The human Limits to Growth

Speech by Davide Brocchi, Cologne (D)

Good morning together. It is a pleasure to be here! Thank you very much for your invitation, dear May and Timo.

The title of my lecture is "the human limits to Growth" – and these limits can be already found in our language…

So I must begin my lecture speaking about very simple things.
May I ask you, what this object is?
Very good, an apple.

The complexity of this object is very low. If the language would be a fishing net, that we constantly throw into the ocean of the reality, than apples would belong to the objects, we are able to catch very easily.
In case of low complexity there is a strong correspondence between language and the object, we are communicating about.
We can reach a quick social consensus about this correspondence.

In such case it is difficult to manipulate our perception. There is no power on this world, that can convince me, that it isn't an apple. But we know it from the social psychology: If the mass would contradict me and say "No, it's an orange", then I would begin to cast doubt on my perception.

The knowledge on objects of low complexity is certain – and it is the explanation for the modern scientific method, that is called *reductionism*. Because the cognitive ability of humans is limited, the modern scientist splits the complexity into very small parts, that can be grasped by his brain. The specialization of the research and the division of labour are strategies to deal with complexity.
But can the knowledge on complexity be only a projection of our certain knowledge about apples?

Unfortunately reality is much more complex than an apple. In the daily life, we don't speak only about apples, but we speak also about complexities, although our language cannot really grasp them.

We use words like "culture". Which object should I show you, so that everybody in this room say the same: It is culture!? How can I represent the object of "globality"? What about environment, democracy or sustainability? How do these words look, smell or taste?

These words are different than apple: they refer to an high complexity. To the question, what the exact object of the word "sustainability" or "democracy" is, I would probably get very different answers from the audience in this room. The more complex the object of our communication is, the wider the

diversity of representations, interpretations or narrations about it. Because we cannot grasp complex objects, we can only construct them mentally – and every construction can be only the result of a relative viewpoint.

The more complex the object of our communication is, the more difficult it is to say what is true and what false. Our knowledge about complexity is an uncertain one.
In this case our perception is manipulable.
In the case of complex objects, it is probably, that we don't speak about the reality itself, but we speak about representations, constructions or narrations. We communicate on communication; we observe observations, but not really the reality itself.

If we look to these aspects, we see that they open the door for mechanisms of power and dominance in the social construction of reality... There, where a consensus is difficult; there, where is no time for a dialogue among perspectives; there, where a manipulation or a self-manipulation of the perception is possible, there is a place for power.

Also social or cognitive hierarchies are strategies to deal with complexity through a reduction of complexity; through simplification.

Why should we discuss many days about a common definition of sustainability, if the governments in the United Nations or academic experts can determinate the definition for us?

The more complex the object of our communication is, the more possible it is, that the strongest argument instead of the best one determinates the behaviour of a group.

Humans aren't able to find universal truths, but they are able to universalize relative viewpoints. So the modernism and the globalization mean an universalisation of the relative worldview of the occident.

Now a third and last example...

May I ask you, what this object is? [different answers are coming]

It is again our apple, but now it's very small or far away, so we cannot really see that.

Very often we speak about objects of low complexity, but they are outside of our sensorial horizons. Even in this case our knowledge isn't a certain one.

The information about the most objects, we communicate about, is from second hand. We communicate very often about things, that aren't physically visible for us, but we know only through media. Media, so Marshal McLuhan, are extensions of our bodies and minds. But media make at the same time the technological manipulation of our perception and worldview possible.

Does the climate change really exist or is it maybe only a medial phenomenon?

Especially this example makes clear, that complexity is an aesthetic matter. Not the complexity itself is the problem, but the way we percept or don't percept it.

Please remember, that in the system theories complexity is called "environment".

In my opinion the main question of sustainability is:

- How to deal with complexity, considering that the human being is a (physically and cognitively) limited one?
- How can we pretend to grasp and control the extern environment, if we aren't even able to grasp and control our own inner environment; the complexity of our unconscious, as Sigmund Freud told us?

Social and environmental crises show, that the chosen way isn't the best one...
Two examples...

Summer 1939

When I begin my seminars in the university, I show very often this documentary of ARTE: Summer 1939.[1]

The central question of this documentary is: How did ordinary people behave in the time shortly before the Second World War started?

