and distant place we ought to not let go. The unspecific depth from which media appearances talk to us is up for us to assign specificity to. Unlike in former times, where spectral appearances were haunting the common sense of individuals, the appearances of today are visiting whole populations or communities. They are visiting rather than haunting us because they distribute the promise to be personally initiated into a common-sense-to-come. This is how mobs and flocks are being evoked in media networks like the internet as a web, a phenomenon whose agility is so very different from the heavy and coarse dynamics of the crowds gathered by mass media, their often arena-based spectacles, and the becoming-together in a revolutionary movement.

It is so different because media appearances today address us by invitation much more than by imposition. By distributing information they promise us capsules with the seeds of that immensely and powerfully euphoric feeling we know from experiencing moments of genuine insight into something that still needs to be specified. Yet beyond the pleasure of experiencing that promise, the actual assignation of a specificity-to-be-realized is a difficult thing, once the speedy agility-in-potential, as differentiated and acrobatic as it may be, is trying to actually perform. The multitude can thereby, if its dispersed yet gathered individuals take the media appearances as what they are—namely appearances of mediality, not specters with a specific message, feel initiated to something specific, to being guided by a common sense to rely on, or by a General Intellect even⁴. Rather than

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materializing into a mass of particles under the dictatorship of a unifying spirit, it will individuate into groupings of a different kind. The multitude will then individuate by unsteady coagulations, well capable of performing, yet in a distributed and infinitesimal way according to the negotiated and shared specifications of the common-sense-to-come. Patterns and stabilities will emerge proportional to the degree by which the unsteady coagulations start to actually populate and domesticate the strata of their evocative performing.

Neo-materialism?

As much as the modern twist to think in terms of ‘matter’ instead of ‘substances’ meant an emancipation from Scholastic dogmatism, holding on to the reference frame of materiality when considering the peculiar efficacy of mediality today threatens to lock us back into the pretty dark ages of a culture of suspicion and control. Even the skeptics among us will have no doubt that the illusory appearances today might not somehow be real, even if they may emerge on the basis of shared beliefs. But if we are today at all guessing about their possible origins or legitimation for concerning us or not, we do it by looking for strategies of manipulation, or conspiracies perhaps, by trying to decode dramaturgies within the narratives of their appearing.

The more the mood of a cultural climate becomes skeptical, the more the presence and power of media appearances begins to feel as if we were haunted by ghostly figurations of a repressed common sense. In pre-electronic times, that concept of a common sense, shared and distributed equally among everyone, was believed to support and keep us safe in our own privately dangerous and daring flights of thought, with which anyone is familiar who enjoys thinking. Yet if today we reduce mediality and its phenomena into a neo-materiality, assuming that we can de-code flows and fields, phases and transformations as immediate registrations instead, by operative mechanisms that organize themselves, independent from how we symbolize them, then the euphoric empowerment of mediality will lead into a culture where putting up an offer for negotiation will as an offer for negotiation be received as crudely presumptuous. Ignoring the primacy of symbolization to the codes which allow for the technological registration of processes cancels out that
the information any registration manifests, is neither ‘natural’ nor ‘naturally referential’—and this accounts especially also to the features delineating the problem space of genetic algorithms, for example.

For neo-materialists neglecting both, the outspoken naturalization as well as the assumption of an immediate natural symbolism, common sense today becomes the only stabilizing referentiality left with some sort of legitimacy. It is the only basis for presenting a solution as the most reasonable and in that sense necessary one. In a considerable contrast to that, within the realm of information, technologically operable or not, reference is stabilized within the symbolized codes and their organizing regimes of signification accepted by populations. It stabilizes within the probabilistic horizons of many different and possible uses, goals, values and outcomes. The language game of causality on the other hand, in its modern materialist guise conflated to the evidence of functioning, is not probabilistic but positive. Information and causality are language games that are not compatible⁵; any materialist position neglects this.

As tiring as the epistemological preoccupation with language and the problematics of referentiality in 20th century philosophy may appear today, proclaiming the irrelevance of dealing with the problematic of symbolization vis-à-vis the power and scope of symbolical machines and their logistical and media networks means that negotiation and trade might soon be an affront or crime even to traditions just like innovation and experimentation was in the medieval ages.

Because it presupposes interests.

Yet while getting informed is based on interest, the causality as conceived by any materialism, neo or not, is based on the quasi-religious belief in not-fully-accountable necessities based on common sense.

