There is a tomato called flavr savr. It is a tomato of a special kind – that is, it is the kind of this tomato that cannot really be named. Flavr savr was the first trans–genetic “alien object” that was introduced and accepted within food markets in 1994. Through the integration of a specific flounder fish gene into the DNA of that kind of tomato, its genetic self has been altered, helping the flavr savr not to rot so fast. This tomato – does it still belong to the category of vegetables? Of tomatoes? There is something of a fish in it, spoken literally. Today, the categories of kinship and biological kingdoms do not seem to fit anymore. We grow hybrids and alien entities beyond all boundaries of what we have for a long time been trying to establish as the natural order of things.

The project «intelligent skin» that I would like to present at this occasion is concerned with cross–boundary processes among aliens. The aliens I am speaking of are some kind of house–beings. At the University of Art and Design Basle, we have developed media façades. In our case, these are not advertising screens or public space art galleries, but architectural skins of a specific intelligence, that grow into and out of communicative milieus. I am speaking of communication here because the façade will have a proper sensuality (sensors of any sort), a memory and the capacity to model, select, combine and express. To think of communicative milieus implies a major shift in perspective, not only concerning facades, or House–Beings, but also concerning communication: We do in fact assume that communication takes place, literally.

A prepositional logic of the circumstantial.
Let me first sketch a few commonalities between our notion of house–beings and that of architectural bodies. With their concept of building hypotheses in order to test them, Arakawa & Gins seem to depart from the idea that explorations into the realm of logics
tell us something about the world we live in. My main argument then would be, that if the houses of Arakawa & Gins are built hypotheses, I would describe our interest with «intelligent skin» as an interest in building prepositions.

Our focusing on pre-positions instead of pro-positions, in a logical sense, has to do with certain precautions concerning the implications of hypothetical reasoning. For a long time, the French philosopher of science, Michel Serres, has been stressing – with regard to reasoning – the relevance of the circum-stancial, of the in–between, of trans–lation and trans–positioning. Whatever thesis we may pose, inductively or deductively, the taken stance will always be encircled by para–positions, by specific interests, expectations, familiarities or metaphorical neighborhoods. A position without a neighborhood, a thinking without conditions, is not possible. Traditionally, logics have focused on the core positions of theses, and on the moment of proving and testing them – from Aristotle’s writings up to tentatively less rigid logics including fuzziness. What has been largely ignored is the moment of how certain theses are being found at all, the abductive part of reasoning.

It was the logician and semiotician Charles Sanders Peirce who has tried to integrate the abductive moment into a systematical logics. He has in consequence of this been speaking of a topo–logical system, a spatial logics. One may conclude from Peirce’s writings that his logics involves self–referentiality, systematic openness, and a metaphorical practice of abstraction and instantiation. This has serious consequences for the notion of truth. Traditionally, the general role of logics is to act as a framework for referencing which we use to distinguish true statements from false statements.

If self–referentiality is at work within the logical framework, if the referential system is an open one itself, and if the practice of abstraction is metaphorical and impure by nature – then absolute and universal knowledge ceases to be a meaningful dimension.

**When sense starts to matter.**

Accepting the necessity of a systematic openness of a logics means to acknowledge that every system of order depends itself on specific rules, axioms, or structural classes on respective metalevels. Unfortunately, such a logical system still remains to be developed. To speak with Michel Serres, this would mean to come up with a calculus of logics, providing global rules and local instantiations. The term global thereby does not mean the same as the term universal, since the notion of the global is essentially tied to the unfolding and ever–changing happenings of the evolving world. Logical abstraction as the practice of positioning theses, and instantiation as the practice of testing them, then

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suddenly appear as a metaphorical engine, a non-trivial machine in the Deleuzian sense, that generates the world as it unfolds: the genealogical lineages of sets, classes and types mutate into semi-ordered series, as Gilles Deleuze has developed in his book „la logique du sense“.