The answer: A lot of ordinary people in Europe simply made holiday; they sunbathed at the beaches of the Cote d'Azur or at the Baltic sea - while 60 million people were going to be killed. How was this possible?!

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[1] http://www.youtube.com/watch?v=mokuOzj9kxc

My second example...

Summer 2008

When the financial crisis started in September 2008, many people were surprised; they didn't expect this to happen. But came the financial crisis really so suddenly?

If we look back in the years before, we can find a lot of warning signs, for example these publications.

The experts knew that a bad crisis was coming, but no investment bank changed its own behaviour; no government took measures to avoid the upcoming crisis.

We see it: Many crises are caused today by the "information and knowledge society". "Knowledge" and "Information" aren't a sufficient precondition for sustainability. We don't always do, what we know.

As the US bio evolutionist Jared Diamond wrote 2005, not the problem itself leads a society into a crisis or collapse, but the missing or the wrong reaction to that.

No social or environmental crisis comes suddenly, but only after a process of growing derealisation. Sometimes we cannot know the reality, but sometimes we don't want to know the reality or it isn't allowed to know it, because the press isn't free, like for example in nazi Germany.

Every crisis is the result of a growing gap between environmental reality and environmental perception. The crisis

is that, what closes this gap: It shows us that reality, that remained hidden before. The crisis brings the double dose of pains, we repressed before.

Crises show an interesting parallelism between the process of derealisation and a progressive loss of control.

The complexity, we cannot grasp, is the same complexity, we cannot control...

While the modernity, the progress and the economic growth are based on the belief, that creative subjects dominate on passive objects, crises show us how powerless subjects can be in comparison to objects. We need crises for understanding what Bruno Latour writes: Things are subjects too, things are social agents - and not only passive objects.

In the past we learned mainly after the catastrophe, but catastrophes were regional ones. In the case of global catastrophes it isn't possible to learn after the experience: There is nothing to learn after the climate change or a nuclear overkill.

If we want to learn before the experience of the collapse, we should ask first, what hinders and what promotes the perception of the environmental reality; what hinders and what promotes a perception of the warning signs of the crisis.

I understand Sustainability as cultural challenge, because it means to learn *a priori* instead of after the material experience of a global crises. In this century we need more than before a

behavioral change, that begins in our head instead of being forced by materiality.

1972 the first report of the Club of Rome "The limits to Growth" was published by Dennis Meadows. The central thesis was: On a planet, that is biophysically limited, no unlimited growth is possible.

Growth doesn't bump only against the biophysical limits of the planet, but also against the human ones. Diseases like stress show us, that the economic growth overtax us.

The financial crisis or Fukushima shows us, that we cannot even control the complexity, that was produced by ourselves.

We make mistakes, because we cannot grasp and control the whole complexity. But the biggest mistakes are coming, because the myth of progress or the dominance of the western worldview inhibits the awareness for the human limits and promotes so a dangerous self-overestimation. It is the same self-overestimation, that let sink the Titanic.

A cultural perspective on sustainability is based on the awareness for the limits of the human being. Not only the planet is limited, but also the humans, that design societies and their development.

So we need to supplement the definition of sustainability of Meadows.

A development is sustainable, if it respects not only the biophysical limits of the planet, but also the human ones.

Sustainable doesn't mean to control the imperfect human being through social engineering, machines and computer. Sustainability means first a development sized for the human being. It is a development more based on small communities

and not on a top-down globalization; a development based on small technologies and not on the big ones.

Why is culture so important?

Because the way we reduce complexity isn't an accidental one, but it is strong steered by culture and values.

If we aren't able to grasp the whole complexity, then we reduce it – and we do it through a selection, for example through a selective perception. The culture gives us the filters for every operation of selection. Values are filters, that determinate the selection in percepting or designing the environment. Values highlights a part of the complexity through hiding the other part.

We don't reduce complexity only cognitivitely, but also in designing and transforming the environment physically. We reduce the complexity of a forest transforming it into an architecture, that is felt by humans as warm and sure.

If we need a more sustainable architecture, then we have to change the values.

The notion of culture, I'm using here, is the anthropological and sociological one, used for example by Geert Hofstede: Culture is the software of the mind; Culture is the software of the society; Culture is the way, we become socialized, better programmed.