It is quite interesting to note that as such, in its probabilistic referentiality, information could not even have been a concept of any value within the materialist language game of causality in pre-Information-Technology times. For as long as

⁵ Klaus Wassermann, „Associativity and other Wurban Things – The Web and the Urban as Merging Cultural Qualities.“ 1st international workshop on the urban internet of things, held in conjunction with: internet of things conference 2010 in Tokyo, Japan, November 29 - December 1, 2010.
causes are assumed to be transcendent, the fluctuations and instability people are experiencing when experimenting are nothing problematic. There is no need to start conceiving them as something to refer to in itself; this would indeed be missing altogether the point of experimentation, which is based on testing against a stable order by systematical approximation.

The process of de-naturalization we are experiencing in the emerging computer-aided sophistry today concerns the de-naturalization of a concept of nature as the assumed stable order to be testing against by the systematical approximation of experimental sciences. While the experimental systems themselves⁶, which are constraining the experimental culture of modern mindsets, has been largely recognized in their medality throughout the 20th century, the same de-naturalization on the side of the referential order has not.

Media as media

As long as the ancient rhetoricians were believed to speak ‘naturally,’ by the people listening to them, the entire fields of political, juridical, and commercial arenas was theirs to exploit. Somewhat similar, at the core regarding the currently perceivable disconcertment on media and their reality-rendering effects today may well lie the rather recent extension beyond any bounds of commercializing the kind of influence media competency allows for as design.

We tend to speak of media and their effects, wherever our impressions, our insights or our attention drawn to something feels to be influenced in a more or less diffuse way; where our thought feels vulnerable to affections and impacts from forces outside of what we feel to be explicitly dealing with, strictly speaking. How to tame thought—the age-old question is how to remain safe, stable, and comfortable in our minds, despite the uncontrollable streaming and flashing of thoughts. Their taking possession of us by imposing urgencies to view one thing as another, to do one thing or another, helping or preventing us from integrating more or less well into the social fabric we all depend on and live in. Thus what is at stake by media

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and their reality-rendering capacities more broadly is a problem as ancient as moments of leisure and flights of thought are. To regard media as media touches on a problematics intimately interwoven with the philosophical dimension of human dignity.

Even in ancient worldviews, early precursors of our contemporary media can well be identified. Not entirely unlike TV shows, newspapers, or internet communities in our days, rituals, ceremonies, stories, or traditions at large have also been capable of organizing something like a cultural memory and a shared awareness, of delivering messages in the stories traded over generations, and in the holy texts, insinuations from the muses, daimonions, or angels have even been capable of allowing for a kind of meta-exchange, -communication, -involvement, and -coordination. Many of the capacities of our secularized media today have in the past been ascribed to the people with access to that beyond of what is here and now, to that outside where the happenings of daily life, the cuts and caesurae of our finite existence we learn dealing with as we grow old, are thought to be contained within a larger continuity. Shamans, priests, or monks have always acted as commuters and border crossers.

Today, the former functions of mediality seem to have become, if not altogether unnecessary assumptions then in any case secularized. Yet what does that mean? Isn’t the ground vector of democratizing and secularizing knowledge, to not follow patterns of initiation anymore, but being provided with standardized access, open sources, and competitive negotiation, allowing for collaborations far more powerful than any centrally orchestrated form could ever be? And haven’t the old functions of media been encapsulated today in controllable electronic circuits? Aren’t they now thought to operate—and not to mean anymore? We deal with media, so it feels at least, in an operative manner—we are handling formal symbols. We can operate them without needing to believe or identify with them. We seem to be able to pool the powers of medialization at will; yet without the specific abilities in operating them, we are left doing that in a more or less arbitrary way. Without an adequate reflection on the scope the technologically mediated diaepistemtics is opening up for us, we might transform into shamans and ghost herders before we know it. In an early phase of information technology, George Boole indeed hoped that his
algebraic logic would prove to be a comparable step like Euclid’s systematization of geometry; he thought it could register directly the mechanics of our thought.

The question related to this challenge of an operation-*ability* is, really, how we could start considering the design not only of objects, but of their mediality. Trying to distinguish an essence of design by turning to the functions it incorporates cannot apply to the design of the informational make-up of things; an aesthetization of the former function paradigm, on the other hand, cuts off the very possibility of discourse, and instead provokes the specters of a common-sense-past to widen their regimes. Undeniably, there is an energy and efficacy proper to mediality. Yet it is not that which we have learnt to integrate into our rational reasoning in terms of causality. When dealing with information, the probabilistic horizon of symbolical powers pooled together performatively equally feeds from and brings forth mediality. Medial surfaces are not neutral dimensionless wrappings, animating in alien ways our former ‘objects’ to behave. Medialized, the supra-liminal surfaces of the former objects become extensional, thick and tangible themselves, not to our physical embodied senses but to our capacity of dealing with symbols in imagination, of dealing with symbolical relations-in-potential.