A series differs from sets, classes or types. In contrast to a class, a series remains open to outside forces of divergence and deviation, which alter its contours and the sorts of things to which a specific series can be linked. The components of series can thus not be referred to as particulars of specific, more general types and kinds of universals. Components of series might more appropriately be conceived as singularities that have entered lines heading towards an outside, towards an openness. Lines of flight, as Deleuze has named them. The finality of lines of flight is uncertain – while fleeing, we never know where we will end up, finally. The emphasis for what logics is all about, comes to lie on the construction of consistency for every moment, with regard to an open future, rather than on the most possible efficiency in detecting the true order of things retrospectively.

If reasoning focuses on establishing and maintaining consistency, then the practice of making sense (i.e. creating sense) means that sense really starts to matter.

The according perspective to the meaning of meaning becomes also quite a different one. It is not us as subjects, taking an always external stance, what creates sense in the world. Just in the opposite direction, sense, being in the process of mattering, could be perceived as comprehending and addressing us, as it is addressing any other thing. Consequentially, we, among all other things, would actually be sites of transformation for sense that matters.

In the terminology of Gilles Deleuze we could also be speaking about a play of non-representational differences, of pre-representational intensities and singularities that come to articulate themselves in the formation of the world.

**Media, milieus and para-sites.**

Sense that matters makes us view ourselves as sites of transformation – as media, in a certain sense, and, accordingly there is a related relationship significantly changed by it, the relation between materiality and information. The media philosopher Vilém Flusser has expressed this in his typical style: 

"Experiences made with electronic memory devices enforce us, against all traditional ideologies, to recognize the acquirement, the saving, the processing and the passing on
of information as a process, which is in fact based on artifacts (mnemonic devices, e.g. computer hardware or human organisms), but these artifacts, however, are in a sense being passed through (a fact which is indeed addressed by the very notion of the medium). Practical experience enforces us to recognize all these artifacts (including our own bodies) as media of and for the information process.” (Vilém Flusser, Gedächtnisse p. 51)

What Flusser proposes here is that it is not us needing media to pass on individually cognized information. Quite in contrast, it is an information process that articulates and expresses itself through matter as media (us being, like all other things, media ourselves).

What I wish to stress on for now is the complexifying gesture of the practice of mediating information. Mediacy – as the name says literally – involves some sort of middle. Mediating could also be described as a process of middling – and this is where the problem starts: is this middle best referred to as a point? Or is it a middle field? An in-between zone?

This middle not only contains what is being mediated, but it also keeps things apart, prevents them from mixing. At the same time it establishes the necessary preconditions for relations of any sort (commonalities, similarities, singularities et cetera). This in-between zone is volatile, implicative, and of infinitesimal dimensionality: we cannot possibly find a stance bare of mediality, our relation to the world cannot ever be immediate. Michel Serres has pointed to the impossibility of immediacy and the implicit character of media as milieus:

“Remarkably, the French language defines this word milieu as a point or an almost absent thread, as a plane or a variety with no thickness or dimension, and yet, all of a sudden, as the totality of the volume where we live: our environment.” (The Troubadour of Knowledge, p. 43)

Following Serres, the character of the milieu is pre–specific. Milieus are places vibrantly dense by rhythms and patterns. Places that have not yet gained an overall coherence, and sites that have not yet assembled into some meta-entity incorporating all the convening series of information a milieu consists of. «Intelligent Skin» explores the potential of media- façades as generative milieus in this sense: The façade functions as a communicative milieu mediating and expressing the circumstantial of an architectural site.

The communicative aspect of our media façades are not driven by testing propositions and contradictions, they are concerned with the pre–representational process of becoming–significant. The logics of our media- façades communicate through the symbiotic com–plexing of nuances pre–ceding what may come to be pro–positioned.
«Intelligent skins» are planes of potentially localizable and unforeseen consistencies among the differential denseness of milieus.

Our media-façades are not meant to represent architectural sites, their communicativeness consists in continually opening up para-sites, through letting the circumstances of an actual site articulate themselves.

Let us turn here to a beautiful example given by Lynn Margulis in her book “What is life”: lichens.

Lichens are a nice example for organismic capabilities to produce consistencies within uncommon contexts.