If a social system means a space of reduced complexity, then culture determinates its form and size – like genes determinate the form and size of living organisms. Culture can be described as DNS or building plan of the society.

The modernization is a self-referential process: We shape the world as we see it.

We transform the nature or the human being, till they correspond to an ideal. If the mathematic and the geometry cannot explain the complexity, than we transform the complexity into calculable forms. The reductionism was the precondition of the industrial revolution.

In the modernity the monoculture of the mind correspond more and more to the monoculture of the crop, as Vandana Shiva said. The environmental problems haven't only begun with the destruction of nature, but also with the destruction of many local cultures.

The question is now, how we can break this circular self-referentiality…

Sustainability means cultural evolution instead of modernization.

Sustainability isn't a platonic idea of the Good, fixed and universal. Sustainability should be a better modernization, but it means first "learnability".

For Jürgen Habermas the ability of societies to avoid evolutionary dead ends (what is called "resilience") is strong connected to their learnability. To learn doesn't mean to reproduce the "software of the mind" or the dominant "economic model", but to dialogue with the alien; to practice a change of perspective.

As the biological evolution needs genetic mutations for adapting ecosystems to changed environmental conditions, so the society needs cultural mutations to adapt the own worldview to reality. The sources of such mutations are sciences, investigative press or arts, but they need to be really free. Only if sciences, press and arts aren't reduced to a function of the system, they can produce that mutations that a cultural evolution needs.

If the first condition for the creation of social system is a reduction of complexity (and culture makes it possible on a double level), the second condition is the existence of a boundary. It is what Niklas Luhmann calls "difference"...

Ludwig Wittgenstein wrote once that the boundaries of our language are the boundaries of our world. Not only values, but also words are selective filters, that determinate the possibilities of inclusion and exclusion.

The difference between social system and environment is that between what we feel as graspable and not graspable; sure and unsure; between what we know and what we don't know...

If we define the environment in this way, then we haven't only an ecologic environment, but also a cultural, a social or a psychic one. The social environment is for example the periphery. The psychic environment the unconscious. For Adorno and Horkheimer the extern and the inner environment suffer from the same slavery.

For Joseph Beuys the communication with the inner nature is the ideal way for communicating with our extern nature.

If the environmental crisis is caused by a disease in the communication between system and environment, then the environmental crisis as to be understood as cultural crisis.

The Western separation thinking between object and subject or Res estensa and res cogitans doesn't really promote a good communication at this boundary. The Western alienphobia is at the same time the fear of moving into development-alternatives.

Sustainability needs also here a dialogue with the alien instead of a protected life on a small prosperous island. We need not only a not hierarchical dialogue with the nature (what Latour calls a "parliament of things"), but for example also migrants as ambassadors of other realities and ways of life.

If we recognize, that our cognitive faculties are limited, then we must accept that every culture and religion, every opinion and value, every scientific theory or economic model is only the product of a relative viewpoint.

But the relativity of the viewpoint is the fundament of the cultural diversity too. The diversity of perspectives in a societies doesn't mean a Babylonian chaos, but can be a sustainable strategy for dealing with complexity. We can grasp the complexity at best through a dialogue among different perspectives, that integrate each other.

When physicians research on very complex objects, than they net their computers, for creating a super memory. In the same way the nature has given us the possibility to connect the individual memories in a collective memory.

But every form of sharing (the sharing of knowledge, the sharing economy or the sharing of responsibility in a democracy) needs a positive idea of human being – and not the pessimistic one of Thomas Hobbes.

The precondition of Cooperation instead of Competition is trust - and trust is the opposite of fear, of "homo homini lupus".

Trust can be better promoted in local small communities, then in a globalized market or in virtual communities.

When 2009 Elinor Ostrom got the Nobel Price for Economy as first woman in the history, she started her speech saying:

- Complexity is not the same as chaos.

Ilya Prigogine, nobel price for chemistry in 1977, told us, that the best way to govern complexity is through complexity. A monoculture of sustainability would be a contradiction for itself.

If crises are the consequence of the modern program of mastery over nature, then their solution cannot be found in a stronger and more perfect control. To accept the human limits means to leave the mega-machine; to enjoy our freedom and diversity instead of being afraid of them.

Thank you!

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