I would like to suggest that we start characterizing this deterritorialized depth-in-time from which the media appearances visit us today as the surfacing milieu of streaming symbols, of non-territorial symbols, a milieu which we can nevertheless learn to domesticate and cultivate as a milieu of streaming symbols. Viewing design as the capacity to capture and encapsulate the strange kind of energetics of the symbolic, not by conservation alias tradition, not by assuming the articulations behind the articles to be “a signature of the world” as fragmentary marks of a non-accessible symbolic order, but by considering the articles as capturing symbolical *consistency-in-potential*, by integrating from the streaming, non-territorial and non-subjective articulations of things symbolized in the past, as a kind of rhizomatic bulbs and tubers that owe their prosperity, their stability and permanence primarily and most of all to negotiation, trade, valuation, selection. People specify them by assigning value and meaning to them; those specifications and assignations which are successful in stabilizing themselves in the ongoing

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negotiation within and among populations will bring about the referentiality as well as the valuation for articles specified.

This is, after all, what symbols have always done; already with the early friendship plates—the symbolons—shared between families to objectify their mutual hospitality in a way that could be passed on and traded over generations, they have always allowed for rendering present what is absent in ways stabilizing enough for a group of individuals, for communities or populations to refer to, build on and plan from. Yet different from former times, our analysis of symbols today can abstract from the examination of a particular form-fit relation and its approximating manifestation traced throughout the past, by seeing whether the two half’s of the plate really do match—both literally and allegorically spoken. Whether as an externalization of an interiority into a tradable object-symbol, or as later on, with the gradual replacement of the object-symbols by drawings and images, formal and notational symbols, symbols have always bridged a kind of referential gap. They incorporate specifiable relationalities, allowing for many different specific bridges over that gap to be established, depending on the overall texture they happen to be interwoven within specific situations.

Considering media as media, with all their mediagenic dynamics, the dynamics that each medialization tends to bring about further medialization, asks for an apt attitude to engage with that gap today. Is it simply vanishing because the traffic across the symbolic bridges has increased so much and grown so dense? Without any doubt, we are experiencing that these bridges have become a lot more stable compared to earlier times. The bridges one person may know and trust in, for getting where she wants to get, do not depend that much anymore on a few other people also knowing it and sharing its valuation; granted—there are many bridges today, everywhere, and most of them are common knowledge, at least in basic terms, so that we can indeed safely test and experiment with ways we can’t be sure of, beforehand. The probability is rather high that we will find useful symbolizations that bridge the gap where we need it, while proceeding. So many people have, after all, been traveling already in their thoughts. But does that mean that the cultural sedimentations of symbolical mediations in the past have grown so thick and stable that we need neither be afraid nor fascinated by the “existential”
gap? Is such a purely quantitative argument enough to estimate what is going on? Can we finally close it, for good?

Many people might think so. And the breathtakingly and still ongoing technologization of our urban, natural, even of our climatic surrounds might in fact turn out to be pretty successful in these terms. And yet, also many people would hold that precisely from the learning to cope with situations of exposures, and encounters with manifestations of what is literally unthinkable, unbearable perhaps, has driven the histories of civilizations like nothing else, and primarily so. So perhaps we could also, and on the longer term most probably with a much higher stabilizing performance even, start regarding the existential gap itself as something that can be cultivated, in such a way that capsules of relation-abilities, encapsulated symbolical potential storages can be grown and harvested like rhizomatic tubers and bulbs.

In the remaining of this article I would like to explore this perspective. With the beginnings of settlement, people have started to cultivate the berries and the rootings they had been tracing and tracking wildly ever before. Of course they had tools and techniques for that too; but not before settlement did they started to grow their nourishment purposefully, to domesticate animals and to build houses and more complex communal structures. In a similar way we could today, as the articulations of symbols are running wild and buzzing through the meanwhile many renderings of our formerly reliable architectonic and stable structures, start to consider the domestication of these symbols themselves. We could learn to domesticate them by learning how to crop their capsules, how to grow their offspring, by cultivating articles in learning about the analysis and the design of mediality.