Like the flavr savr tomatoe, lichens are trans-species – yet not like flavr savr in a genetically modified sense. They are composite, symbiotic organisms made up from members of three different biological kingdoms – fungi, algae and archaebacteriae. Within lichens, their components do not look anything like their ancestors anymore, and they develop in incredible diversity and beauty, in heavy dependence of their surrounds and at places where hardly anything else is able to grow, and they grow very, very slowly. Novel alliances created through symbiotic complexes like in the case of lichens do not take place in terms of simple, predictable additions. They form according to transversal, complex and communal processes – and through that: communicative processes. The composite interplay so comes to organize itself into ever new patterns and rhythms. But why speak of lichens as unitary organisms, then, if they are a symbiotic composite of different species?

An organism in terms of complexity theory has innovative capacities for and due to self-organization and self-regulation. These innovative capacities consist in the production of novel consistencies – throughout the respective evolutionary process. Our idea with «intelligent skin» is to provide houses with media-façades as planes to establish novel consistencies of their very milieus. It is in this sense that houses may be seen as organisming entities, in other words, or to use our label, organisming houses may be seen as Oikoborgs.

The term Oiko(b)org stands for oiko-biotic-organism, deriving from the Greek term oikos, house, in combination with the suffix –org for organism. The middle part, the mediating component, the media, space or ether (whatever you prefer) allowing house and organism to merge, is postulated by the letter b–, initial to bios, standing for “life”. An Oikoborg comes to take its shape through nourishing itself from the side effects of communication, of the surplus value of communication.
Oikoborgs as a quasi–species.
Within the field of mathematical biology Manfred Eigen has introduced the concept of hypercycles and quasi–species which may be useful to describe such settings.
In the late seventies, Manfred Eigen was concerned with some interesting questions. How does the evolution of self–replicating sequences (certain macromolecules, for example) come about? Or posed differently, how does nature invent self–replication? How does the new evolve within specific entities allowing for mutations over time, without different DNA being melted through mating?

Eigen tried to understand the abiotic or prebiotic spheres of life, and their transition to life. In order to be able to talk about such milieus being pre–specific in a biological sense, Eigen refers to his model as the quasi–species model, functioning by a proposed relational structure he calls   hypercycles.

What is a hypercycle? To put it very briefly, it is a cycle of dependencies. To put it a little bit less briefly, it is a community of individuals belonging to a small number of different types, where the members of the types are related in a certain way. In particular, the individual of any of the types are partially dependent on the output, the produces of the members of other types. In their interplay, they form a circle of dependencies. Such “inner circles” are in a “hyper”–position to the individual and to the types. As a whole, the community of all the coupled types may behave and evolve as if they belonged to a single type, or species. Thus Eigen has coined the term “quasi–species”. I find it somewhat charming, that quasi–species may develop, as Eigen has pointed out, their own “individual” velocities, through particular resonance of their members or participants.

There is a nice analogy – involving a big leap, I admit – spanning from biology up to the social realm. We could, in analogy to quasi–species, also speak of quasi–individuals. This would mean to regard the “self” not as an irreducibly essential, but as an inextricably linked entity – to redefine the self as a complex composite. This move is perfectly compatible with the thesis held by contemporary philosophers like Peter Sloterdijk, who argues that intelligence is social before appearing to be individual. “There is no such thing as a single brain”, he says. Like quasi–species in the realm of biochemistry, quasi–individuals in the social sphere are actually part of several potentially autonomous complexes, or hypercycles.
I believe that a logic of the circumstantial will most of all be concerned with how new hypercycles can be established – how can novel consistencies between the complex–composits (traditionally: subjects and objects) our world consists of, be found?
New hypercycles through side-communication.
The interesting thought of Manfred Eigen for a theory of circumstantial logics consists, among other issues, in the role he ascribes to communication within the evolutionary process of self-replicating entities. While the driving power of evolution is copying code, with a lot of encoding and decoding happening, the innovative force consists in deviations, side-communication taking place within the copying process (this is how mutations of self-replicating sequences occur). Eigen conceives of the quasi-species as a sphere of pre-individuation, where self-replicating, linked entities participate in several hypercycles at one and the same time so that it cannot actually be distinguished, what belongs to what. In their pre-specificity, hypercycles bear close analogies to the pre-specific qualities of (urban) milieus. And this is what invites me to further translate the concept of hypercycles from abiotic systems also to architectural surrounds.