Cultivating the referential gap

The analysis and the design of mediality promises to allow us learning more about the peculiar agility and efficacy of appearances and make-ups of things, as models of what they might once be conceived as, within the populations for which they are going to be meaningful, to the communities into which they will be integrated. Such an analysis involves the comparatistic modeling of things not yet actually, not
yet fully, specified—if specification means assigned referentiality within the
regimes of signification from which the cultural codes organizing populations are
derived. As such, the analysis of mediality creates its own grounds of referentiality,
pragmatically speaking, in proportion to the efforts and precision mobilized in each
case. Jean-François Lyotard has famously perceived such a not-fully-controllable
dynamics within the symbolic as the “demonical energy of marketing and
commerce”⁹. Yet for him, the symbolic was an order; what if we conceived of
mediality as a proper dimension, pulled in between the very constraints of our
desires and the commercialization of them, as a dimension to be analyzed,
reflected, and designed? So what if we conceived such a not-fully-controllable
dynamics within the symbolic as a streaming milieu of deterritorialized symbol-
capsules, power bulbs for relations to-be-established-in-potential, seeds that can
be grown, cropped and cultivated? It is as if the Aristotelian substrate was being
differentiated today, into all kinds of strata and their interplay.⁹ This pre-specificity
of mediality as an extensionless and non-territorial dimension of a depth-in-time
offers the possibilities for stratifications and relative groundings where neither
foundations nor order can be referred to in an absolute way.

To debate and parameterize the variability in trade-values may just not be abstract
enough to engage with the challenges of design, so-called ‘inmaterial labor,’ the
medialization of insights gained and of architectonic structures themselves, in a
productive way; perhaps it is time to consider the conservation of symbolic values
not only in the form of traditions and their institutionalizations, but in a pre-
representational way altogether.

Lyotards analogy to the conservation of energy in order to reflect on the
conservation of symbolic power indeed seems a rather plausible approach,
especially as the socio-political dimension of labor comes into play. Both of these
language games, that or energy as well as that of symbols, involve a kind of efficacy
from which they both abstract, in order to allow for differentiated valuation. What
seems to be at stake thereby can perhaps best be illustrated by the old conflict that
has accompanied the emergence of the concept of energy itself.

⁹ Jean-François Lyotard, ”Energeteufel Kapitalismus”, in: Jean-François Lyotard, Intensitäten, Merve 1982.
The symbolization of energy

Historically speaking, it is interesting that the energy concept is the product of a time that considered scarcity, the fundamental axiom of formal economics, to be the law governing the social order as much as the law of gravity governs the Newtonian universe. This could not be without impact on thinking about principles of conservation on the scale of force or energy; two cultural narratives have indeed framed the integration of the energy concept and its principle of conservation from early on: *are forces, in their capacity to transform, to be conceived as a gift of nature, or rather as nature’s currency?*

Energy became a cornerstone for science not before 1840s, when the law of conservation of the ‘force’ as energy was simultaneously formulated by at least three scientists: Julius Robert von Mayer, James Prescott Joule, and Hermann von Helmholtz. According to the conservation principle of energy, a single fundamental principle ruled chemistry and physics: “*The quantity of their entities is invariable, only their quality is variable.*”¹⁰ This early formulation of Mayer still resonates in the first Law of Thermodynamics, expressing that energy can be transformed, i.e. changed from one form to another, but cannot be created or destroyed.

I do not wish to push this analogy between the energy concept and the beginnings of a formal economic theory too far; yet the plausibility to relate value to the unchangeable, the quantitative part of energy, not to its qualification, appears nevertheless striking and as an idea interesting enough to start pursuing further. Isn’t the kind of energetics at play in medialization and its symbolic efficacy so problematic because it cannot be deduced from any kind of nature? Because it is a product of our imagination, because it is genuinely symbolic? Because its substance is qualification and its proliferation by differentiation is infinite, in principle?

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A time and a space of the city

What is at stake with the idea of domesticating this realm of streaming symbols by learning how to analyze and design mediality, how to cultivate surfaces by shaping articles from the articulations of symbolizations past, so that we can harvest their produces, is the possibility to finally symbolize a time and space of the city.

This is an idea, undoubtedly, which must feel quite impossible and even unthinkable at first. But perhaps it feels no less absurd than it would most probably have felt to the Greeks and Romans some 2000 years ago, had they heard, preposterously, about the introduction of the symbol zero in early Renaissance mathematics. The idea to formally symbolize ‘nothing,’ and to even do calculations with it, must have felt completely unconceivable to them. As long as numbers were conceived as quantities, it was not possible to express ‘nothing’ and all the more not written as a number. The zero has opened up a whole new dimension for thought and action. Suddenly it was possible to do calculations not only with reference to the measurement of space in timeless geometry, but also with regard to the unfolding of time. The symbol 0 allowed to assume several ‘beginnings’ within one and the same scope of calculation; it became possible to calculate self-referentially, like in the case of rates and interests for example.

But despite the proliferating and non-ending wave of urbanization triggered by commerce and exchange since then, we still feel that time and space are given to us by the natural rhythms, which are, just by definition, other than those of urban life. The space and time measures we apply are derived, ultimately, from the course of the stars, or the rhythms of the climate. We deduce them from an order which has allowed us to cultivate our material resources, the produces of agriculture, the materials needed for running urban infrastructures in general. In short, we deduce them from where we find the energy on which the cities live. We may well have formalized these rhythms into calendars and clocks, and we may well measure them with the precision gained from oscillations of the cesium atom. Still they are, so we feel, rooted in an order where we have no impact.

Or are they?
Until very recently it seemed unquestionable: Nature gives us energy. The following and somewhat fantastic, but in no way unimaginable line of thought, dares to consider the possibility of re-symbolizing that truism.

**Always on**

No matter which philosophical context we look at it in, there’s one particular aspect about nature that is common to them all: nature is where we take our energy from, where we find our resources. And yet, there is only one actual source of energy. And that is the sun.11

Looked at purely from an energy perspective, ‘nature’ is a multi-layered system of conversion and storage processes for the sun’s energy stream, in which the earth happens to orbit. Plants, for example, absorb the sun’s energy and transform it into material, such as starch or wood. As long as the tree is standing in the forest, the sun’s energy is stored in the tree, which grows a little every year. If we then come along and chop down the tree, the sun’s energy is still in it, and even if we store the wood from the tree in a stack outside our cottage, it will remain there for quite a while. And if we don’t come along and don’t chop down the tree, it will eventually die, fall to the ground, decompose and slowly, slowly, over the millennia, eventually turn into coal or oil. And still the sun’s energy is stored there, only now it sits in the ground, where it can stay for a very long time. Even gas is but a by-product of the same process.

All organic forms on earth, whether they are animate or inanimate, whether they are archaeal (micro-organisms), botanical or animal, are encompassed within this system, in which energy that ultimately stems from the sun is captured and stored, accessed and used and thus re-integrated into earth’s life cycles. We talk about ecosystems because these transformations, which are of course related to and dependent on each other, make up the whole of earth’s constantly evolving ecological spheres and niches.

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11 with the exception of geothermal energy, emanating from the inside of the earth, and of course uranium, which is ultimate cause for resource of geothermal energy.
The cultural techniques with which we humans have learnt to ‘cultivate’ nature, and which we have used to access ever more of the natural energy stores ever more efficiently, have tended to rely on the exploitation of various ‘compartments’ (such as individual resources like wood, peat, oil or coal) within this ecological system that we call nature. Now, however, for the first time in our history, contemporary technology makes it possible for us to bypass nature in that sense and instead of drawing on these energy stores access the solar energy stream directly.

While the capturing of the sun’s shadows by drawing has given us the means of geometry and mechanics, and therefore a way to tame the wilderness of our thinking by deductive reasoning, the capturing of the sun’s rays by photovoltaic registration might open up a whole new game. All of a sudden nature, in the abstract conception as that where we get our energy from, bears a potentiality that exceeds by far the possibility spaces we are used to thinking in with our geometrically trained reasoning and imagination.

What if energy—still coherent with the thermodynamic conservation law—cannot be produced, strictly speaking, but can be harvested directly from the sun as an extra quantity of energy, embodied as genuinely non-natural, within the things we realize, using that kind of energy?

While the conservation principle of energy will in principle still hold: “The quantity of their entities is invariable, only their quality is variable,” it cannot be considered anymore a single and fundamental principle ruling chemistry and physics naturally; rather, they are just about to be reigned symbolically. The sun stream brings each day about 10’000 times as much potential energy to earth as all of humanity is currently using. We may not have to change the first law of thermodynamics, as even here, the light is merely being transformed into electricity; but in any case it is energy additional to that encapsulated within what we have so far learnt to call and analyze as nature, and what we have learnt to transform and exploit for our uses in the past.