The intimacy of media.
It is quite exciting that the intimacy of media becomes graspable just here. Hypercycles could also be described as mutual spheres that allow for quasi-individual co-habitation. There are certain intimate and even erotic implications to this term (co-habitation) – hypercycles establish themselves, where components of higher order entities feel attracted, are drawn to each other, where they participate in different rhythms at one and the same time. Is this not what intimacy is all about? To be involved in relationships, where it cannot be distinguished whether one is contained by the other or whether it is oneself that contains the other? In his “Sphere Triology”, Peter Sloterdijk sketches a theory of media according to these terms. For him, communication involves intimate affairs, the mutual generation and inhabitation of spheres of commonality. Messages, senders, channels, codes – are these not basic concepts of a general “science”, a scientific practice, at least, of visitability, referring to visitations of something in something through something, Sloterdijk asks.

Mediated meanings bear close affinities to habits, developing in shared habitats, and thus providing the very ground for intersubjectivity, solidarity, and stability. Media are addressed by Sloterdijk in their character as generative milieus, providing the necessary preconditions as well as the inevitable constraints for something to take place, to happen, at all. Media do function through providing meta-stances, levels of higher orders to share in common, even across species, physical times and distances. With our idea of «intelligent
skins» we believe, that it is through processes of mediating the circumstantial, that new hypercycles may evolve, allowing for increasing specification to take place. Who, then, are our companion alien species? This is, after all, the question that interests us most. We assume, that Oikoborgs might be one of them.

Leaping aside.

Our interest is the boundedness of our own specificity as human beings. But as we think that genetic trans-mutations of the sort of flavr savr tomatoes and co. are rather frightening, we ask ourselves – how can the self-organized establishment of new hypercycles be fostered not via direct programming on the genetic level, but in a communicative and evolutionary sense via alterations within the sphere of our Lebenswelt?

How can the establishment of new hypercycles be fostered through architectonic means? This question is about the driving force of communication for the evolutionary process of our (not only, but also: our) species. How can the built environment mediate also the circumstances, what circumstances any specific site, that, what surrounds any specific site? How can the milieu of a site be folded into itself, in a self-referential manner?

As quite a few philosophers have come to claim by now, we seem to be living in a topological space of interminglings, relationalities and mutual enfoldings. How can we explore and imagine such spaces that we are not at all accustomed to considering? In order to understand, orient and inhabit topological, many-dimensional spaces, one cannot remain immersed by it, but must seek to leap outside.

An example: fish only know fluidity as if it were air around them (formulated from an anthropocentric perspective, of course). They know nothing of what the sea or a lake or a river might be in relation to the environment in which humans live. Only a leap outside that aquatic surface can open up the sensation of another space. Dolphins, leaping regularly out of the sea for breathing, might know more about this. As long as these spaces are our proper and immediate milieu, we cannot emancipate from them. Oikoborgs as machinic mediators of communal circumstances might indeed introduce some fresh element for us to inhabit, of which we can have no clue yet.

What would it feel like to live in a city where houses court each other in springtime?

Our approach with «intelligent skin» to questions regarding the boundedness of our species, is to provide a plane of potential emergence of newly found consistency(ies), a
media façade, where the building blocks of any specific quasi-species or milieu can express themselves.

Technically spoken, Oikoborgs will have individual sensory systems with which to sense what makes up their climate, their Lebenswelt, to speak with the Swiss ethologist Jakob von Uexküll – a Lebenswelt which consists of purely relationally measured rhythms and patterns.

Besides a proper sensuality, Oikoborgs have memories and an own capacity for creative modeling, that is, for abstracting and instantiating patterns on various hierarchical levels – from their external data as well as from their proprioceptive sensory data. They can express and display what they experience through pre-representational imagery. They might indeed be able to communicate – be it in resonance with us, or with other Oikoborgs, who is to know? Communication is some sort of expressionism, as Deleuze says. If this is so, Michel Serres might after all be right to believe with Ilya Prigogine: life might in fact turn out to be mainly a bouquet of times – a resonating bouquet of times that are in tune with each other.