Whatever this change will once have come to be understood in its meanings for civilizations on earth, we can already see that it indeed marks a step probably as significant like the de-naturalization of speech that has preceded the emergence of western philosophy and science at large.
Design as an urban agriculture

Why might it not be imaginable to develop something like an urban energy culture, by learning to domesticate the symbols that have allowed our civilizations to evolve as ever more fantastic ways to make use of the resources that nature provides, and which have meanwhile grown scarce indeed, and instead begin to learn cultivating the symbols, by cropping the codes within which we capture their articulations, differentiate and integrate them in ever new ways, in the medialization of everything?

The perspective for design I would like to suggest is that design be viewed as a form of urban agriculture. It cultivates the affluence or scarcity of articles by creating mediating surfaces. These surfaces are like acres, the quality and fertility of their symbolical soil varies from milieu to milieu, from climate to climate, and also between different agricultural techniques and procedures. By learning to cultivate the patterns of symbolical effects within populations of people, design invents a whole agriculture to produce its fruits from within a symbolic energetics. It creates capsules of symbolic power. It captures the symbolical forces, enwraps, binds and integrates them by cropping their informational make-up in code. Design is farming by valuation. Its code structures are superficial, not meant to accommodate us. Rather it creates a cropping system for cities. It breeds capsules by valuation for other people to make use of, on the grounds that architectonic structures have been articulated symbolically. Computer Aided Design, its parametrics and generative algorithms, are tools for urban cropping.

Within such a perspective, design does not, at least not primarily, construct and assemble elements by following strictly encoded procedures, natural algorithms if you like. Design domesticates symbolic articulations in a game, where rule-following comprises rule-inventing and rule-breeding. Of course domestication also involves rule-following, yet the rules need to be deduced from a fantastically projected outcome one strives to achieve, not from an assumed natural order whatsoever. The Latin word *articulatio* means “a separation into joints.” Design learns to cultivate the space of potentials that is opening up from learning how to bend architectonic joints as articles. Design is not architecture, it does not accommodate us within methodical manifestations. There is no necessity involved
in design. And yet, there is no less precision. Design behaves playfully within the social codes of habits, norms, morals, of times past. Yet for the designer, these codes have no messages, they are not interesting as specified content or form. For them, symbolic articulations are merely patterns that might or might not turn out to stabilize themselves within a dynamics of substrates and medialization, by population. Design harvests the patterns of symbolic articulations, and it tries to render them into supply systems for appliances of any kind.

From such a perspective, speech, language, writing and coding are not driven by forces of interiority, of a subject, a truth, an adequate representation. Articulations sound and appear for our ability to decode the informational make-up of our surrounds. They sprout out of a field of forces of symbolizations past, and prosper if we care for them. Our traditions have decomposed into sedimentation; the richness of this sedimentation is that of former life-forms, stored in the symbols that used to organize them.

The challenge is ours today to consider the design of mediality, to learn how to cultivate and further differentiate this richness. Designing mediality, as an urban form of agriculture, is not about the arrangement of rules, symbols or even forms. Not primarily, that is. Design is about learning to cultivate the possibility for a potential to actualize. This potential, however, is that of the Sophists rather than that of Aristotle. The energy-circuit will be an open one in the future. The problematics shifts from seeking possible explanations for the conservation of energy to that of how energy can be captured, encapsulated, grown and sustained, from within the realm of streaming symbols. Design will be an issue of valuation, and of creating shared interests. Not the natural storages of energy are our existential resources and frame of referentiality in the 21st century, but the richness of symbolizations and cultural differentiations of times past are.

On the autonomy of symbols

Considering the design of mediality means considering the agility of things in their symbolical autonomy as well as in their operable objectivity. If we are to learn domesticating and cultivating things in their symbolical autonomy, I would like to condensate a few early statements from the perspective presented in this text.
We’d better not direct our efforts towards urging Prometheus, the allegorical beholder of all powers of combustion, to be cautious. Electricity is not his thing, and neither is Information Technology. It’s ours.

No safe-guarding of meaning. Symbolical capsules take care of that organically. Object-Oriented Ontologies require semantically ordered databases, as any information technician is well aware of. Applying them to philosophy would be a technocratic and totalitarian move.

No sanctification of historical dialectics by praising an objective spirit as the referent of all our phenomena. Ritualized dances and administrative care for details leads to a tyranny of particles and particular articles. It functionalizes and exhausts the imagination.

Design involves ethics. Ethics is constitutive for individuals. Our populations are populations of individuals, not packs of particles. No atomization of ethical decisions into collaborative responsibility to be administered by functionaries, which features as the necessary materialist accomplice of any devotion to Zeitgeist.